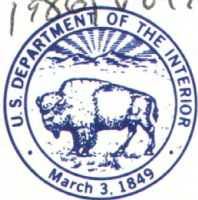
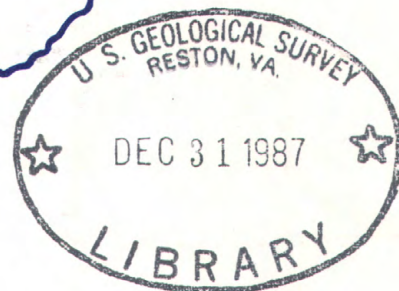
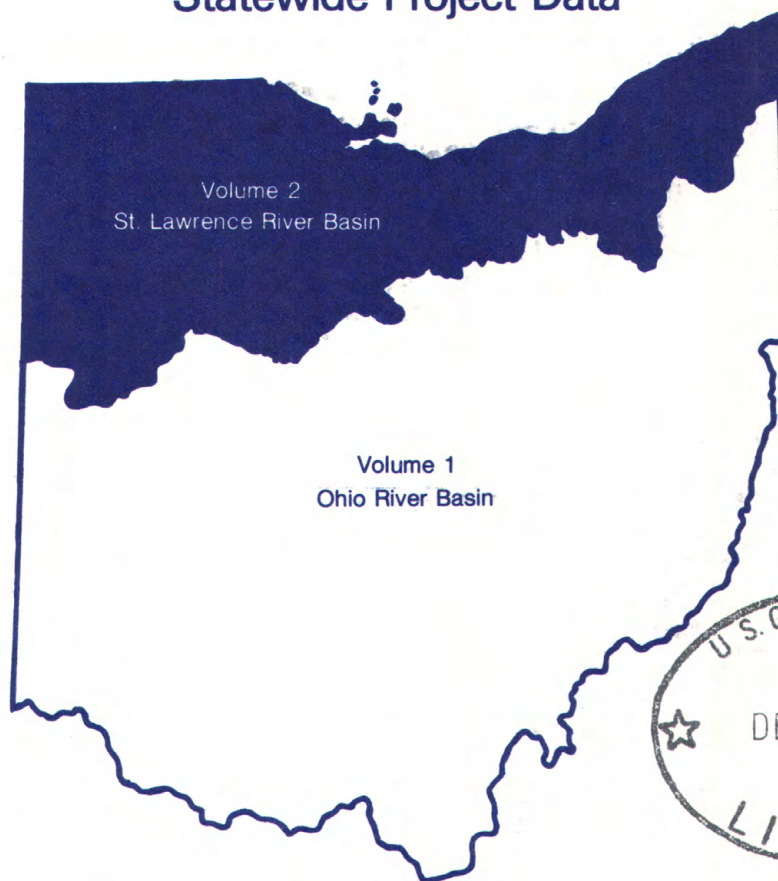


R
(200)
Ga3
Ohio
1986 vol. 2



Water Resources Data Ohio Water Year 1986

Volume 2. St. Lawrence River Basin
Statewide Project Data



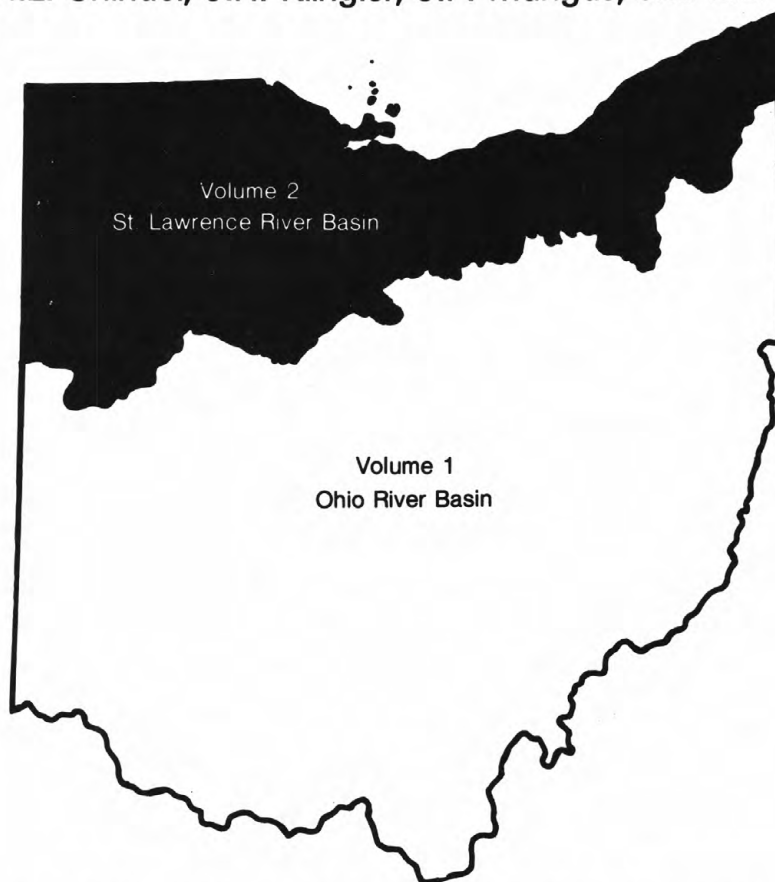
U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OH-86-2
Prepared in cooperation with the State of Ohio
and with other agencies



Water Resources Data Ohio Water Year 1986

Volume 2. St. Lawrence River Basin Statewide Project Data

by H.L. Shindel, J.H. Klingler, J.P. Mangus, and L.E. Trimble



U.S. GEOLOGICAL SURVEY WATER-DATA REPORT OH-86-2
Prepared in cooperation with the State of Ohio
and with other agencies

UNITED STATES DEPARTMENT OF THE INTERIOR

DONALD PAUL HODEL, Secretary

GEOLOGICAL SURVEY

Dallas L. Peck, Director

For information on the water program in Ohio write to

District Chief, Water Resources Division
U.S. Geological Survey
975 West Third Avenue
Columbus, Ohio 43212

1987

PREFACE

This volume of the annual hydrologic data report of Ohio is one of the series of annual reports that document hydrologic data gathered from the U.S. Geological Survey's surface- and ground-water data-collection networks in each State, Puerto Rico, and the Trust Territories. These records of streamflow, ground-water levels, and quality of water provides the hydrologic information needed by State, local, and Federal agencies, and the private sector for developing and managing our Nation's land and water resources. Hydrologic data for Ohio are contained in 2 volumes:

- Volume 1. Ohio River Basin
- Volume 2. St. Lawrence River Basin - Statewide Project Data

This report is the culmination of a concerted effort by dedicated personnel of the U.S. Geological Survey who collected, compiled, analyzed, verified, and organized the data, and who typed, edited, and assembled the report. In addition to the authors, who had primary responsibility for assuring that the information contained herein is accurate, complete, and adheres to Geological Survey policy and established guidelines, the following individuals contributed significantly to the collection, processing, and tabulation of the data:

A.E. Arnett	L.M. Hicks	J.W. Roberts
K.J. Breen	J. Hren	A.C. Sedam
D.D. Brooks	A.L. Jones	J.M. Sherwood
C.J. Childress	R.L. Jones	D.J. Shifflet
A.W. Coen III	M.K. Katzenbach	R.V. Swisshelm
J.T. de Roche	G.F. Koltun	A.J. Tomasina
C.M. Eberle	D.F. MacFadden	C.C. Vince
S.M. Eberts	J.A. McClure	S.A. Vivian
R.P. Frehs	V.E. Nichols	G.F. Ward
S.W. Hatch	C.N. Owens	J.J. Welday
C.A. Hawkins	B.B. Palcsak	K.S. Wilson

This report was prepared in cooperation with the State of Ohio and with other agencies under the general supervision of S.M. Hindall District Chief, Ohio.

50272-101

REPORT DOCUMENTATION PAGE	1. REPORT NO. USGS/WRD/HD-87/268	2.	3. Recipient's Accession No.
4. Title and Subtitle Water Resources Data--Ohio, 1986 Volume 2. St. Lawrence River Basin		5. Report Date July 1987	
7. Author(s) H. L. Shindel, J. H. Klingler, J. P. Mangus, and L. E. Trimble		8. Performing Organization Rept. No. USGS-WDR-OH-86-2	
9. Performing Organization Name and Address U.S. Geological Survey, Water Resources Division 975 W. Third Avenue Columbus, Ohio 43212-3192		10. Project/Task/Work Unit No.	
		11. Contract(C) or Grant(G) No. (C) (G)	
12. Sponsoring Organization Name and Address U.S. Geological Survey, Water Resources Division 975 W. Third Avenue Columbus, Ohio 43212-3192		13. Type of Report & Period Covered Annual--10/1/85 to 9/30/86	
		14.	
15. Supplementary Notes Prepared in cooperation with the State of Ohio and with other agencies.			
16. Abstract (Limit: 200 words) Water-resources data for the 1986 water year for Ohio consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels and water quality of ground-water wells. This report, in two volumes, contains records for water discharge at 125 gaging stations, stage and contents at 4 lakes and reservoirs; water quality at 17 gaging stations, 100 wells, and 60 partial-record sites; and water levels at 948 observation wells. Also included are data from 59 crest-stage partial-record stations and 19 miscellaneous sites. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements and analyses. These data represent that part of the National Water Data System collected by the U.S. Geological Survey and cooperating State and Federal agencies in Ohio.			
17. Document Analysis a. Descriptors *Ohio, *Hydrologic data, *Surface water, *Ground water, *Water quality, Flow rates, Gaging stations, Lakes, Reservoirs, Chemical analyses, Sediments, Water temperature, Sampling sites, Water levels, Water analyses, Streamflow, Water wells. b. Identifiers/Open-Ended Terms c. COSATI Field/Group			
18. Availability Statement: No restriction on distribution. This report may be purchased from: National Technical Information Service, Springfield, VA 22161		19. Security Class (This Report) UNCLASSIFIED	21. No. of Pages 287
		20. Security Class (This Page) UNCLASSIFIED	22. Price

(See ANSI-Z39.18)

OPTIONAL FORM 272 (4-77)
(Formerly NTIS-35)
Department of Commerce

	Page
Preface	III
List of surface-water stations, in downstream order, for which records are published ..	VI
List of ground-water wells, by county, for which records are published	VII
Introduction	1
Cooperation	1
Summary of hydrologic conditions	1
Precipitation	2
Surface water	3
Streamflow	3
Water quality	3
Ground-water levels	3
Special networks and programs	4
Explanation of records	4
Station identification numbers	5
Downstream order system	5
Latitude-longitude system	5
Records of stage and water discharge	5
Data collection and computation	6
Data presentation	6
Identifying estimated daily discharge	8
Accuracy of the records	8
Other records available	9
Records of surface-water quality	9
Classification of records	9
Arrangement of records	9
On-site measurement and sample collection	9
Water temperature	10
Sediment	10
Laboratory measurements	10
Data presentation	10
Remarks codes	11
Records of ground-water levels	11
Data collection and computation	12
Data presentation	12
Records of ground-water quality	13
Data collection and computation	13
Data presentation	13
Access to WATSTORE Data	13
Definition of terms	14
Publications on Techniques of Water-Resources Investigations	21
Station records, surface water	27
Discharge at partial-record stations and miscellaneous sites	104
Crest-stage partial-record stations	104
Station records, ground water	106
Ground-water levels	106
Hydrologic data for Raccoon Creek project	126
Surface water and ground water quality in active coal mining areas	148
Hydrologic data for Franklin County Ground-water project	164
Ground-water records for the Geauga County project	190
Ground-water records in strip mines	230
Ground-water records for the Northwest Ohio project	240
Lucas County	248
Sandusky County	256
Wood County	265
Ground-water records for the Northeast Union County project	274
Ground-water records for the Northeast Glacial Aquifers RASA project	281
Ground-water records for the Williams County project	286
Index	280
Factors for converting inch-pound units to International System units (SI)..Inside back cover	

ILLUSTRATIONS

Figure 1. Physiographic divisions and location of Hydrologic Index Stations	2
Figure 2. System for numbering wells and miscellaneous sites (latitude and longitude)	5
Figure 3. Graph showing runoff during 1986 water year with median runoff for period period 1951-80 for four representative gaging stations	23
Figure 4a. Map showing location of data-collection stations excluding crest-stage and low-flow partial record sites	24
Figure 4b. Map showing location of data-collection stations including crest-stage and low-flow partial record sites	25
Figure 4c. Map showing location of crest-stage and low-flow partial record sites	26

VI GAGING STATIONS, IN DOWNSTREAM ORDER, FOR WHICH RECORDS ARE PUBLISHED DURING WATER YEAR 1986

(Letter after station name designates type of data: (b) biological, (c) chemical, (d) discharge, (e) contents and (or) elevation, (HBM) hydrologic bench mark, (m) microbiological, (NASQAN) National stream-quality accounting network, (r) radiochemical, (s) sediment, (t) temperature.)

ST. LAWRENCE RIVER BASIN

STREAMS TRIBUTARY TO LAKE ERIE	Page
Ottawa River at Toledo University, Toledo (d)	27
Tiffin River at Stryker (d)	28
Unnamed tributary to Lost Creek near Farmer	29
Auglaize River near Ft. Jennings (d)	30
Blanchard River near Findlay (d)	31
Auglaize River near Defiance (d)	32
Maumee River near Defiance (d)	33
Maumee River near Waterville (ct)	34
Maumee River at Waterville (dcbmts) ... (NASQAN)	41
Lake Erie at Reno Beach (e)	44
Portage River at Woodville (d)	45
Tymochtee Creek at Crawford (d)	46
Honey Creek near New Washington (d)	47
Honey Creek at Melmore (d)	48
Rock Creek at Tiffin (d)	49
Sandusky River near Fremont (dcbmts) ... (NASQAN)	50
Old Woman's Creek above U.S. 6 near Huron (e)	55
Old Woman's Creek at U.S. 6 near Huron (e)	56
Lake Erie at Huron (e)	57
Black River at Elyria (d)	58
Rocky River near Berea (d)	59
Cuyahoga River at Hiram Rapids (ds)	60
Cuyahoga River at Old Portage (dct)	64
Tinkers Creek at Bedford (d)	72
Cuyahoga River at Independence (dcbmt) ... (NASQAN)	73
Big Creek at Cleveland (d)	76
Cuyahoga River at West Third Street bridge in Cleveland (ct)	77
Grand River near Painesville (ds)	84
Grand River at Painesville (cmbt) ... (NASQAN)	88
Fields Brook at Ashtabula (ct)	89
Conneaut Creek at Conneaut (d)	97

GROUND-WATER STATIONS FOR WHICH RECORDS ARE PUBLISHED

VII

Well number	Local number	Location	Page
CRAWFORD COUNTY			
404838082563100	CR-1	Bucyrus	100
GEAUGA COUNTY			
412518081221500	GE-3A	Southeast of Chagrin Falls	101
HARDIN COUNTY			
404648083412600	HN-2A	Southeast of Dola	102
HENRY COUNTY			
412123083574000	HY-2	Southwest of McClure	103
LUCAS COUNTY			
413704083362200	LU-1	Toledo	104
MEDINA COUNTY			
410142082005900	MD-1	Lodi	105
PORTAGE COUNTY			
410540081213600	PO-7	Brimfield	106
410920081192000	PO-6	East of Kent	107
PUTNAM COUNTY			
405505084032900	PU-1	Columbus Grove	108
RICHLAND COUNTY			
405753082360800	R-3	Shiloh	109
SANDUSKY COUNTY			
411914083045300	S-3	Fremont	110
412703083213600	S-2	Woodville	111
SENECA COUNTY			
410802083093900	SE-2	Tiffin	112
SUMMIT COUNTY			
410330081282000	SU-6	Akron	113
410846081271600	SU-7	Cuyahoga Falls	114
VAN WERT COUNTY			
405215084335400	VW-1	Van Wert	115
WILLIAMS COUNTY			
412821084313600	WM-1	Bryan	116
412930084320900	WM-3	Bryan	117
413108084415300	WM-12	East of Blakeslee	118
WYANDOT COUNTY			
405009083172600	WY-1	Upper Sandusky	119

WATER RESOURCES DATA FOR OHIO, 1986

VOLUME 2: ST. LAWRENCE RIVER BASIN STATEWIDE PROJECT DATA

INTRODUCTION

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

This report (in two volumes) includes records on both surface and ground water in the State. Specifically, it contains: (1) Discharge records for 125 streamflow-gaging stations, 19 miscellaneous sites, and peak flow information for 59 crest-stage partial-record stations; (2) stage and content records for 4 lakes and reservoirs; (3) water-quality data for 17 streamflow-gaging stations, 100 wells, and 60 partial-record sites; and (4) water levels for 948 observation wells. Locations of lake- and streamflow-gaging stations, water-quality stations, partial-record stations, and observation wells in the St. Lawrence River basin are shown in figures 4a, 4b and 4c.

This series of annual reports for Ohio began with the 1961 water year with a report that contained only data relating to the quantities of surface water. For the 1964 water year, a similar report was introduced that contained only data relating to water quality. Beginning with the 1975 water year, the report was changed to present, in two to three volumes, data on quantities of surface water, quality of surface and ground water, and ground-water levels.

Prior to introduction of this series and for several years concurrent with it, water-resources data for Ohio were published in a series of U.S. Geological Survey Water-Supply Papers. Data on stream discharge and stage and on lake or reservoir contents and stage, through September 1960, were published annually under the title "Surface-Water Supply of the United States, Parts 3 and 4." For the 1961 through 1970 water years, the data were published in two 5-year reports. Data on the chemical quality, temperature, and suspended sediment for the 1941 through 1970 water years were published annually under the title "Quality of Surface Waters of the United States," and ground-water levels for the 1935 through 1974 water years were published under the title "Ground-Water Levels in the United States." The above-mentioned Water-Supply Papers may be consulted in the libraries of the principal cities of the United States, and may be purchased from the Books and Open-File Reports Section, U.S. Geological Survey, Box 24525, Federal Center, Denver, CO 80225.

Publications similar to this report are published annually by the Geological Survey for all States. These official Survey reports have an identification number consisting of the two-letter State abbreviation, the last two digits of the water year, and the volume number. For example, this volume is identified as "U.S. Geological Survey Water-Data Report OH-86-2." For archiving and general distribution, the reports for 1971-74 water years are also identified as water-data reports. These water-data reports can be purchased in paper copy or in microfiche from the National Technical Information Service, U.S. Department of Commerce, Springfield, VA 22161.

Additional information for ordering specific reports, including current prices, may be obtained by writing the District Chief at the address given on the back of title page or by telephoning (614) 469-5553.

COOPERATION

The U.S. Geological Survey and agencies of the State of Ohio have had cooperative agreements for the collection of water-resource records since 1898. Organizations that assist in collecting data in this report are: Ohio Department of Natural Resources, J. J. Sommer, Director; Ohio Environmental Protection Agency, S. J. Grossman, Acting Director; Ohio Department of Transportation, W. J. Smith, Director; Miami Conservancy District, J. L. Rozelle, General Manager and Chief Engineer; City of Columbus Department of Public Service, G. Rosenbaum, Director; City of Canton Water Department, J. D. Williams, Superintendent; Northeast Ohio Areawide Coordinating Agency, F. E. J. Pizzedaz, Director; Ross County, J. L. Kennard, Commissioner; Seneca County Soil and Water District, Gene Baltes, Chief, Water Quality Laboratory; and University of Toledo, R. Gallagher. Funds or services were provided by the U.S. Army Corps of Engineers in collecting records for 72 hydrologic-data stations in this report. The Miami Conservancy District, U.S. Army Corps of Engineers, and Ohio Department of Natural Resources aided in collecting records.

SUMMARY OF HYDROLOGIC CONDITIONS

Ohio is located in three physiographic provinces, each with its own distinctive surface-water characteristics. The topography of the Till Plains section of the Central Lowlands physiographic province (fig. 1) consists of gently rolling ground moraine with bands of terminal moraine and outwash-filled valleys. Glaciation altered the courses of most streams in this area. The Eastern Lake Plains section (fig. 1) consists of wide expanses of level or nearly level land interrupted only by the sporadic sandy ridges that are the last visible remnants of glacial-lake beaches. Much of the area was swamp prior to development, and marshes are still present along Lake Erie near Toledo. The Lexington Plains section of the Interior Low Plateau province (fig. 1) is characterized

WATER RESOURCES DATA FOR OHIO, 1986

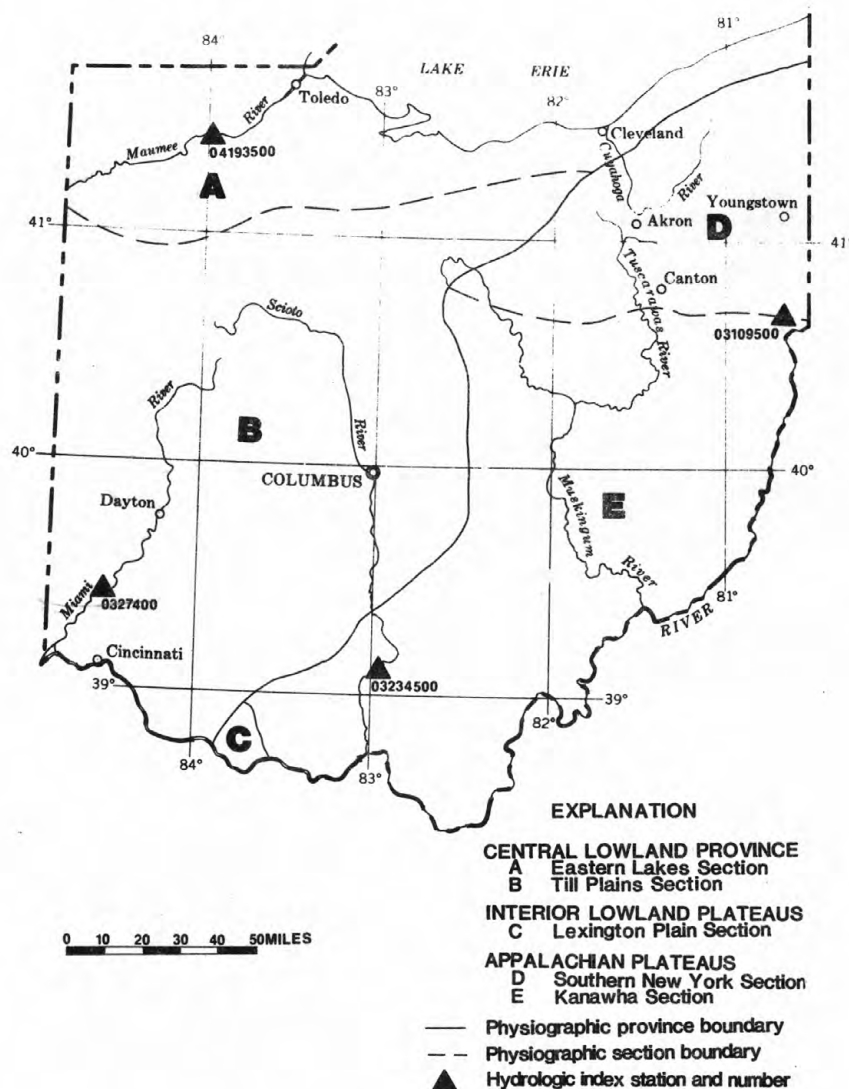


Figure 1.—Physiographic divisions and location of Hydrologic Index Stations.

by rolling terrain with isolated large hills and ridges. The "barbed" drainage pattern formed when small streams were captured as their headwaters cut back into the hills over time. Streams have carved the Kanawha section of the Appalachian Plateau province (fig. 1) into an intricate series of hollows and steep-sided ridges. Only the large streams in the section have any appreciable flood plain. In the southern New York section (fig. 1), successive waves of glaciation have subdued the relief, buried many preglacial valleys, and rerouted many streams.

Precipitation

The average annual precipitation in Ohio is about 38 inches. The rainfall decreases from around 42 inches on the southern border to about 32 inches in the northwest. An area of greater precipitation (up to 44 inches) in northeastern Ohio results from air masses that pick up moisture and heat from Lake Erie and subsequently release precipitation over a range of hills stretching northeastward from Cleveland.

Monthly precipitation typically is greatest from May through July and least in October, December, and February. Of the approximate 38 inches of average annual precipitation, about 10 inches runs off immediately, 2 inches is retained at or near the surface and evaporates or transpires, and 26 inches enters the ground. Of the 26 inches that enters the ground, 20 inches is retained in the unsaturated zone and is later lost by evapotranspiration. The remaining 6 inches reaches the water table. Of this 6 inches, 2 inches is eventually discharged to streams, and the rest is lost by evapotranspiration or consumptive use. Average runoff ranges from about 15 to 18 inches along the southern border to about 8 to 12 inches along most of the northern border, except in the northeast where runoff reaches 20 inches. The pattern of streamflow differs from the pattern of precipitation because of the contributions of snowmelt to streamflow in the early spring and the reduction in flows by evapotranspiration from June through September.

Surface Water

Streamflow

Streamflow-data-collection stations are distributed irregularly throughout the State, and tend to be concentrated on the main river systems. The stations sample a wide variety of conditions. The drainage areas range from 12 to 7,420 square miles, and cover a wide diversity of land uses, topographic conditions, and other physical conditions. The streamflow ranges from natural flow to highly regulated flow.

At the beginning of the 1986 water year, streamflow was normal¹ throughout the State, except for northwestern Ohio, where it was excessive in response to above-normal precipitation. Record high rainfall for the month of November (225 to 426 percent of the monthly average) resulted in above-normal flow conditions Statewide that prevailed through December. Streamflow in January declined into the normal range throughout the State as precipitation fell to below normal. A return to above-average precipitation in February caused noticeable increases in streamflow, which was above normal for much of the State. Streamflow for most of the State declined into the normal and below-normal ranges from March through June, during which time precipitation was generally below average. Above-average rainfall in June and July resulted in above-normal flow conditions throughout much of the State, and caused serious flooding in northeastern Ohio in June. Streamflow in July remained normal to above normal, except in southeastern Ohio where streamflow was below normal in response to drought conditions that persisted throughout the summer. Streamflow declined seasonally into the normal and below-normal range in August with the exception of northwestern Ohio, where it remained above normal due to above-average precipitation. Above-average precipitation (117 to 214 percent of the monthly average) for much of the State in September resulted in above-normal streamflow Statewide, except for eastern Ohio, where it was in the normal to below-normal range.

These streamflow trends are reflected in graphical comparisons of monthly and annual mean discharges for the 1986 water year and the 1951-80 reference period at four Hydrologic Index Stations (fig. 3; station locations are shown in fig. 1).

Water Quality

Trace-element analyses of samples collected at the NASQAN sites indicated that all concentrations of arsenic, barium, cadmium, chromium, lead, mercury, selenium, and silver were considerably less than U.S. Environmental Protection Agency recommended limits for domestic water supply. Manganese concentrations exceeding 200 micrograms per liter were detected once in November, May, and July in the Hocking River below Athens.

Maumee River at Waterville, and Cuyahoga River at Independence--two of the three major streams that have U.S. Geological Survey Monitors at NASQAN sites--showed improvement in specific conductance during this water year compared to last water year. Dissolved oxygen concentration and pH remained about the same. The other major streams showed no trend in the analyses collected for the year.

Ground-Water Levels

Most of the ground-water observation wells in Ohio tap unconsolidated sand and gravel aquifers in buried-valley or watercourse systems associated with the State's principal streams. The observation-well network also includes some bedrock wells in areas where consolidated aquifers are important water supplies, such as the carbonate-rock region of northwestern Ohio and various sandstone units of eastern Ohio. The yearly low for most wells occurs during the winter months, especially in colder, drier years, or near the end of the growing season. Highs for the year usually occur from March through June, which is the peak of the recharge season. The yearly water-level fluctuation due to climatic conditions in water-table and confined-aquifer wells is commonly 3 to 5 feet.

¹ Normal is defined as flow between the 25th and 75th percentiles as measured during the base period 1951 through 1980.

Ground-water levels were generally below normal² at the beginning of the 1986 water year as a result of lower than average precipitation the preceeding summer. However, record high rainfall for the month of November³ resulted in rises to above-normal ground-water levels statewide. The above-normal ground-water levels persisted throughout most of the winter, although there were some declines in unconsolidated aquifers in response to below-average precipitation in December and January. Above-average precipitation in February stabilized ground-water levels, but below-average precipitation for most of the State for the last three months of the recharge period resulted in below-normal ground-water levels that persisted into the summer. Seasonal declines continued throughout the summer; generally, ground-water levels were below normal for the remainder of the water year.

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Bench-Mark Network is a network of 57 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, water quality, and related factors in representative undeveloped watersheds nationwide, and to provide analyses on a continuing basis to compare and contrast conditions observed in basins more obviously affected by human activity.

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

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

Tritium network is a network of stations which has been established to provide baseline information on the occurrence of tritium in the Nation's surface waters. In addition to the surface-water stations in the network, tritium data are also obtained at a number of precipitation stations. The purpose of the precipitation stations is to provide an estimate sufficient for hydrologic studies of the tritium input to the United States.

EXPLANATION OF THE RECORDS

The records in this report are for the 1986 water year that began October 1, 1985, and ended September 30, 1986. A calendar of the water year is provided on the inside of the front cover. The records contain streamflow data, stage and content data for lakes and reservoirs, water-quality data for surface and ground water, and ground-water-level data. The following sections of the introductory text are presented to provide users with a more detailed explanation of how the hydrologic data published in this report were collected, analyzed, computed, and arranged for presentation.

Station Identification Numbers

Each data station, whether streamsite or wellsite, is assigned a unique identification number. This number is unique in that it applies specifically to a given station and to no other. The number usually is assigned when a station is first established and is retained for that station indefinitely. The systems used by the U.S. Geological Survey to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic locations. The "downstream order" system is used for regular surface-water stations and the "latitude-longitude" system is used for wells and, in Ohio, for surface-water stations where only miscellaneous measurements are made.

²For ground-water levels, "normal" is defined as being between the 25th and 75th percentiles of the range of values recorded during the reference period 1960-75.

³Highest monthly rainfall for any month on record.

Downstream Order System

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

The station-identification number is assigned according to downstream order. In assigning station numbers, no distinction is made between partial-record stations and other stations; therefore, the station number for a partial-record station indicates downstream-order position in a list made up of both types of stations. Gaps are left in the series of numbers to allow for new stations that may be established; hence, the numbers are not consecutive. The complete eight-digit number for each station such as 04041000, which appears just to the left of the station name, includes the two-digit part number "04" plus the six-digit downstream order number "041000". The part number designates the major river basin; for example, part "03" is the Ohio River Basin, and part "04" is the St. Lawrence River Basin.

Latitude-Longitude System

The identification numbers for wells and miscellaneous surface-water sites are assigned according to the grid system of latitude and longitude. The number consists of 15 digits. The first six digits denote the degrees, minutes, and seconds of latitude, the next seven digits denote degrees, minutes, and seconds of longitude, and the last two digits (assigned sequentially) identify the wells or other sites within a 1-second grid. In the rare instance where the initial determination of latitude and longitude are found to be in error, the station will retain its initial identification number; however, its true latitude and longitude will be listed in the LOCATION paragraph of the station description. (See figure 2.)

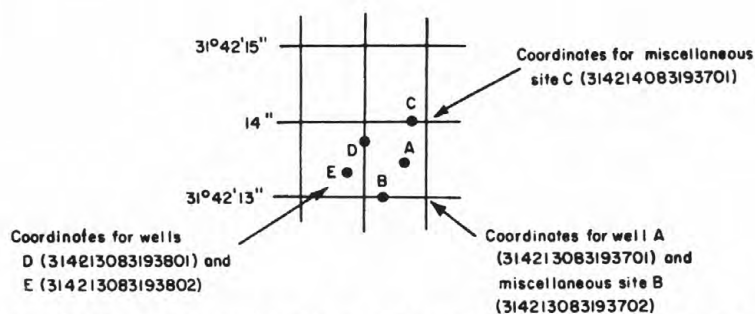


Figure 2 System for numbering wells and miscellaneous sites (latitude and longitude)

Records of Stage and Water Discharge

Records of stage and water discharge may be complete or partial. Complete records of discharge are those obtained using a continuous stage-recording device through which either instantaneous or mean daily discharge may be computed for any time, or any period of time, during the period of record. Complete records of lake or reservoir contents, similarly, are those for which stage or content may be computed or estimated with reasonable accuracy for any time or period of time. They may be obtained using a continuous stage-recording device, but need not be. Because mean daily discharges and end-of-day contents commonly are published for such stations, they are referred to as "daily stations."

By contrast, partial records are obtained through discrete measurements without using a continuous stage-recording device and pertain only to a few flow characteristics, or perhaps only one. The nature of a partial record is indicated by table titles such as "crest-stage partial records," or "low-flow partial records." Records of miscellaneous discharge measurements or of measurements

from special studies, such as low-flow seepage studies, may be considered as partial records, but they are presented separately in this report. Location of all complete-record and crest-stage stations for which data are given in this volume are shown in figure 4.

Data Collection and Computation

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

Continuous records of stage are obtained with analog recorders that trace continuous graphs of stage, or with digital recorders that punch stage values on paper tapes or store stage data on cassette tapes at selected time intervals. Measurements of discharge are made with current meters using methods adapted by the Geological Survey as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in U.S. Geological Survey Techniques of Water-Resources Investigations, Book 3, Chapter A6.

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

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

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

In computing records of lake or reservoir contents, it is necessary to have available from surveys, curves, or tables defining the relationship of stage and contents. The application of stage to the stage-contents curves or tables give the contents from which daily, monthly, or yearly changes are then determined. If the stage-contents relationship changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relationship. Even when this is done, the contents computed may become increasingly in error as time since the last survey increases. Discharges over lake or reservoir spillways are computed from stage-discharge relationships much as other stream discharges are computed.

For some gaging stations there are periods when no gage-height record is obtained, or the recorded gage height is so faulty that it cannot be used to compute daily discharge or contents. This happens when the recorder stops or otherwise fails to operate properly, intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated from the recorded range in stage, previous or following record, discharge measurements, weather records, and comparison with other station records from the same or nearby basins. Likewise, daily contents may be estimated from operator's logs, previous or following record, inflow-outflow studies, and other information.

Data Presentation

The records published for each gaging station consist of two parts--the manuscript or station description and the data table for the current water year. The manuscript provides, under various headings, descriptive information, such as station location; period of record; average discharge;

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

LOCATION.--Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileages, given for only a few stations, were determined by methods given in "River Mileage Measurement," Bulletin 14, Revision of October 1968, prepared by the Water Resources Council or were provided by the U.S. Army Corps of Engineers.

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

PERIOD OF RECORD.--This indicates the period for which there are published records for the station or for an equivalent station. An equivalent station is one that was in operation at a time that the present station was not, and whose location was such that records from it can reasonably be considered equivalent with records from the present station.

REVISED RECORDS.--Published records, because of new information, occasionally are found to be incorrect, and revisions are printed in later reports. Listed under this heading are all the reports in which revisions have been published for the station and the water years to which the revisions apply. If a revision did not include daily, monthly, or annual figures of discharge, that fact is noted after the year dates as follows: "(M)" means that only the instantaneous maximum discharge was revised; "(m)" that only the instantaneous minimum was revised; and "(P)" that only the peak discharges were revised. If the drainage area has been revised, the report in which the most recently revised figure was first published is given.

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

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

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

AVERAGE DISCHARGE.--The discharge value given is the arithmetic mean of the water-year mean discharges. It is computed only for stations having at least 5 water years of complete record, and only water years of complete record are included in the computation. It is not computed for stations where diversions, storage, or other water-use practices cause the value to be meaningless. If water developments significantly altering flow at the station are put into use after the station has been in operation for a period of years, a new average is computed as soon as 5 water years of record have accumulated following the development.

EXTREMES FOR PERIOD OF RECORD.--Extremes may include maximum and minimum stages and maximum and minimum discharges or contents. Unless otherwise qualified, the maximum discharge or content is the instantaneous maximum corresponding to the highest stage that occurred. The highest stage may have been obtained from a graphic or digital recorder, a crest-stage gage, or by direct observation of a nonrecording gage. If the maximum stage did not occur on the same day as the maximum discharge or content, it is given separately. Similarly, the minimum is the instantaneous minimum discharge, unless otherwise qualified, and was determined and is reported in the same manner as the maximum.

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

EXTREMES FOR CURRENT YEAR.--Extremes given here are similar to those for the period of record, except the peak discharge listing may include secondary peaks. For stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented under this heading. The peaks greater than the base discharge, including the highest one, are referred to as secondary peaks. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by man. The time of occurrence for peaks is expressed in 24-hour local standard time. For example, 12:30 a.m. is 0030, and 1:30 p.m. is 1330. The minimum for the current water year appears below the table of peak data.

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

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

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

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

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

Identifying Estimated Daily Discharge

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

Accuracy of the Records

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

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

Daily mean discharges in this report are given to the nearest hundredths of a cubic foot per second for values less than 1 ft³/s; to the nearest tenth between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to three significant figures for more than 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

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

Other Records Available

Records of discharge, ground-water, reservoir contents, and water-quality not published by the Geological Survey are collected in Ohio at several sites by State and other Federal agencies. The National Water Data Exchange (NAWDEX), U.S. Geological Survey, Reston, VA 22092, maintains an index of these sites as well as an index of records of discharge collected by other agencies but not published by the Geological Survey. Information on records at specific sites can be obtained from that office upon request.

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

Records of Surface-Water Quality

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because interpretation of records of surface-water quality nearly always requires corresponding discharge data. Records of surface-water quality in this report may involve a variety of types of data and measurement frequencies.

Classification of Records

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

A careful distinction needs to be made between "continuing records" as used in this report and "continuous recordings," which refers to a continuous graph or a series of discrete values punched at short intervals on a paper tape. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recording; however, because of cost, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this volume are shown in figure 4.

Arrangement of Records

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

On-site Measurements and Sample Collection

In obtaining water-quality data, a major concern is that the data obtained represent the in situ quality of the water. To assure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made on site when the samples are taken. To assure that measurements made in the laboratory also represent the in situ water, carefully prescribed procedures need to be followed in collecting the samples, in treating the sample to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in publications on "Techniques of Water-Resources Investigations" (TWRI), Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, A3, and A4. All of these references are listed on p. 21-22 of this report. Also, detailed information on collecting, treating, and shipping samples may be obtained from the Geological Survey District office.

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

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

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

Water Temperatures

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

At stations where recording instruments are used, either mean temperatures or maximum and minimum temperatures for each day are published.

Sediment

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

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

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

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

Laboratory Measurements

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

Data Presentation

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

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

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

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

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

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

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

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

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

REVISIONS.--If errors in published water-quality records are discovered after publication, appropriate updates are made to the Water-Quality File in the U.S. Geological Survey's computerized data system, WATSTORE, and subsequently by monthly transfer of update transactions to the U.S. Environmental Protection Agency's STORET system. Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of U.S. Geological Survey water-quality data are encouraged to obtain all required data from the appropriate computer file to insure the most recent updates.

Remark Codes

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

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

Records of Ground-Water Levels

Water-level data from a network of observation wells (as well as project wells) are given in this report. The network well data are intended to provide a sampling and historical record of water-level changes in the Nation's most important aquifers. Locations of the observation wells in this network in Ohio are shown in figure 4. Water-level data for specific projects are reported under those projects.

Data Collection and Computation

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

Tables of water-level data are presented by counties arranged in alphabetical order. The prime identification number for a given well is a 15-digit number that is based on latitude and longitude. The secondary identification number is the local well number, which is provided for local needs.

Water-level measurements in this report are given in feet with reference to land-surface datum (LSD). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the altitude of the land-surface datum above National Geodetic Vertical Datum of 1929 is given in each well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description.

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

Data Presentation

Each well record consists of two parts, the station description and the data table of water levels observed during the water year. The description of the well is presented first through use of descriptive headings preceding the tabular data. The comments to follow clarify information presented under the various headings.

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

AQUIFER.--This entry describes the aquifer by age and composition.

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

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

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

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

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

A table of water levels follows the station description for each well. Water levels are reported in feet below (or above) land-surface datum. All periodic measurements of water levels for wells are listed. For wells equipped with recorders, daily water-level lows are published. The highest and lowest daily water levels of the water year are shown on a line below the table. Because only daily lows are published for wells with recorders, the extreme instantaneous high may be a value that is not listed in the table. Missing records are indicated by dashes in place of the water level.

Records of Ground-Water Quality

Records of ground-water quality in this report differ from other types of records in that, for most sampling sites, they consist of only one set of measurements. The quality of ground water ordinarily changes slowly, so that frequent measuring of the same parameter is not necessary unless one is concerned with a particular problem such as monitoring for trends of a particular constituent.

Data Collection and Computation

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

Most methods for collecting and analyzing water samples are described in the TWRI manuals listed on p. 21-22. The data presented in this report represent water-quality conditions at the time of sampling as much as possible, consistent with available sampling techniques and methods of analysis. All samples were obtained by trained personnel. The wells sampled were pumped long enough to assure that the water collected came directly from aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and the material comprising the casings.

Data Presentation

The records of ground-water quality are published intermixed with the ground-water-level data for network wells and with the specific project for project wells.

ACCESS TO WATSTORE DATA

The National WATER Data STORAGE and RETRIEVAL System (WATSTORE) was established for handling water data collected through the activities of the U.S. Geological Survey and to provide for more effective and efficient means of releasing the data to the public. The system is operated and maintained on the central computer facilities of the Survey at its National Center in Reston, VA.

WATSTORE can provide a variety of useful products ranging from simple data tables to complex statistical analyses. A minimal fee, plus the actual computer cost incurred in producing a desired product, is charged to the requester. Information about the availability of specific types of data, the acquisition of data or products, and user charges can be obtained locally from each of the Water Resources Division's District offices. (See address given on the back of the title page.)

General inquiries about WATSTORE may be directed to:

Chief Hydrologist
U.S. Geological Survey
437 National Center
Reston, VA 22092

DEFINITION OF TERMS

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

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

Adenosine triphosphate (ATP) is an organic, phosphate-rich, compound important in the transfer of energy in organisms. Its central role in living cells makes it an excellent indicator of the presence of living material in water. A measure of ATP therefore provides a sensitive and rapid estimate of biomass. ATP is reported in micrograms per liter of the original water sample.

Algae are mostly aquatic single-celled, colonial, or multicelled plants, containing chlorophyll and lacking roots, stems, and leaves.

Algal growth potential (AGP) is the maximum dry weight biomass that can be produced in a natural water sample under standardized laboratory conditions. The growth potential is the algal biomass present at stationary phase and is expressed as milligrams dry weight of algae produced per liter of sample.

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

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

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

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. They are characterized as aerobic or facultative anaerobic, gram-negative, nonspore-forming, rod-shaped bacteria that ferment lactose with gas formation within 48 hours at 35°C. In the laboratory, these bacteria are defined as the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35°C + 1.0°C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample.

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

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

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

Biochemical oxygen demand (BOD) is a measure of the quantity of dissolved oxygen, in milligrams per liter, necessary for the decomposition of organic matter by microorganisms, such as bacteria.

Biomass is the amount of living matter present at any given time, expressed as the mass per unit area or volume of habitat.

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500°C for 1 hour. The ash mass values of zooplankton and phytoplankton are expressed in grams per cubic meter (g/m^3), and periphyton and benthic organisms in grams per square meter (g/m^2).

Dry mass refers to the mass of residue present after drying in an oven at 105°C for zooplankton and periphyton, until the mass remains unchanged. This mass represents the total organic matter, ash and sediment, in the sample. Dry-mass values are expressed in the same units as ash mass.

Organic mass or volatile mass of the living substance is the difference between the dry mass and the ash mass and represents the actual mass of the living matter. The organic mass is expressed in the same units as for ash and dry mass.

Wet mass is the mass of living matter plus contained water.

Bottom material: See Bed material.

Cells/volume refers to the number of cells of any organism, which is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample, usually milliliters (mL) or liters (L).

Cfs-day is the volume of water represented by a flow of 1 cubic foot per second for 24 hours. It is equivalent to 86,400 cubic feet, approximately 1.9835 acre-feet, about 646,000 gallons, or 2,447 cubic meters.

Chemical oxygen demand (COD) is a measure of the chemically oxidizable material in the water and furnishes an approximation of the amount of organic and reducing material present. The determined value may correlate with natural water color or with carbonaceous organic pollution from sewage or industrial wastes.

Chlorophyll refers to the green pigments of plants. Chlorophyll a and b are the two most common pigments in plants.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

Hydrologic Index Stations, in this report, refers to four continuous record gaging stations that have been selected as representative of streamflow patterns for their respective regions of Ohio. Station locations are shown in figure 1.

Hydrologic unit is a geographic area representing part or all of a surface drainage basin or distinct hydrologic feature as delineated by the Office of Water Data Coordination on the State Hydrologic Unit Maps; each hydrologic unit is identified by an 8-digit number.

Measuring point (MP) is an arbitrary permanent reference point from which the distance to the water surface in a well is measured to obtain the water level.

Metamorphic stage refers to the stage of development that an organism exhibits during its transformation from an immature form to an adult form. This developmental process exists for most insects, and the degree of difference from the immature stage to the adult form varies from relatively slight to pronounced, with many intermediates. Examples of metamorphic stages of insects are egg-larva-adult or egg-nymph-adult.

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

Micrograms per gram (UG/G, $\mu\text{g/g}$) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (gram) of sediment.

Microgram per kilogram (UG/KG, $\mu\text{g/kg}$) is a unit expressing the concentration of a chemical element as the mass (micrograms) of the element sorbed per unit mass (kilogram) of bottom material.

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

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

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

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

Organism is any living entity, such as an insect, phytoplankter, or zooplankter.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per unit area habitat, usually square meters (m^2), acres, or hectares. Periphyton benthic organisms and macrophytes are expressed in these terms.

Organism count/volume refers to the number of organisms collected and enumerated in a sample and adjusted to the number per sample volume, usually milliliters (mL) or liters (L). Numbers of planktonic organisms can be expressed in these terms.

Total organism count is the total number of organisms collected and enumerated in any particular sample.

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

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

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

Particle-size classification used in this report agrees with recommendations made by the American Geophysical Union Subcommittee on Sediment Terminology.

The classification is as follows:

<u>Classification</u>	<u>Size (mm)</u>	<u>Method of analysis</u>
Clay.....	0.00024 - 0.004	Sedimentation.
Silt.....	0.004 - 0.062	Sedimentation.
Sand.....	0.062 - 2.0	Sedimentation or sieve.
Gravel.....	2.0 - 64.0	Sieve.

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

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

Periphyton is the assemblage of microorganisms attached to and growing upon solid surfaces. While primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton is a useful indicator of water quality.

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

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

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

Plankton is the community of suspended, floating, or weakly swimming organisms that live in the open water of lakes and rivers.

Phytoplankton is the plant part of the plankton. They are usually microscopic and their movement is subject to the water currents. Phytoplankton growth is dependent upon solar radiation and nutrient substances. Because they are able to incorporate as well as release materials to the surrounding water, the phytoplankton have a profound effect upon the quality of the water. They are the primary food producers in the aquatic environment, and are commonly known as algae.

Blue-green algae are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water.

Diatoms are the unicellular or colonial algae having a siliceous shell. Their concentrations are expressed as number of cells per milliliter (cells/mL) of sample.

Green algae have chlorophyll pigments similar in color to those of higher green plants. Some forms produce algae mats or floating "moss" in lakes. Their concentrations are expressed as number of cells per millimeter (cells/mm) of sample.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movement within the water column and are often large enough to be seen with the unaided eye. Zooplankton are secondary consumers feeding upon bacteria, phytoplankton, and detritus. Because they are the grazers in the aquatic environment, the zooplankton are a vital part of the aquatic food web. The zooplankton community is dominated by small crustaceans and rotifers.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photosynthetic and chemosynthetic activity of producer organisms (chiefly, green plants). The rate of primary production is estimated by measuring the amount of oxygen released (oxygen method) or the amount of carbon assimilated by the plants (carbon method).

Milligrams of carbon per area or volume per unit time [mg C/(m²/time)] for periphyton and macrophytes and [mg C/(m³/time)] for phytoplankton are units for expressing primary productivity. They define the amount of carbon dioxide consumed as measured by radioactive carbon (carbon 14). The carbon 14 method is of greater sensitivity than the oxygen light and dark bottle method, and is preferred for use in unenriched waters. Unit time may be either the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [mg O₂/(m²/time)] for periphyton and macrophytes and [mg O₂/(m³/time)] for phytoplankton are the units for expressing primary productivity. They define production and respiration rates as estimated from changes in the measured dissolved oxygen concentration. The oxygen light and dark bottle method is preferred if the rate of primary production is sufficient for accurate measurements to be made within 24 hours. Unit time may be either the hour or day, depending on the incubation period.

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

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

Return period is the average time interval between occurrences of a hydrological event of a given or greater magnitude, usually expressed in years. May also be called recurrence interval.

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

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

Bed load is the sediment that is transported in a stream by rolling, sliding, or skipping along the bed and very close to it. In this report, bed load is considered to consist of particles in transit within 0.25 ft of the streambed.

Bed-load discharge (tons per day) is the quantity of bed load measured by dry weight that moves past a section as bed load in a given time.

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

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

Suspended-sediment discharge (tons/day) is the rate at which dry weight of sediment passes a section of a stream or is the quantity of sediment, as measured by dry weight or volume, that passes a section in a given time. It is computed by multiplying discharge times mg/L times 0.0027.

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

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

Mean concentration is the time-weighted concentration of suspended sediment passing a stream section during a 24-hour day.

7-day, 10-year low flow (7Q₁₀) is the discharge at the 10-year recurrence interval taken from a frequency curve of annual values of the lowest mean discharge for 7 consecutive days (the 7-day

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

Solute is any substance derived from the atmosphere, vegetation, soil, or rocks that is dissolved in water.

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

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

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

Substrate is the physical surface upon which an organism lives.

Natural substrate refers to any naturally occurring emerged or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device which is purposely placed in a stream or lake for colonization of organisms. The artificial substrate simplifies the community structure by standardizing the substrate from which each sample is taken. Examples of artificial substrate are basket samplers (made of wire cages filled with clean streamsize rocks) and multiplate samplers (made of hardboard) for benthic-organism collection, and plexiglass strips for periphyton.

Surface area of a lake is that area outlined on the latest USGS topographic map as the boundary of the lake and measured by a planimeter in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimeted. All areas shown are those for the stage when the planimeted map was made.

Surficial bed material is the part (0.1 to 0.2 ft) of the bed material that is sampled using U.S. Series Bed-Material Samplers.

Suspended (as used in tables of chemical analyses) refers to the amount (concentration) of the total concentration in a water-sediment mixture. The water-sediment mixture is associated with (or sorbed on) that material retained on a 0.45-micrometer filter.

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

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

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

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

Taxonomy is the division of biology concerned with the classification and naming of organisms. The classification of organisms is based upon hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms

have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata*, is the following:

Kingdom.....Animal
Phylum.....Arthropoda
Class.....Insecta
Order.....Ephemeroptera
Family.....Ephemeridae
Genus.....Hexagenia
Species.....Hexagenia limbata

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

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

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

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

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

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

Total discharge is the total quantity of any individual constituent, as measured by dry mass or volume, that passes through a stream cross-section per unit of time. This term needs to be qualified, such as "total sediment discharge," "total chloride discharge," and so on.

Total load (tons) is the total quantity of any individual constituent, as measured by dry mass or volume, that is dissolved in a specific amount of water (discharge) during a given time. It is computed by multiplying the total discharge, times the mg/L of the constituent, times the factor 0.0027, times the number of days.

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

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

WDR is used as an abbreviation for "Water-Data Report" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published after 1975.

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

WRD is used as an abbreviation for "Water-Resources Data" in the REVISED RECORDS paragraph to refer to State annual basic-data reports published before 1975.

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

The U.S. Geological Survey publishes a series of manuals describing procedures for planning and conducting specialized work in water-resources investigations. The material is grouped under major subject headings called books and is further divided into sections and chapters. For example, Section A of Book 3 (Applications of Hydraulics) pertains to surface water. The chapter, the unit of publication, is limited to a narrow field of subject matter. This format permits flexibility in revision and publication as the need arises.

The reports listed below are for sale by the U.S. Geological Survey, Books and Open-File Reports Section, Federal Center, Box 25425, Denver, Colorado 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. Remittance should be sent by check or money order payable to the U.S. Geological Survey. Prices are not included because they are subject to change. Current prices can be obtained by writing to the above address. When ordering or inquiring about prices for any of these publications, please give the title, book number, chapter number, and "U.S. Geological Survey Techniques of Water-Resources Investigations."

- 1-D1. *Water temperature--influential factors, field measurement, and data presentation*, by H. H. Stevens, Jr., J. F. Ficke, and G. F. Smoot: USGS--TWRI Book 1, Chapter D1. 1975. 65 pages.
- 1-D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W. W. Wood: USGS--TWRI Book 1, Chapter D2. 1976. 24 pages.
- 2-D1. *Application of surface geophysics to ground-water investigations*, by A. A. R. Zohdy, G. P. Eaton, and D. R. Mabey: USGS--TWRI Book 2, Chapter D1. 1974. 116 pages.
- 2-E1. *Application of borehole geophysics to water-resources investigations*, by W. S. Keys and L. M. MacCary: USGS--TWRI Book 2, Chapter E1. 1971. 126 pages.
- 3-A1. *General field and office procedures for indirect discharge measurements*, by M. A. Benson and Tate Dalrymple: USGS--TWRI Book 3, Chapter A1. 1967. 30 pages.
- 3-A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M. A. Benson: USGS--TWRI Book 3, Chapter A2. 1967. 12 pages.
- 3-A3. *Measurement of peak discharge at culverts by indirect methods*, by G. L. Bodhaine: USGS--TWRI Book 3, Chapter A3. 1968. 60 pages.
- 3-A4. *Measurement of peak discharge at width contractions by indirect methods*, by H. F. Matthai: USGS--TWRI Book 3, Chapter A4. 1967. 44 pages.
- 3-A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS--TWRI Book 3, Chapter A5. 1967. 29 pages.
- 3-A6. *General procedure for gaging streams*, by R. W. Carter and Jacob Davidian: USGS--TWRI Book 3, Chapter A6. 1968. 13 pages.
- 3-A7. *Stage measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A7. 1968. 28 pages.
- 3-A8. *Discharge measurements at gaging stations*, by T. J. Buchanan and W. P. Somers: USGS--TWRI Book 3, Chapter A8. 1969. 65 pages.
- 3-A9. *Measurement of time of travel and dispersion in streams by dye tracing*, by E. F. Hubbard, F. A. Kilpatrick, L. A. Martens, and J. F. Wilson, Jr.: USGS--TWRI Book 3, Chapter A9. 1982. 44 pages.
- 3-A10. *Discharge ratings at gaging stations*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A10. 1984. 59 pages.
- 3-A11. *Measurement of discharge by moving-boat method*, by G. F. Smoot and C. E. Novak: USGS--TWRI Book 3, Chapter A11. 1969. 22 pages.
- 3-A13. *Computation of continuous records of streamflow*, by E. J. Kennedy: USGS--TWRI Book 3, Chapter A13. 1983. 53 pages.
- 3-A14. *Use of flumes in measuring discharge*, by F. A. Kilpatrick and V. R. Schneider: USGS--TWRI Book 3, Chapter A14. 1983. 46 pages.
- 3-A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS--TWRI Book 3, Chapter A15. 1984. 48 pages.
- 3-B1. *Aquifer-test design, observation, and data analysis*, by R. W. Stallman: USGS--TWRI Book 3, Chapter B1. 1971. 26 pages.
- 3-B2. *Introduction to ground-water hydraulics, a programed text for self-instruction*, by G. D. Bennett: USGS--TWRI Book 3, Chapter B2. 1976. 172 pages.
- 3-B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J. E. Reed: USGS--TWRI Book 3, Chapter B3. 1980. 106 pages.

- 3-C1. *Fluvial sediment concepts* by H. P. Guy: USGS--TWRI Book 3, Chapter C1. 1970. 55 pages.
- 3-C2. *Field methods for measurement of fluvial sediment* by H. P. Guy and V. W. Norman: USGS--TWRI Book 3, Chapter C2. 1970. 59 pages.
- 3-C3. *Computation of fluvial-sediment discharge* by George Porterfield: USGS--TWRI Book 3, Chapter C3. 1972. 66 pages.
- 4-A1. *Some statistical tools in hydrology*, by H. C. Riggs: USGS--TWRI Book 4, Chapter A1. 1968. 39 pages.
- 4-A2. *Frequency curves* by H. C. Riggs: USGS--TWRI Book 4, Chapter A2. 1968. 15 pages.
- 4-B1. *Low-flow investigations* by H. C. Riggs: USGS--TWRI Book 4, Chapter B1. 1972. 18 pages.
- 4-B2. *Storage analyses for water supply* by H. C. Riggs and C. H. Hardison: USGS--TWRI Book 4, Chapter B2. 1973. 20 pages.
- 4-B3. *Regional analyses of streamflow characteristics* by H. C. Riggs: USGS--TWRI Book 4, Chapter B3. 1973. 15 pages.
- 4-D1. *Computation of rate and volume of stream depletion by wells* by C. T. Jenkins: USGS--TWRI Book 4, Chapter D1. 1970. 17 pages.
- 5-A1. *Methods for determination of inorganic substances in water and fluvial sediments* by M. W. Skougstad and others, editors: USGS--TWRI Book 5, Chapter A1. 1979. 626 pages.
- 5-A2. *Determination of minor elements in water by emission spectroscopy* by P. R. Barnett and E. C. Mallory, Jr.: USGS--TWRI Book 5, Chapter A2. 1971. 31 pages.
- 5-A3. *Methods for analysis of organic substances in water* by D. F. Goerlitz and Eugene Brown: USGS--TWRI Book 5, Chapter A3. 1972. 40 pages.
- 5-A4. *Methods for collection and analysis of aquatic biological and microbiological samples* edited by P. E. Greenson, T. A. Ehlke, G. A. Irwin, B. W. Lium, and K. V. Slack: USGS--TWRI Book 5, Chapter A4. 1977. 332 pages.
- 5-A5. *Methods for determination of radioactive substances in water and fluvial sediments* by L. L. Thatcher, V. J. Janzer, and K. W. Edwards: USGS--TWRI Book 5, Chapter A5. 1977. 95 pages.
- 5-A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments* by L. C. Friedman and D. E. Erdmann: USGS--TWRI Book 5, Chapter A6. 1982. 181 pages.
- 5-C1. *Laboratory theory and methods for sediment analysis* by H. P. Guy: USGS--TWRI Book 5, Chapter C1. 1969. 58 pages.
- 7-C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments* by P. C. Trescott, G. F. Pinder, and S. P. Larson: USGS--TWRI Book 7, Chapter C1. 1976. 116 pages.
- 7-C2. *Computer model of two-dimensional solute transport and dispersion in ground water* by L. F. Konikow and J. D. Bredehoeft: USGS--TWRI Book 7, Chapter C2. 1978. 90 pages.
- 7-C3. *A model for simulation of flow in singular and interconnected channels* by R. W. Schaffranek, R. A. Baltzer, and D. E. Goldberg: USGS--TWRI Book 7, Chapter C3. 1981. 110 pages.
- 8-A1. *Methods of measuring water levels in deep wells* by M. S. Garber and F. C. Koopman: USGS--TWRI Book 8, Chapter A1. 1968. 23 pages.
- 8-A2. *Installation and service manual for U.S. Geological Survey manometers* by J. D. Craig: USGS--TWRI Book 8, Chapter A2. 1983. 57 pages.
- 8-B2. *Calibration and maintenance of vertical-axis type current meters* by G. F. Smoot and C. E. Novak: USGS--TWRI Book 8, Chapter B2. 1968. 15 pages.

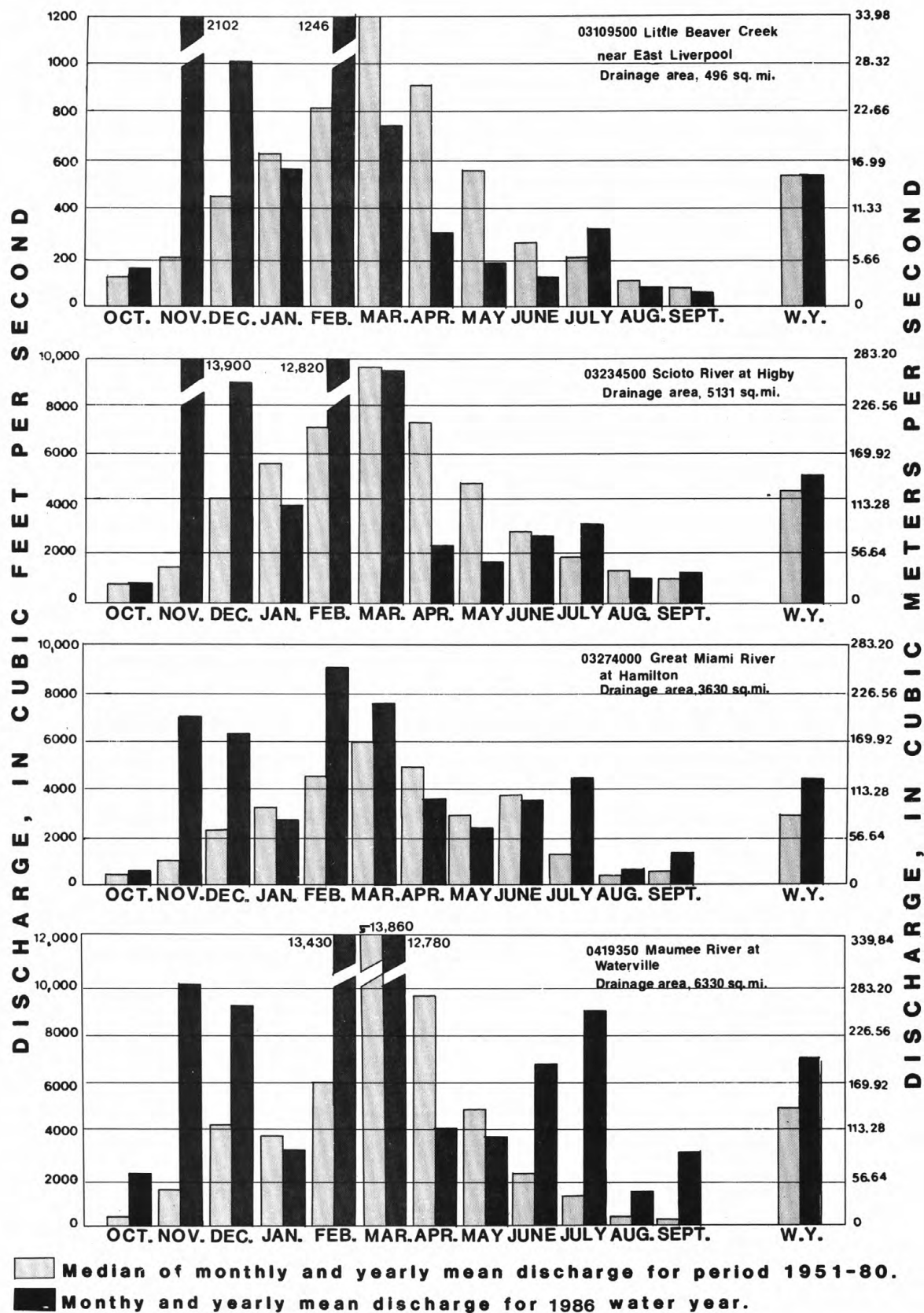


Figure 3.--Runoff during 1986 water year compared with median runoff for period 1951-80 for four representative gaging stations.

WATER RESOURCES DATA FOR OHIO, 1986

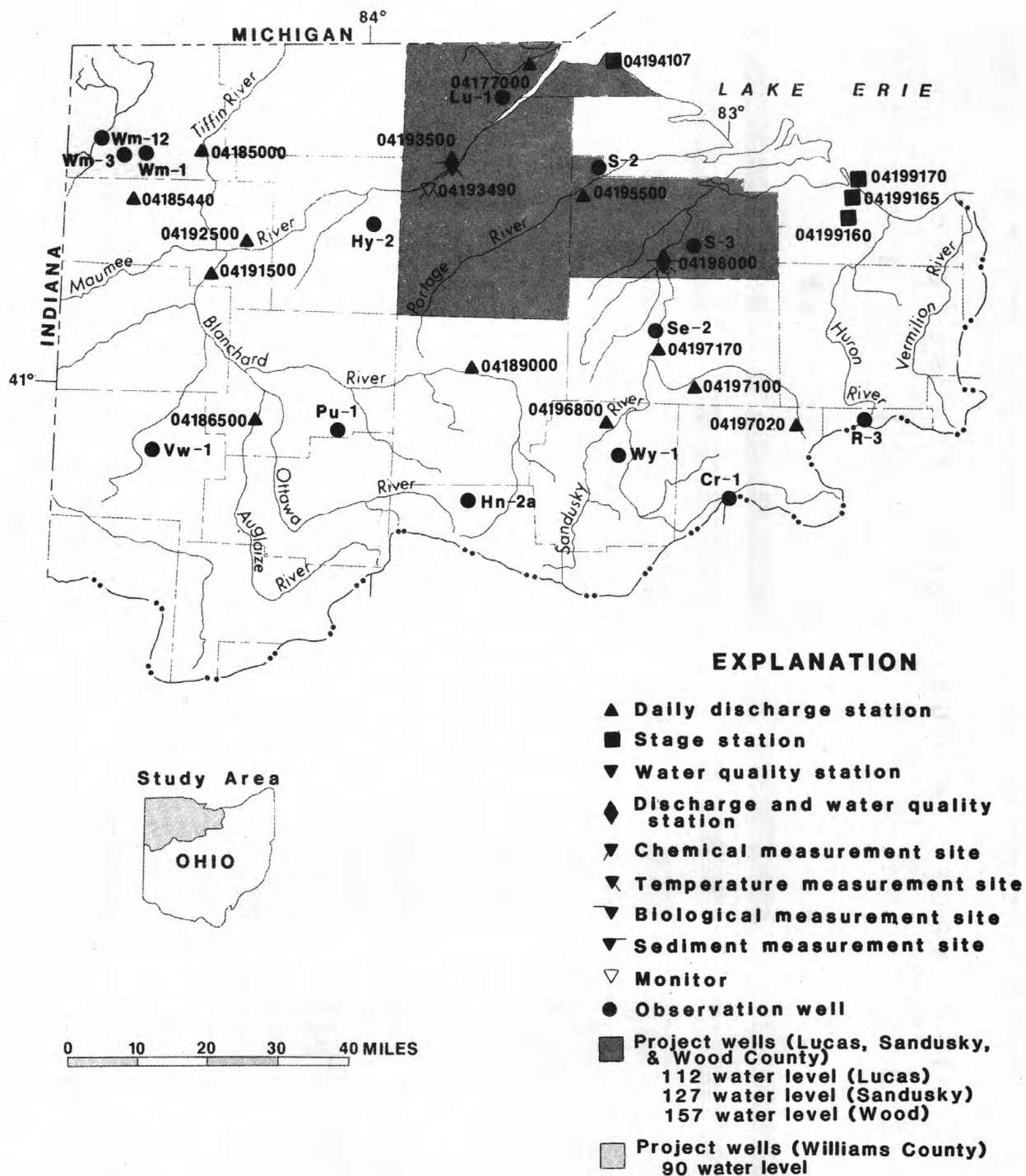


Figure 4a.--Location of data-collection stations excluding crest-stage and low-flow partial record sites.

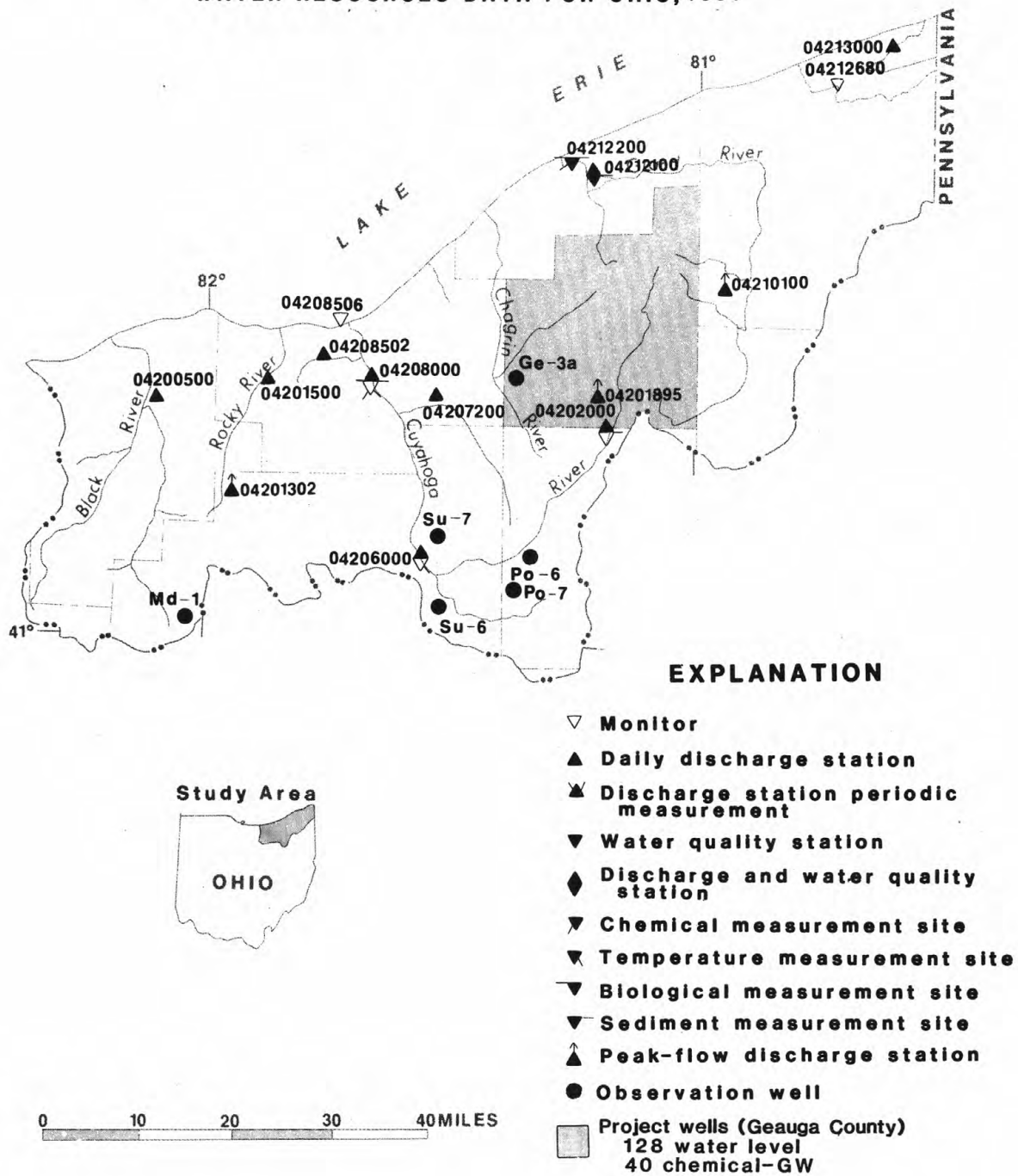


Figure 4b.--Location of data-collection stations including crest-stage and low-flow partial record sites.

WATER RESOURCES DATA FOR OHIO, 1986

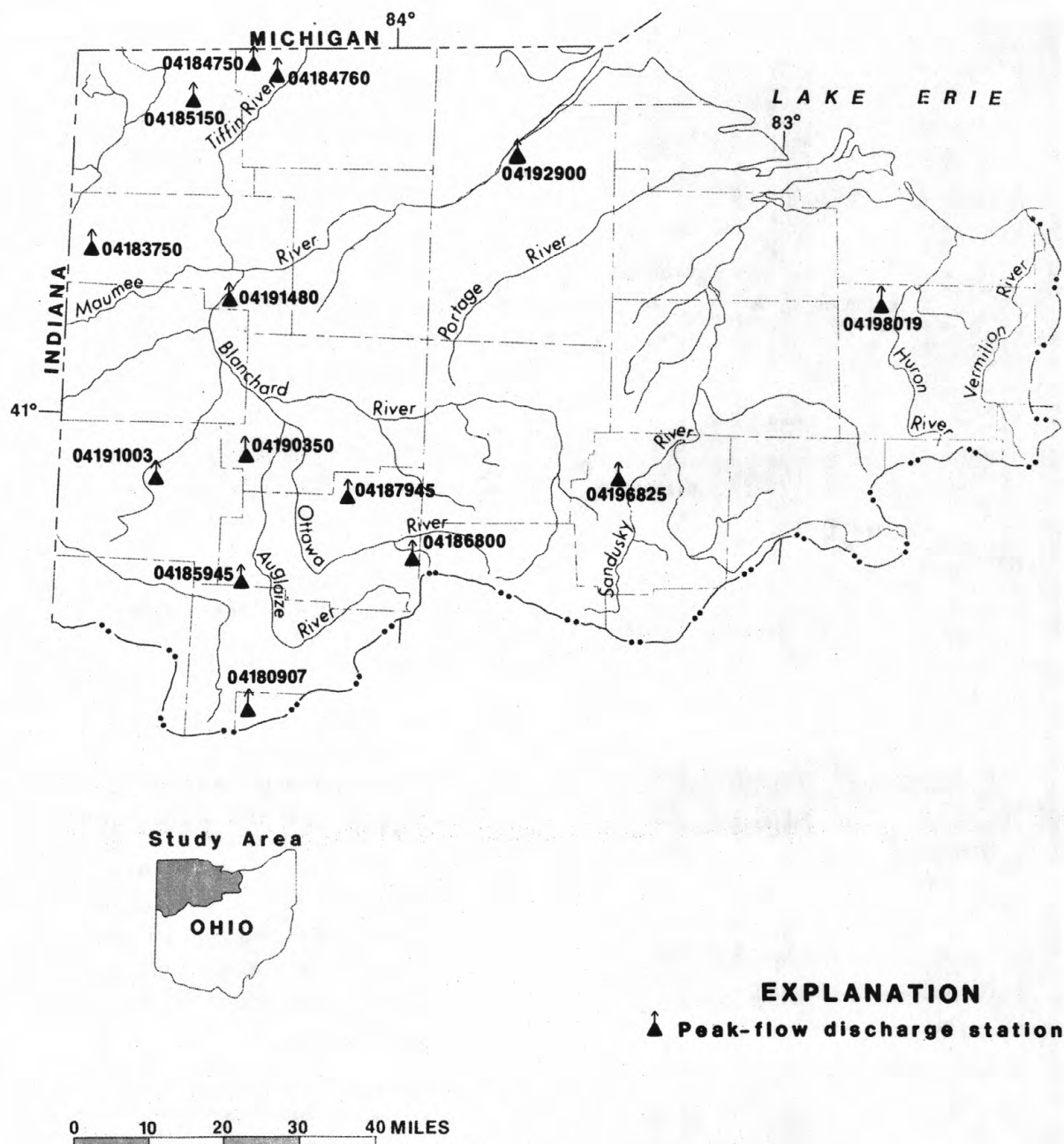


Figure 4c.--Location of crest-stage and low-flow partial record sites.

04177000 OTTAWA RIVER AT TOLEDO UNIVERSITY, TOLEDO, OH

LOCATION.--Lat $41^{\circ}39'36''$, long $83^{\circ}36'44''$, in NE 1/4 sec. 32, T.9 S., R.7 E., Lucas County, Hydrologic Unit 04100001, on left bank at auto bridge at Toledo University, Toledo, Ohio., 0.4 mi downstream from Deline Ditch, 5.6 mi upstream from Sibley Creek, and 10.9 mi upstream from mouth.

DRAINAGE AREA.--150 mi². Area at site used prior to Sept. 30, 1948, 150 mi, revised.

PERIOD OF RECORD.--March 1945 to September 1948 (published as "Tenmile Creek at Toledo"), August 1976 to current year.

REVISED RECORDS.--WSP 1307: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 576.28 ft above National Geodetic Vertical Datum of 1929. (From Aug. 1976 to July, 1979 at site 500 ft downstream. Prior to Sept. 30, 1948 water-stage recorder at site 2,500 ft upstream at datum 3.72 ft higher.

REMARKS.--Estimated daily discharges: Nov. 29-Dec. 18, Dec. 20-Jan. 16, Jan. 25 to Feb. 2, Feb. 8-12, 21-27. Records fair except for periods of estimated record, which are poor. Water-quality data collected at this site 1977.

AVERAGE DISCHARGE.--13 years(1946-48, 1977-86) 130 ft³/s, 11.77 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,950 ft³/s Mar. 14, 1982, gage height, 14.54 ft; minimum, no flow Aug. 24 to Sept. 19, 1945, July 7-15, Aug. 12-15, Sept. 1-9, 16-22, Oct. 5-10, 1946.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 1, 1943 reached a stage of 15.1 ft present datum, from floodmark, Lucas County Sanitary Engineers, discharge, 3,400 ft³/s. Flood of Apr. 25, 1950 reached a stage of 15.0 ft present datum, from floodmark, discharge, 3,300 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1150 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 24	1900	1,330	9.49	Mar. 11	2100	1,450	9.90
Nov. 29	---	1,180	---	Mar. 14	1430	1,210	9.08
Dec. 13	---	1,500	---	Mar. 20	0400	1,390	9.71
Feb. 20	2100	1,490	10.02	June 12	0330	*1,660	*10.57
Feb. 21	0330	ice jam	10.42				

Minimum daily discharge, 4.4 ft³/s Oct. 7, 9.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	13	9.5	600	27	33	85	87	71	47	34	20	21	
2	6.6	9.6	350	26	33	77	81	72	41	49	17	19	
3	5.0	46	240	25	67	81	65	70	35	39	14	17	
4	5.9	84	180	25	150	89	73	56	31	38	12	28	
5	8.6	64	110	24	521	217	79	53	130	36	12	42	
6	5.0	43	84	24	471	678	195	128	270	29	54	51	
7	4.4	30	66	24	230	750	294	247	786	24	103	29	
8	4.8	24	54	24	150	484	161	195	827	27	36	23	
9	4.4	32	110	23	110	177	101	104	478	44	29	17	
10	5.1	259	220	23	90	380	78	75	251	31	53	16	
11	9.2	469	430	22	70	1240	67	64	908	44	35	161	
12	24	404	820	22	56	1120	58	55	1580	204	20	194	
13	18	197	1400	22	53	766	56	50	862	311	16	121	
14	21	136	990	21	49	1170	53	48	362	127	15	64	
15	31	124	420	21	47	927	99	44	519	60	58	45	
16	16	329	190	21	45	576	124	43	631	124	94	33	
17	10	678	125	40	50	365	100	57	309	191	39	22	
18	41	547	86	73	94	294	87	80	166	94	26	32	
19	99	696	62	266	414	885	78	67	162	50	21	25	
20	78	867	55	324	1260	1230	89	58	144	36	18	23	
21	60	607	49	178	1200	439	270	56	114	33	15	23	
22	36	308	45	119	700	237	373	54	69	23	14	30	
23	24	483	41	90	400	192	187	50	66	20	15	38	
24	48	1210	39	70	250	158	120	46	52	19	17	32	
25	25	1170	36	56	160	128	100	43	45	49	15	191	
26	16	351	34	50	120	129	84	39	39	43	150	272	
27	15	98	32	43	100	122	73	61	35	25	118	223	
28	15	94	31	39	89	96	69	91	41	20	93	200	
29	14	1100	30	37	---	85	69	95	33	18	59	121	
30	12	830	29	35	---	81	68	65	37	17	34	107	
31	10	---	28	34	---	72	---	54	---	15	25	---	
TOTAL	685.0	11299.1	6986	1828	7012	13330	3438	2291	9070	1874	1247	2220	
MEAN	22.1	377	225	59.0	250	430	115	73.9	302	60.5	40.2	74.0	
MAX	99	1210	1400	324	1260	1240	373	247	1580	311	150	272	
MIN	4.4	9.5	28	21	33	72	53	39	31	15	12	16	
CFSM	.15	2.51	1.50	.39	1.67	2.87	.77	.49	2.01	.40	.27	.49	
IN.	.17	2.80	1.73	.45	1.74	3.31	.85	.57	2.25	.46	.31	.55	
CAL YR 1985	TOTAL	60471.9		MEAN	166	MAX	2620	MIN	3.5	CFSM	1.11	IN.	15.00
WTR YR 1986	TOTAL	61280.1		MEAN	168	MAX	1580	MIN	4.4	CFSM	1.12	IN.	15.20

STREAMS TRIBUTARY TO LAKE ERIE

04185000 TIFFIN RIVER AT STRYKER, OH

LOCATION.--Lat 41°30'16", long 84°25'47", in SE 1/4 sec. 5, T.6 N., R.4 E., Williams County, Hydrologic Unit 04100006, on left bank 0.5 mi downstream from bridge on State Highway 191 at west edge of Stryker, 0.6 mi upstream from Penn Central bridge, and 1.6 mi downstream from Leatherwood Creek.

DRAINAGE AREA.--410 mi².

PERIOD OF RECORD.--September 1921 to September 1928 (published as "near Stryker"), October 1940 to current year.

REVISED RECORDS.--WSP 1144: 1922-28. WSP 1387: 1925. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 685.1 ft above National Geodetic Vertical Datum of 1929. Prior to Sept. 30, 1928, nonrecording gage at site 3.5 mi upstream at different datum. Oct. 13, 1940 to Jan. 17, 1941, nonrecording gage and Jan. 18, 1941 to Sept. 30, 1953, water-stage recorder, at site 0.5 mi downstream at same datum.

REMARKS.--Estimated daily discharges: Dec. 21-Jan. 16, Jan. 26-31, Feb. 13-17, Mar. 1-4, 20, 21, June 25-July 14, Aug. 1-9. Records poor. Small diversion 12.5 mi upstream from gage for municipal supply of Archbold. Diversion averaged 1.75 ft³/s is returned as sewage to Brush Creek which flows into Tiffin River about 15 mi downstream from station. Water-quality data collected at this site 1965 to 1977. Sediment data collected 1969 to 1974.

AVERAGE DISCHARGE.--53 years, 327 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,800 ft³/s Mar. 15, 1982, gage height, 18.36 ft; minimum daily discharge, 3.9 ft³/s Aug. 30, 31, Sept. 1, 1953.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 16.0 ft, from floodmarks, discharge, 7,600 ft³/s. Flood in 1937 reached a stage of 15.0 ft, from information by local resident, discharge, 6,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 1,850 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 29	0700	2,190	12.95	Mar. 13	2100	3,140	14.11
Feb. 22	1200	*3,200	*14.19	Mar. 21	1500	2,690	13.57

Minimum daily discharge, 27 ft³/s Oct. 1, Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27	76	1610	88	152	300	249	229	133	270	53	33
2	29	73	1460	85	212	270	239	356	110	410	110	31
3	29	71	1310	82	286	250	226	326	95	570	94	28
4	28	72	1190	80	377	240	220	235	88	600	76	31
5	29	74	927	78	886	318	247	193	174	390	64	57
6	32	75	622	76	1060	733	352	171	593	275	56	46
7	33	72	427	74	1170	996	342	273	887	215	49	40
8	33	73	356	73	1090	803	291	293	1080	160	46	33
9	35	76	335	71	808	869	241	212	990	130	47	30
10	39	122	347	70	516	1050	211	166	588	165	53	27
11	42	424	734	68	308	1760	191	149	513	440	50	41
12	46	608	1200	67	227	2260	175	133	761	510	47	130
13	56	708	1360	66	170	2880	161	125	905	320	44	86
14	73	738	1040	65	150	2980	149	117	912	195	41	63
15	78	683	867	65	150	2880	204	108	951	160	38	53
16	104	749	569	65	140	2550	281	107	791	306	46	43
17	118	931	367	118	140	2160	286	111	461	749	52	37
18	91	1100	249	238	181	1770	268	126	300	507	44	35
19	182	1400	193	520	630	2050	243	163	244	282	39	35
20	372	1600	216	717	1620	2400	211	199	448	184	34	36
21	362	1710	190	851	2560	2600	222	198	465	143	33	37
22	287	1680	165	936	3150	2170	272	173	465	120	35	38
23	222	1500	150	818	2850	1700	251	157	428	105	33	42
24	181	1250	135	562	2320	1250	208	143	219	93	31	55
25	159	988	125	379	1750	879	187	129	170	86	30	116
26	145	1010	115	250	1290	605	170	119	135	105	34	255
27	127	1440	110	160	820	468	158	111	115	65	126	371
28	113	1830	105	130	440	400	151	351	195	62	121	390
29	96	2070	99	120	---	346	144	451	420	58	71	279
30	88	1900	95	120	---	307	155	246	335	56	48	230
31	79	---	91	120	---	272	---	167	---	51	38	---
TOTAL	3335	25103	16759	7212	25453	40516	6705	6037	13971	7782	1683	2728
MEAN	108	837	541	233	909	1307	224	195	466	251	54.3	90.9
MAX	372	2070	1610	936	3150	2980	352	451	1080	749	126	390
MIN	27	71	91	65	140	240	144	107	88	51	30	27
CAL YR 1985	TOTAL	170478		MEAN	467	MAX	5790	MIN	17			
WTR YR 1986	TOTAL	157284		MEAN	431	MAX	3150	MIN	27			

STREAMS TRIBUTARY TO LAKE ERIE

29

04185440 UNNAMED TRIBUTARY TO LOST CREEK NR FARMER, OH

LOCATION.--Lat 41°21'42", long 84°41'28", Defiance County, Hydrologic Unit 04100006, on right bank 400 ft above bridge on Rosedale Rd., 0.5 mi above mouth and 2.0 mi from Farmer.

DRAINAGE AREA.--4.23 mi².

PERIOD OF RECORD.--October 1985 to September 1986.

GAGE.--Water-stage recorder. Elevation of gage is 760 ft above National Geodetic Vertical Datum of 1929 from topographic map.

REMARKS.--Estimated daily discharges: Dec. 20-Jan. 16, Jan. 21-31, Feb. 7-17, May 24-28 and Aug. 29 to Sept. 7. Records good except for estimated daily discharges which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 486 ft³/s July 16, 1986, gage height, 4.99 ft; minimum discharge 0.11 ft³/s Sept. 10, 11, 1986.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 120 ft³/s and maximum (*).

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 16	0500	141	3.59	Mar. 10	2030	144	3.61
Nov. 19	1430	137	3.56	Mar. 13	0445	126	3.48
Dec. 10	2115	189	3.88	Mar. 19	0245	287	4.34
Feb. 19	1745	126	3.48	June 20	0645	128	3.50
Feb. 21	0030	137	3.56	July 16	1045	*486	*4.99

Minimum daily discharge, 0.11 ft³/s Sept. 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	.17	.33	38	.24	2.8	.96	.77	1.4	.44	.59	.78	15	
2	.17	.33	7.6	.24	5.8	.90	.90	.93	.37	1.4	.55	21	
3	.17	.31	3.4	.23	1.6	.88	.78	.63	.33	.62	.41	29	
4	.17	.26	2.1	.22	49	2.2	12	.55	.34	.45	.31	42	
5	.17	.23	1.6	.22	34	12	8.2	.51	8.1	.37	.27	20	
6	.17	.23	1.3	.21	11	37	7.7	.71	4.5	.31	.27	17	
7	.17	.23	1.3	.21	2.7	9.0	3.2	4.8	1.8	.27	.53	15	
8	.17	.22	1.3	.20	1.6	3.6	1.9	1.3	1.3	.26	.38	14	
9	.17	.22	2.0	.20	1.2	20	1.3	.71	.72	.34	.29	13	
10	.17	1.3	62	.20	.96	56	1.0	.58	.63	.31	.26	12	
11	.17	1.8	58	.20	.82	27	.85	.51	.77	5.5	.26	9.3	
12	.19	1.2	15	.20	.70	37	.76	.46	.80	8.5	.24	6.8	
13	.21	1.4	5.8	.19	.64	59	.70	.45	.64	16	.22	.66	
14	.23	14	3.4	.19	.58	18	.70	.41	.51	2.2	.22	.28	
15	.35	10	2.6	.19	.53	9.5	1.7	.39	21	1.0	.20	.22	
16	.38	62	1.9	.19	.50	6.1	1.3	.41	4.8	129	.20	.19	
17	.26	11	1.5	5.6	.48	4.7	1.2	.45	2.0	12	.19	.17	
18	23	44	.93	12	17	6.7	.98	.46	1.3	5.2	.19	.18	
19	35	66	.74	26	75	80	.84	.46	1.1	2.9	.17	.18	
20	9.7	22	.62	6.4	35	10	1.1	.52	42	2.2	.16	.17	
21	3.8	7.2	.52	2.4	40	6.1	6.4	.53	5.8	1.7	.16	.17	
22	1.8	14	.47	1.6	11	5.0	2.3	.53	3.0	1.3	.16	.16	
23	1.1	7.2	.42	1.2	6.5	4.6	1.4	.53	2.0	1.0	.16	.17	
24	.81	4.3	.38	.90	5.0	3.3	1.1	.49	.92	.88	.16	.19	
25	.77	7.7	.35	.74	3.7	2.7	.93	.45	.63	14	.16	1.0	
26	.60	42	.33	.60	2.8	2.4	.81	.40	.53	19	.31	2.3	
27	.50	12	.31	.52	1.8	2.2	.70	.80	.48	3.2	.53	12	
28	.41	13	.29	.44	1.3	1.9	.57	1.1	.58	5.8	.58	1.2	
29	.37	22	.27	.39	---	1.5	.55	.69	.44	1.9	.31	.44	
30	.34	14	.26	.35	---	.85	.61	.65	.45	1.1	.18	2.9	
31	.33	---	.25	.32	---	.74	---	.56	---	.86	.16	---	
TOTAL	82.02	380.46	214.94	62.79	314.01	431.83	63.25	23.37	108.28	240.16	8.97	40.66	
MEAN	2.65	12.7	6.93	2.03	11.2	13.9	2.11	.75	3.61	7.75	.29	1.36	
MAX	35	66	62	26	75	80	12	4.8	42	129	.78	12	
MIN	.17	.22	.25	.19	.48	.74	.55	.39	.33	.26	.16	.12	
CFSM	.63	3.00	1.64	.48	2.65	3.29	.50	.18	.85	1.83	.07	.32	
IN.	.72	3.35	1.89	.55	2.76	3.80	.56	.21	.95	2.11	.08	.36	
WTR YR 1986	TOTAL	1970.74		MEAN	5.40	MAX	129	MIN	.12	CFSM	1.28	IN.	17.33

STREAMS TRIBUTARY TO LAKE ERIE

04186500 AUGLAIZE RIVER NEAR FORT JENNINGS, OH

LOCATION.--Lat 40°56'55", long 84°15'58", in SE 1/4 sec. 15, T.1 S., R.5 E., Putnam County, Hydrologic Unit 04100007, on left bank 200 ft upstream from bridge on U. S. Highway 224, 3.5 mi northeast of Fort Jennings, 6 mi upstream from Ottawa River, and 7.3 mi downstream from Jennings Creek.

DRAINAGE AREA.--332 mi².

PERIOD OF RECORD.--August 1921 to December 1935. October 1940 to current year.

REVISED RECORDS.--WSP 744: 1932. WSP 974: 1930(M). WSP 1307: 1922-24(M), 1926-27(M), 1929(M). WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 713.6 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 6, 1930, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 19-Jan. 17, Jan. 28-Feb. 2, Feb. 11-18, Feb. 25-Mar. 5, June 24-July 14. Records good except for estimated record and Oct. 1-18, which are fair. Beginning Jan. 4, 1971, water was diverted at a point 24.3 mi upstream from station into Lake Bresler. Storage in Lake Bresler is available for low-flow augmentation and water supply of city of Lima, in Ottawa River basin. Net withdrawal totaled 4,659 mil gal, equivalent to a mean withdrawal of 19.7 ft³/s. No releases have been made for low-flow augmentation. Some diversion from Grand Lake to Auglaize River basin through Miami and Erie Canal into Jennings Creek at a point 9.2 mi upstream from station. Annual figures of runoff are considered to be within 10 percent of natural yield. Sediment data collected at this site 1970 to 1974. Water-quality data collected at this site 1968 to 1978.

AVERAGE DISCHARGE.--60 years, 288 ft³/s, 11.78 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, about 12,000 ft³/s Jan. 23, 1959; maximum gage height, 20.30 ft Jan. 23, 1959, from floodmark (ice jam); minimum daily discharge, .94 ft³/s Oct. 10, 11.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 29	0130	2,870	11.04	Mar. 20	1100	2,700	10.73
Dec. 13	1000	3,740	12.35	July 17	2200	3,140	11.46
Feb. 6	0900	*4,420	*13.30				

Minimum daily discharge, .94 ft³/s Oct. 10, 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	6.4	629	60	145	170	123	427	199	305	227	53
2	8.0	6.1	435	60	140	170	119	701	349	440	309	44
3	5.6	5.9	323	59	486	160	112	373	317	860	134	40
4	5.5	11	208	58	1000	150	105	211	215	1400	83	44
5	4.3	16	135	58	3310	300	100	152	116	770	65	151
6	3.5	12	105	57	4350	1170	101	125	140	410	56	97
7	2.5	10	85	56	3210	1050	110	129	130	220	55	91
8	2.2	8.6	69	56	1200	524	134	150	94	155	50	66
9	1.3	5.9	57	56	675	360	120	162	443	120	61	49
10	.94	8.1	80	55	459	267	104	119	944	180	66	42
11	.94	49	830	55	350	568	93	119	2380	330	120	58
12	4.7	87	3060	55	260	908	84	106	1840	760	124	44
13	12	136	3670	54	200	1680	80	98	777	2000	88	48
14	8.1	150	1990	54	170	2090	76	91	362	1550	46	47
15	58	195	917	54	150	1060	82	91	228	396	32	66
16	44	512	394	54	140	547	80	97	161	724	56	96
17	35	722	231	69	130	364	61	123	127	2810	50	68
18	33	547	267	96	300	282	57	163	394	2240	44	57
19	73	308	185	451	2220	1390	50	204	406	604	41	50
20	30	653	150	1420	1970	2600	54	235	843	327	38	1000
21	21	579	130	1420	1530	1350	1220	203	1810	209	35	2230
22	17	290	115	678	1390	556	1940	129	1090	148	33	1920
23	13	157	105	535	698	394	817	111	595	114	33	1220
24	11	92	93	321	446	310	386	105	420	94	56	636
25	10	70	85	215	350	251	239	126	270	81	61	351
26	9.3	195	80	176	280	220	186	112	180	247	50	417
27	8.4	1780	75	216	220	199	166	113	150	434	53	1710
28	6.3	2660	70	226	190	174	134	187	520	217	131	1850
29	4.7	2670	66	195	---	139	131	238	1020	128	186	2090
30	4.5	1380	63	170	---	143	152	142	640	269	100	2030
31	6.4	---	61	155	---	133	---	98	---	199	67	---
TOTAL	446.98	13322.0	14763	7244	25969	19679	7216	5440	17160	18741	2550	16665
MEAN	14.4	444	476	234	927	635	241	175	572	605	82.3	556
MAX	73	2670	3670	1420	4350	2600	1940	701	2380	2810	309	2230
MIN	.94	5.9	57	54	130	133	50	91	94	81	32	40
CFSM	.04	1.34	1.43	.70	2.79	1.91	.73	.53	1.72	1.82	.25	1.67
IN.	.05	1.49	1.65	.81	2.91	2.20	.81	.61	1.92	2.10	.29	1.87
CAL YR 1985	TOTAL	92805.48	MEAN	254	MAX	7930	MIN	.94	CFSM	.77	IN.	10.40
WTR YR 1986	TOTAL	149195.98	MEAN	409	MAX	4350	MIN	.94	CFSM	1.23	IN.	16.72

STREAMS TRIBUTARY TO LAKE ERIE

31

04189000 BLANCHARD RIVER NEAR FINDLAY, OH

LOCATION.--Lat 41°03'21", long 83°41'17", on east line of sec. 10, T.1 N., R.10 E., Hancock County, Hydrologic Unit 04100008, on left bank at upstream side of county road bridge, 2 mi west of Findlay, 3 mi downstream from Eagle Creek, and 3 mi upstream from Aurand Run.

DRAINAGE AREA.--346 mi².

PERIOD OF RECORD.--October 1923 to December 1935, October 1940 to current year. Monthly discharge only for October 1923, published in WSP 1307.

REVISED RECORDS.--WSP 974: 1942. WSP 1054: 1927-30, 1933(M), 1945. WSP 1387: 1926, 1928(M), 1930(M), 1952. WSP 1912: Drainage area. WRD-OH-81-2: 1959, 1975 (M).

GAGE.--Water-stage recorder. Datum of gage is 754.55 ft above National Geodetic Vertical Datum of 1929. Prior to July 24, 1930, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 19-Jan. 16, Sept. 6-30. Records good except for periods of estimated record, which are fair. Water is diverted upstream from station into Findlay Reservoir. Storage in Findlay Reservoir used for water supply of city of Findlay, and is available for low-flow augmentation. All water returns to stream upstream from station. No releases have been made for low-flow augmentation. Sediment data collected at this site 1970-74. Water-quality data collected at this site 1968 to 1980.

AVERAGE DISCHARGE.--58 years, 255 ft³/s, 10.01 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 13,000 ft³/s June 14, 1981, gage height, 17.43 ft from measurement made on peak; minimum daily, 0.4 ft³/s Aug. 27, Sept. 3, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 18.5 ft; discharge, 22,000 ft³/s, from rating curve extended above 10,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 28	2100	3,020	8.36	Feb. 5	1500	*4,060	*10.01
Dec. 12	0930	3,520	9.21				

Minimum daily discharge, 22 ft³/s Oct. 6, 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	26	30	596	42	85	151	103	134	64	224	49	37	
2	25	25	488	41	254	153	100	120	59	417	46	34	
3	24	66	416	40	423	157	87	110	52	493	42	33	
4	23	253	247	40	1470	160	92	93	47	319	38	60	
5	23	244	182	39	3820	262	86	88	111	162	35	59	
6	22	194	156	39	3510	713	82	95	108	97	34	48	
7	23	134	127	38	2070	599	91	96	113	71	42	37	
8	22	100	114	37	829	310	101	83	234	59	76	29	
9	26	112	112	37	539	281	88	77	126	181	73	24	
10	25	223	396	40	376	468	76	68	104	337	153	28	
11	32	464	1890	42	276	1320	71	62	206	479	380	35	
12	38	387	3370	44	189	1390	62	63	94	1020	158	39	
13	32	518	2910	45	149	2220	59	61	69	1190	85	45	
14	36	459	1490	42	157	2080	56	60	60	711	64	53	
15	242	504	490	39	136	1230	101	105	84	382	54	59	
16	97	1260	365	38	112	556	79	177	403	691	68	47	
17	47	1330	261	89	137	383	76	153	290	730	50	33	
18	59	743	163	398	775	319	71	260	111	388	48	31	
19	185	433	120	916	2390	1640	61	351	94	205	44	38	
20	73	367	96	1160	1920	1700	174	207	89	129	39	44	
21	52	303	84	692	1920	908	1980	150	74	109	38	49	
22	44	232	74	437	1210	388	1870	125	63	93	37	52	
23	36	180	66	384	656	300	1070	108	54	112	35	44	
24	36	153	61	262	437	244	459	95	49	73	34	50	
25	31	128	58	204	374	205	328	83	43	59	32	140	
26	27	535	55	178	337	187	258	75	39	131	61	280	
27	26	2150	52	127	281	171	205	94	55	96	174	410	
28	27	2590	49	121	192	146	179	90	325	65	93	580	
29	27	2520	47	121	---	133	159	90	437	53	61	670	
30	26	1260	45	102	---	120	148	84	288	45	44	430	
31	32	---	43	84	---	111	---	69	---	39	38	---	
TOTAL	1444	17897	14623	5918	25024	19005	8372	3526	3945	9160	2225	3518	
MEAN	46.6	597	472	191	894	613	279	114	132	295	71.8	117	
MAX	242	2590	3370	1160	3820	2220	1980	351	437	1190	380	670	
MIN	.22	25	43	37	85	111	56	60	39	39	32	24	
CFSM	.13	1.73	1.36	.55	2.58	1.77	.81	.33	.38	.85	.21	.34	
IN.	.16	1.92	1.57	.64	2.69	2.04	.90	.38	.42	.98	.24	.38	
CAL YR 1985	TOTAL	99109		MEAN	272	MAX	6310	MIN	16	CFSM	.79	IN.	10.66
WTR YR 1986	TOTAL	114657		MEAN	314	MAX	3820	MIN	22	CFSM	.91	IN.	12.33

STREAMS TRIBUTARY TO LAKE ERIE

04191500 AUGLAIZE RIVER NEAR DEFIANCE, OH

LOCATION.--Lat 41°14'14", long 84°23'59", in NE 1/4 sec. 9, T.3 N. R.4 E., Defiance County, Hydrologic Unit 04100007, on right bank 125 ft downstream from hydroelectric dam of Hydro-Corporation, 0.2 mi upstream from Jackson ditch, and 3 mi south of Defiance.

DRAINAGE AREA.--2,318 mi².

PERIOD OF RECORD.--May to August 1903 (gage heights only), April 1915 to current year. Monthly discharges only for some periods, published in WSP 1307.

REVISED RECORDS.--WSP 954: 1941. WSP 1912: Drainage area. WRD OH-72-1: 1966 (M).

GAGE.--Water-stage recorder. Datum of gage is 659.70 ft above National Geodetic Vertical Datum of 1929. May 20 to Aug. 8, 1903, non-recording gage at site 1.8 mi downstream at different datum. April 13, 1915, to Dec. 6, 1933, nonrecording gage near right bank on downstream side of dam at datum 6.00 ft higher, and auxiliary tailwater staff gage near right bank on downstream side of dam at present datum. Oct. 1982 to Nov. 1984 at dam 125 ft upstream, at present datum.

REMARKS.--No estimated daily discharges. Records good except those for Oct. 1 to Nov. 4 and for winter periods, which are poor. Flow regulated by dam at powerplant at station; reservoir capacity, 9,800 acre-ft. Plant shut down except for occasional gate operation, Jan. 10, 1963 to Sept. 7, 1985. Some diversion by Miami and Erie Canal from Grand Lake into Jennings Creek, tributary to Auglaize River 70 mi upstream from station. Water-quality data collected at this site 1966 to 1977.

AVERAGE DISCHARGE.--71 years, 1,747 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 52,500 ft³/s Feb. 16, 1950, Feb. 12, 1959, gage height, 26.4 ft, from graph based on hourly powerplant tailwater-gage readings, and gage readings respectively; maximum gage height 27.65 ft Feb. 13, 1959, from flood mark (ice jam). Minimum daily discharge, 0.5 ft³/s Oct. 13, 14, 1952 during repair to powerplant dam.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 1913 reached a stage of 38.8 ft, from reading on powerplant tailwater gage at present datum; discharge, 120,000 ft³/s, from rating curve extended above 51,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 19,600 ft³/s Feb. 6, gage height 16.33; minimum daily, 6.8 ft³/s Nov. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	577	76	8210	188	600	1430	880	1620	996	2220	1410	333
2	52	6.8	6150	199	600	1270	658	3800	786	3380	4020	178
3	12	9.5	4070	270	1190	1190	443	2730	459	7140	2190	119
4	86	46	3020	209	3550	1170	732	1840	423	8180	1130	217
5	36	282	2190	284	14500	1900	605	1150	625	4410	529	959
6	42	558	1640	399	18900	6780	623	1000	879	1980	238	1280
7	320	699	1350	372	16600	8000	614	742	1310	1080	524	640
8	797	677	1110	204	10400	5060	807	844	2560	735	369	508
9	562	589	771	262	6600	3520	829	907	3320	537	781	297
10	904	405	1390	280	4040	3310	332	722	2680	1110	896	216
11	214	259	8410	168	2430	5240	681	995	3400	1830	1210	360
12	86	694	16300	269	1670	7910	109	589	3260	4140	1360	159
13	274	2300	17800	421	1060	14200	419	437	2250	11100	1170	908
14	718	4430	13200	317	978	15700	751	406	1640	9590	645	1030
15	1970	3530	7390	32	1160	11800	716	643	1300	5200	282	681
16	2930	5570	5660	423	1170	7030	31	291	1830	8400	444	283
17	2670	8820	3000	513	738	4910	484	682	1850	13100	690	307
18	1840	8490	1830	611	748	2890	503	942	1850	10800	472	319
19	1580	8910	1160	2190	8000	9370	305	1070	1630	5810	398	414
20	2140	8980	1000	6310	14800	15100	310	1230	3460	3280	156	427
21	1740	7250	958	7370	15500	11100	2440	1510	3300	2000	276	370
22	1180	4350	848	5080	13600	6320	9090	1270	2800	1120	167	380
23	770	3710	768	4190	9420	3560	6590	814	1590	601	57	180
24	535	2630	704	3270	5760	2340	4480	630	950	430	82	292
25	433	1710	590	2260	3890	1750	2770	589	575	472	274	1600
26	406	2410	650	1760	2840	1440	1760	584	387	669	242	8810
27	356	10100	613	1390	2410	1270	1330	624	297	1430	1070	9220
28	270	12800	450	973	1910	1190	1120	507	1030	1650	974	9240
29	170	14800	173	754	---	1140	798	725	5390	1730	801	6040
30	107	11400	434	942	---	615	994	747	4260	1500	523	4270
31	138	---	433	1050	---	901	---	1170	---	1110	309	---
TOTAL	23915	126491.3	112272	42960	165064	159406	42204	31810	57087	116734	23689	50037
MEAN	771	4216	3622	1386	5895	5142	1407	1026	1903	3766	764	1668
MAX	2930	14800	17800	7370	18900	15700	9090	3800	5390	13100	4020	9240
MIN	12	6.8	173	32	600	615	31	291	297	430	57	119
CAL YR 1985	TOTAL	748587.3	MEAN	2051	MAX	44000	MIN	6.8				
WTR YR 1986	TOTAL	951669.3	MEAN	2607	MAX	18900	MIN	6.8				

STREAMS TRIBUTARY TO LAKE ERIE

33

04192500 MAUMEE RIVER NEAR DEFIANCE, OH

LOCATION.--Lat 41°17'30", long 84°16'52", in NW 1/4 sec. 22, T.4 N., R.5 E., Defiance County, Hydrologic Unit 04100009, on left bank 40 ft. upstream from Independence Dam, 4 mi downstream from mouth of Auglaize River, and 4.5 mi east of Defiance.

DRAINAGE AREA.--5,545 mi².

PERIOD OF RECORD.--October 1924 to December 1935, March 1939 to September 1974, October 1978 to current year.

REVISED RECORDS.--WSP 974: 1926-27, 1930. WSP 1387: 1925-28, 1946. WRD Ohio, 1970: Drainage Area.

GAGE.--Water-stage recorder. Datum of gage is 658.56 ft above National Geodetic Vertical Datum of 1929. Prior to Nov. 13, 1924, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges, Dec. 20 to Jan. 17. Records good except for those periods of estimated record, which are fair. Flow affected by regulation of Auglaize River at hydroelectric plant of the Hydro-Corporation, 7 mi upstream. Operation of hydroelectric plant there was discontinued Jan. 10, 1963 to Sept. 7, 1985. Low flow slightly regulated by powerplant at Ft. Wayne, Indiana. Slight diversion 275 ft upstream into Miami and Erie Canal through a 24 inch conduit which bypasses station.

AVERAGE DISCHARGE.--54 years, 4,269 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 104,000 ft³/s Mar. 15, 1982, gage height, 15.87 ft; minimum discharge, 2 ft³/s Sept. 3, 1925; minimum gage height, 1.09 ft Sept. 26, 1928.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 23,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 20	1500	25,200	5.98	Feb. 21	1500	32,600	6.83
Nov. 29	1700	28,700	6.39	Mar. 14	0500	34,800	7.08
Dec. 12	2000	34,700	7.07	Mar. 20	1200	31,500	6.71
Feb. 6	1400	*38,700	*7.52	July 17	2200	32,200	6.79

Minimum daily discharge, 263 ft³/s Oct. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	390	760	21000	880	2040	5230	2820	2680	2810	3730	3190	956
2	333	654	18300	840	1870	3980	2650	7260	2270	5490	6020	795
3	303	574	15000	800	2710	3710	2110	7350	1620	10600	3750	551
4	356	583	12100	780	6060	3470	2500	5580	1340	10800	2280	729
5	364	720	9150	760	21000	4710	2980	3970	2260	6990	1310	1190
6	723	748	6970	740	31900	12800	3130	3290	6140	4110	966	2010
7	537	998	5540	720	28100	16900	3250	3150	6970	2930	1000	1320
8	397	947	4310	700	20200	13500	3160	2970	8440	2400	1090	908
9	492	975	3640	700	15300	10300	3060	3160	10900	1830	1210	651
10	379	996	4550	680	11500	11200	2240	2810	9220	2090	1980	508
11	263	785	19000	680	8240	17400	1980	2610	9070	4840	1850	575
12	304	2160	31800	660	5600	22000	1740	2130	9580	8220	2500	1230
13	405	4660	32800	660	3680	31600	1720	1730	7360	17200	2060	2270
14	935	7460	26200	660	2480	34300	1830	1660	5660	17400	1300	2720
15	1650	7050	17200	660	2720	29500	2410	1600	5110	9150	899	1600
16	3180	11500	12900	660	2770	22100	1650	1130	8970	15700	729	895
17	2740	18500	8900	900	2480	17000	2000	2070	9570	28100	1140	693
18	2950	18100	5450	1700	2520	13100	2090	3320	6940	27400	1080	700
19	7630	21700	3550	4570	12500	21900	1760	4780	4770	19300	917	653
20	8470	25000	2400	9870	27700	30900	1970	5080	8710	11900	735	818
21	7120	22800	2200	12400	32300	26600	4410	4910	7820	8550	666	741
22	5430	17600	1900	9760	29600	20100	11700	4070	7270	6190	541	755
23	3910	13600	1700	8000	23300	14200	10300	3210	4850	4050	392	622
24	2990	10900	1500	7180	17700	11100	7660	2340	3320	3000	373	552
25	2140	8760	1400	5820	13800	9080	5650	2120	2300	2340	546	1410
26	1740	9850	1300	4860	11200	7110	4760	1880	1850	3380	691	10200
27	1400	19700	1200	3980	9490	5550	4030	1880	1540	8880	3130	14100
28	1130	24900	1100	2700	7250	4550	3350	1600	2000	5760	3200	14300
29	1020	27500	1000	1770	---	3900	2550	2000	7600	4750	2580	10000
30	849	25100	960	1970	---	3080	2420	2510	6310	4240	1970	7370
31	773	---	920	2110	---	2960	---	3170	---	3140	1470	---
TOTAL	61303	305580	275940	89170	356010	433830	103880	98020	172570	264460	51565	81822
MEAN	1978	10190	8901	2876	12710	13990	3463	3162	5752	8531	1663	2727
MAX	8470	27500	32800	12400	32300	34300	11700	7350	10900	28100	6020	14300
MIN	263	574	920	660	1870	2960	1650	1130	1340	1830	373	508
CAL YR 1985	TOTAL	2125831		MEAN	5824	MAX	87100	MIN	263			
WTR YR 1986	TOTAL	2294150		MEAN	6285	MAX	34300	MIN	263			

STREAMS TRIBUTARY TO LAKE ERIE

04193490 MAUMEE RIVER NEAR WATERVILLE, OH

LOCATION.--Lat 41°28'34", long 83°44'20", Lucas County, Hydrologic Unit 04100009, in Bowling Green water-treatment plant, 2.0 mi upstream from discharge station at Waterville.

DRAINAGE AREA.--6,313 mi².

PERIOD OF RECORD.--Water years 1950 to 1976 (published as Maumee River at Waterville) 1976 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1963 to current year.

pH: May 1963 to current year.

WATER TEMPERATURES: March 1950 to current year.

DISSOLVED OXYGEN: March 1963 to current year.

INSTRUMENTATION.--Water-quality monitor since May 1963. Prior to June 1974 water-quality monitor located in water-treatment plant 2,500 ft upstream from discharge station. Prior to May 1963 alcohol-actuated thermograph located at discharge station.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. Prior to October 1976, records published as 04193500, Maumee River at Waterville, Ohio. See records of daily discharge for gaging station at Waterville (04193500).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,260 microsiemens, Feb. 16, 1977; minimum, 156 microsiemens, July 20, 1973.

pH: Maximum, 11.4 units Jan. 16, 1965; minimum, 5.0 units Nov. 24, 1968.

WATER TEMPERATURES: Maximum, 34.0°C July 1, 1963; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum, ≥20.0 mg/L Nov. 18-21, 1980, Mar. 27-29, 1981; minimum, 0.3 mg/L Nov. 10, 1965.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,080 microsiemens Jan. 8, 9; minimum, 318 microsiemens, July 18, 19.

pH: Maximum, 9.2 units Oct. 2-6, 15, 17; minimum recorded, 6.7 units on Oct. 23.

WATER TEMPERATURES: Maximum, 28.0°C, July 24, 27; minimum, 0.0°C, on many days during winter periods.

DISSOLVED OXYGEN: Maximum recorded, 19.6 mg/L, Aug. 24; minimum recorded, 5.4 mg/L July 18.

STREAMS TRIBUTARY TO LAKE ERIE

35

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	636	600	624	636	600	622	---	---	---	554	498	534
2	630	600	622	630	561	588	---	---	---	606	552	577
3	627	612	621	639	573	620	504	468	477	792	598	681
4	624	600	616	651	618	635	516	488	497	808	710	764
5	609	603	606	678	642	658	512	492	499	854	760	814
6	606	594	598	714	678	700	524	516	520	904	842	879
7	612	594	601	708	675	690	532	528	531	986	852	929
8	612	597	606	699	687	694	560	528	543	1080	964	1020
9	540	513	530	711	693	702	584	560	569	1080	842	976
10	513	504	510	726	699	711	604	580	591	852	836	845
11	603	513	541	735	699	717	600	440	513	848	834	841
12	528	510	522	750	726	738	440	388	413	848	544	815
13	525	483	500	741	705	725	424	384	400	850	836	842
14	513	483	495	738	699	715	388	384	386	866	842	853
15	516	486	501	729	714	724	424	384	398	868	854	863
16	687	510	573	726	600	663	444	384	420	872	854	864
17	702	600	652	600	552	570	420	404	415	866	824	853
18	729	639	676	567	549	558	480	424	442	820	752	785
19	663	510	571	567	531	554	488	456	470	750	530	633
20	561	507	528	534	504	517	488	476	482	550	528	539
21	579	498	520	504	356	459	516	480	502	620	594	611
22	603	519	537	374	336	354	516	508	512	604	534	552
23	540	516	530	360	340	351	516	504	508	---	---	---
24	597	540	560	346	336	341	536	516	527	---	---	---
25	636	513	564	338	326	332	568	536	555	---	---	---
26	519	501	511	346	326	336	592	568	583	---	---	---
27	579	504	544	---	---	---	600	592	596	---	---	---
28	600	522	584	---	---	---	620	596	608	---	---	---
29	612	594	604	---	---	---	640	624	634	---	---	---
30	633	597	614	---	---	---	660	640	652	---	---	---
31	636	621	628	---	---	---	680	614	663	572	562	566
MONTH	729	483	571	750	326	587	680	384	514	1080	498	767
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	576	542	565	536	520	532	582	564	572	568	550	557
2	584	568	580	542	502	531	594	576	584	566	546	553
3	606	584	596	556	534	543	596	590	593	626	568	592
4	608	492	580	574	554	563	596	592	595	654	614	641
5	504	424	461	560	484	535	618	598	612	608	576	585
6	526	384	454	486	456	469	644	616	631	596	582	590
7	444	352	413	558	464	506	642	608	621	592	578	584
8	476	424	451	472	444	459	628	618	623	582	566	572
9	478	446	462	480	468	473	624	592	609	576	566	570
10	478	384	430	476	440	459	608	600	604	586	574	580
11	454	418	433	530	402	458	614	606	611	596	586	592
12	484	450	463	512	418	465	618	610	615	604	596	601
13	500	470	485	570	350	432	616	608	614	610	606	609
14	502	492	497	350	342	345	616	590	606	614	598	608
15	526	496	514	360	346	355	610	590	603	618	584	604
16	542	520	534	378	360	368	614	606	610	618	590	602
17	566	540	551	398	378	387	618	606	612	594	572	584
18	590	568	576	434	400	414	614	594	604	622	582	608
19	556	360	472	440	360	383	618	594	606	640	624	631
20	584	440	500	370	334	348	622	604	614	652	626	642
21	448	334	393	344	338	342	624	568	612	622	564	602
22	424	376	394	352	342	346	602	564	585	626	560	581
23	536	440	490	376	354	362	656	590	620	668	628	652
24	502	374	429	406	378	390	606	536	553	694	668	685
25	404	384	392	436	406	422	548	538	543	694	674	686
26	442	402	421	458	438	449	558	542	548	672	642	656
27	494	442	466	472	458	465	560	548	554	642	626	633
28	530	474	496	496	474	486	550	544	547	632	626	627
29	---	---	---	524	498	510	570	548	560	630	624	627
30	---	---	---	546	524	535	570	568	569	640	626	633
31	---	---	---	564	546	555	---	---	---	650	638	646
MONTH	608	334	482	574	334	448	656	536	594	694	546	611

STREAMS TRIBUTARY TO LAKE ERIE

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	668	650	662	590	552	569	452	440	444	512	446	475
2	676	668	672	574	524	544	474	456	466	444	432	437
3	686	676	682	524	434	474	468	438	454	446	434	440
4	684	672	679	538	448	502	470	458	465	468	446	457
5	672	654	662	522	396	449	478	456	467	486	468	474
6	690	668	679	394	384	387	496	478	489	536	488	506
7	688	662	675	404	386	393	506	496	501	628	540	591
8	670	594	613	446	406	429	496	450	474	632	624	628
9	598	580	589	470	430	449	448	384	408	624	616	619
10	586	546	575	498	472	489	402	386	391	616	612	614
11	564	548	558	510	494	499	448	404	423	616	590	606
12	576	540	557	514	380	480	500	450	474	604	564	586
13	540	528	533	456	390	424	536	502	519	594	572	581
14	532	518	526	444	416	428	558	536	549	596	516	554
15	528	514	518	414	380	389	564	544	557	636	578	618
16	542	524	531	400	364	383	554	538	547	622	600	608
17	550	524	535	392	348	367	554	520	542	618	606	611
18	550	524	539	354	318	329	560	532	550	616	608	612
19	544	516	529	328	318	321	564	538	552	616	608	613
20	520	504	516	348	326	337	552	538	546	608	566	592
21	528	498	515	358	348	352	540	522	531	564	548	556
22	508	424	451	372	358	367	532	478	504	544	536	539
23	420	404	411	378	372	375	512	452	480	540	532	535
24	450	420	432	384	376	380	504	434	480	556	538	543
25	498	454	475	386	382	384	480	442	458	570	558	564
26	534	500	520	400	382	387	458	426	446	624	576	605
27	542	536	538	432	400	413	534	456	494	654	514	610
28	546	538	544	498	434	473	554	524	537	508	410	450
29	560	518	548	504	384	452	542	488	520	404	374	384
30	552	508	525	388	370	378	540	482	512	394	388	392
31	---	---	---	444	390	422	548	514	537	---	---	---
MONTH	690	404	560	590	318	420	564	384	494	654	374	547
YEAR	1080	318	545									

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	9.10	8.80	9.00	7.90	7.80	7.90	---	---	---	7.90	7.80	7.80
2	9.20	8.90	9.10	8.00	7.80	7.90	8.00	8.00	8.00	8.00	7.90	7.90
3	9.20	9.00	9.10	8.00	7.90	7.90	8.10	7.90	8.00	8.00	7.80	7.90
4	9.20	9.00	9.10	8.00	7.90	8.00	8.00	7.90	8.00	8.00	7.80	7.90
5	9.20	9.10	9.10	8.10	8.00	8.00	8.00	8.00	8.00	8.00	7.90	7.90
6	9.20	8.30	8.80	8.10	8.00	8.00	8.10	8.00	8.00	8.00	7.80	7.90
7	8.30	7.00	7.80	8.30	8.00	8.10	8.10	8.10	8.10	7.80	7.70	7.80
8	8.30	7.20	8.00	8.30	8.20	8.30	8.20	8.10	8.10	7.90	7.70	7.80
9	9.00	8.20	8.60	8.40	8.20	8.30	8.20	8.10	8.20	8.00	7.90	7.90
10	8.90	8.80	8.80	8.30	8.10	8.20	8.20	8.00	8.10	8.00	7.90	7.90
11	8.90	8.50	8.80	8.10	7.80	8.00	8.00	7.70	7.80	8.00	7.90	8.00
12	8.70	7.90	8.40	8.10	8.00	8.00	7.70	7.60	7.70	8.00	8.00	8.00
13	8.80	7.60	8.40	8.00	7.80	7.90	7.70	7.60	7.60	8.00	8.00	8.00
14	8.80	8.60	8.70	7.90	7.80	7.90	7.70	7.60	7.60	8.00	8.00	8.00
15	9.20	8.60	8.90	8.00	7.90	8.00	7.70	7.60	7.70	8.00	8.00	8.00
16	9.10	8.90	9.00	8.00	7.80	7.90	7.90	7.70	7.80	8.00	8.00	8.00
17	9.20	8.90	9.00	7.80	7.70	7.70	8.00	7.90	8.00	8.00	8.00	8.00
18	9.00	7.20	8.10	7.70	7.40	7.60	8.00	7.90	8.00	8.00	8.00	8.00
19	7.50	7.00	7.20	7.40	7.30	7.40	8.00	7.90	8.00	8.00	7.80	7.90
20	7.30	7.00	7.10	7.60	7.40	7.50	8.00	8.00	8.00	7.90	7.80	7.80
21	7.50	7.00	7.30	8.00	7.50	7.70	8.00	7.90	8.00	7.90	7.80	7.90
22	7.50	7.10	7.30	7.90	7.40	7.90	8.00	7.90	8.00	7.90	7.90	7.90
23	7.40	6.70	7.10	7.90	7.90	7.90	8.00	7.90	8.00	8.00	7.90	7.90
24	7.40	7.00	7.10	8.00	7.90	8.00	8.00	7.80	7.90	8.00	7.90	8.00
25	7.70	7.10	7.50	8.10	8.00	8.00	7.90	7.90	7.90	8.00	8.00	8.00
26	7.60	7.50	7.50	8.10	7.90	8.00	8.00	7.90	8.00	8.00	8.00	8.00
27	7.70	7.30	7.50	7.90	7.90	7.90	8.00	7.80	7.90	8.00	8.00	8.00
28	7.70	7.50	7.60	8.00	7.80	7.90	7.90	7.80	7.80	8.00	7.90	8.00
29	7.70	7.50	7.60	7.80	7.80	7.80	7.90	7.80	7.90	8.00	7.90	7.90
30	8.00	7.50	7.70	7.80	7.80	7.80	7.90	7.80	7.80	7.90	7.90	7.90
31	7.90	7.80	7.90	---	---	---	8.00	7.80	7.90	8.00	7.90	7.90
MONTH	9.20	6.70	8.16	8.40	7.30	7.91	8.20	7.60	7.93	8.00	7.70	7.93

37

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	8.00	8.00	8.00	7.50	7.30	7.40	8.20	8.10	8.10	8.20	8.00	8.10
2	8.00	7.90	8.00	8.10	7.30	7.70	8.30	8.10	8.20	8.30	8.10	8.20
3	8.00	8.00	8.00	8.10	8.00	8.10	8.40	8.20	8.30	8.40	8.20	8.30
4	8.00	7.90	8.00	8.10	8.10	8.10	8.50	8.30	8.40	8.40	8.20	8.30
5	7.90	7.60	7.80	8.10	7.90	8.00	8.50	8.40	8.40	8.10	8.00	8.00
6	7.70	7.40	7.40	7.90	7.80	7.90	8.70	8.40	8.50	8.00	7.90	8.00
7	7.80	7.30	7.50	8.00	7.50	7.80	8.60	8.30	8.40	7.90	7.80	7.90
8	7.40	7.30	7.30	8.00	7.80	7.90	8.50	8.30	8.40	8.00	7.80	7.90
9	7.40	7.30	7.40	8.00	8.00	8.00	8.50	8.30	8.40	8.10	7.90	8.00
10	7.90	7.40	7.70	8.00	7.80	8.00	8.60	8.30	8.40	8.30	8.00	8.10
11	7.90	7.70	7.90	7.80	7.70	7.70	8.70	8.50	8.60	8.50	8.20	8.30
12	8.00	7.70	7.90	7.80	7.60	7.70	8.80	8.60	8.70	8.50	8.30	8.40
13	7.90	7.70	7.80	7.70	7.70	7.70	8.80	8.70	8.70	8.70	8.40	8.50
14	8.00	7.80	8.00	7.80	7.70	7.70	8.80	8.50	8.70	8.80	8.60	8.70
15	8.00	7.90	7.90	7.80	7.70	7.80	8.70	8.50	8.60	8.80	8.50	8.60
16	8.00	8.00	8.00	7.80	7.80	7.80	8.80	8.60	8.70	8.70	8.40	8.50
17	8.00	8.00	8.00	8.00	7.80	7.80	8.80	8.60	8.70	8.50	8.30	8.40
18	8.00	8.00	8.00	8.00	7.90	7.90	8.80	8.50	8.70	8.40	8.10	8.20
19	7.90	7.40	7.80	8.00	7.70	7.80	8.70	8.40	8.50	8.30	8.00	8.20
20	7.90	7.30	7.50	7.80	7.70	7.80	8.60	8.40	8.50	8.30	7.90	8.00
21	7.70	7.30	7.40	7.80	7.80	7.80	8.50	8.30	8.40	7.90	7.80	7.90
22	7.40	7.30	7.30	7.90	7.80	7.80	8.40	8.20	8.30	7.90	7.80	7.90
23	7.30	7.20	7.20	7.90	7.90	7.90	8.30	8.10	8.20	8.00	7.90	7.90
24	7.80	7.20	7.50	8.00	7.90	7.90	8.10	7.90	8.00	8.00	7.90	8.00
25	7.90	7.80	7.80	8.00	8.00	8.00	8.10	8.00	8.00	8.00	8.00	8.00
26	8.00	7.90	8.00	8.00	8.00	8.00	8.20	7.90	8.00	8.00	7.90	8.00
27	8.00	7.50	7.70	8.00	8.00	8.00	8.10	7.90	8.00	8.00	7.90	7.90
28	7.70	7.50	7.60	8.00	8.00	8.00	8.00	7.90	8.00	8.00	7.90	8.00
29	---	---	---	8.10	8.00	8.00	8.20	7.90	8.00	8.10	7.90	8.00
30	---	---	---	8.10	8.00	8.10	8.20	8.00	8.10	8.20	8.00	8.10
31	---	---	---	8.20	8.00	8.10	---	---	---	8.40	8.20	8.30
MONTH	8.00	7.20	7.73	8.20	7.30	7.88	8.80	7.90	8.36	8.80	7.80	8.15
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	8.30	8.00	8.10	8.10	8.00	8.00	8.00	7.80	7.90	8.40	7.90	8.10
2	8.30	8.10	8.20	8.00	7.80	7.90	8.00	7.90	7.90	8.10	7.80	7.90
3	8.40	8.20	8.30	7.80	7.70	7.80	7.90	7.80	7.90	8.30	7.80	8.00
4	8.40	8.20	8.30	7.80	7.80	7.80	8.00	7.90	7.90	8.10	7.90	8.00
5	8.40	8.20	8.30	7.80	7.60	7.70	8.20	7.90	8.00	8.30	7.90	8.00
6	8.30	8.10	8.20	7.70	7.60	7.70	8.30	8.00	8.10	8.20	8.00	8.10
7	8.20	7.90	8.00	7.70	7.70	7.70	8.50	8.20	8.30	8.30	8.10	8.20
8	7.80	7.70	7.70	7.80	7.70	7.70	8.40	8.20	8.30	8.50	8.20	8.30
9	7.80	7.60	7.70	7.90	7.80	7.80	8.70	8.20	8.40	8.70	8.50	8.60
10	7.80	7.70	7.80	8.00	7.90	7.90	8.40	8.00	8.20	8.80	8.70	8.70
11	7.70	7.70	7.70	8.00	7.80	7.90	8.20	7.90	8.00	8.80	8.60	8.70
12	7.80	7.70	7.70	7.90	7.70	7.80	8.30	8.10	8.20	8.80	8.60	8.70
13	7.80	7.70	7.80	7.70	7.50	7.50	8.40	8.20	8.30	8.70	8.50	8.60
14	7.80	7.80	7.80	7.60	7.50	7.50	8.40	8.30	8.30	8.50	8.00	8.10
15	7.80	7.80	7.80	7.70	7.60	7.60	8.60	8.30	8.40	8.30	8.10	8.20
16	7.90	7.80	7.80	7.70	7.50	7.60	8.80	8.40	8.50	8.30	8.10	8.20
17	7.90	7.80	7.80	7.50	7.50	7.50	8.60	8.40	8.60	8.50	8.20	8.30
18	7.80	7.80	7.80	7.50	7.50	7.50	8.70	8.50	8.60	8.50	8.40	8.50
19	7.90	7.80	7.80	7.50	7.50	7.50	8.70	8.50	8.60	8.60	8.30	8.40
20	7.90	7.80	7.80	7.60	7.50	7.60	8.70	8.50	8.60	8.70	8.40	8.50
21	7.80	7.80	7.80	7.70	7.60	7.70	8.80	8.40	8.60	8.50	8.10	8.30
22	7.80	7.70	7.70	7.70	7.70	7.70	8.60	8.30	8.50	8.50	8.30	8.30
23	7.70	7.70	7.70	7.80	7.70	7.70	8.80	8.40	8.60	8.40	8.20	8.30
24	7.80	7.70	7.80	7.80	7.80	7.80	8.90	8.50	8.70	8.30	8.10	8.20
25	7.90	7.80	7.90	7.90	7.80	7.90	8.90	8.40	8.60	8.50	8.00	8.30
26	8.10	7.90	8.00	8.00	7.90	7.90	8.70	8.40	8.50	8.30	7.90	8.10
27	8.20	8.00	8.10	7.90	7.80	7.90	8.50	8.30	8.40	8.20	7.60	7.90
28	8.50	8.00	8.10	7.90	7.80	7.80	8.40	8.00	8.20	7.60	7.50	7.50
29	8.10	7.90	8.10	7.90	7.70	7.80	8.50	8.20	8.30	7.50	7.50	7.50
30	8.00	7.80	7.90	7.80	7.70	7.80	8.70	8.20	8.40	7.60	7.50	7.60
31	---	---	---	7.90	7.80	7.80	8.60	8.30	8.40	---	---	---
MONTH	8.50	7.60	7.92	8.10	7.50	7.74	8.90	7.80	8.33	8.80	7.50	8.20
YEAR	9.20	6.70	8.02									

STREAMS TRIBUTARY TO LAKE ERIE

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	16.5	15.0	16.0	12.5	11.5	12.0	---	---	---	.0	.0	.0
2	16.5	14.0	15.0	13.5	12.5	13.0	3.5	3.0	3.0	.0	.0	.0
3	16.0	14.0	14.5	13.0	12.0	13.0	3.5	3.0	3.0	.5	.0	.0
4	15.0	13.5	14.0	12.0	11.0	11.5	3.5	2.5	3.0	.0	.0	.0
5	14.0	12.5	13.0	11.0	10.5	10.5	3.0	2.5	2.5	.0	.0	.0
6	12.5	11.5	12.0	10.5	10.0	10.5	3.0	2.5	3.0	.0	.0	.0
7	12.0	10.5	11.5	11.0	10.0	10.5	2.5	2.0	2.5	.0	.0	.0
8	13.0	12.0	12.5	10.0	9.5	9.5	2.5	1.5	2.0	.0	.0	.0
9	14.5	13.0	13.5	10.0	9.5	10.0	2.5	2.0	2.5	.5	.0	.0
10	15.0	14.0	14.5	10.0	9.5	10.0	4.0	2.5	3.0	.5	.0	.5
11	14.5	14.0	14.0	9.5	8.5	9.0	4.5	4.0	4.5	.5	.5	.5
12	14.5	13.5	14.0	10.0	8.5	9.0	4.5	4.0	4.0	1.0	.5	.5
13	16.5	14.0	15.0	11.5	10.0	10.5	5.5	3.5	4.5	1.0	.0	.5
14	15.5	14.5	15.0	11.0	10.5	11.0	3.5	3.0	3.5	.0	.0	.0
15	16.5	15.5	15.5	11.0	9.5	10.0	4.0	2.5	3.0	.0	.0	.0
16	15.5	13.5	14.5	10.0	9.5	9.5	4.0	.0	1.5	.0	.0	.0
17	15.0	13.0	14.0	10.0	9.5	9.5	1.0	.0	.5	.0	.0	.0
18	17.0	14.5	15.5	10.0	9.0	9.5	1.0	.0	.5	.0	.0	.0
19	17.0	16.5	17.0	11.5	10.0	10.5	1.0	.0	.5	.5	.0	.0
20	16.5	15.0	15.5	11.5	10.0	10.5	.5	.0	.0	.5	.0	.5
21	15.5	15.0	15.0	10.0	8.0	9.0	.0	.0	.0	.5	.0	.0
22	15.5	15.0	15.5	8.0	7.0	7.5	.0	.0	.0	.5	.0	.5
23	17.0	15.0	16.0	7.0	6.5	7.0	.0	.0	.0	.5	.0	.0
24	18.0	16.5	17.0	6.5	5.5	6.0	.0	.0	.0	.0	.0	.0
25	17.5	14.5	15.5	5.5	5.0	5.0	.0	.0	.0	.5	.0	.0
26	14.5	14.0	14.5	7.0	5.0	6.0	.0	.0	.0	.0	.0	.0
27	15.0	14.0	14.5	7.0	5.5	6.5	.0	.0	.0	.0	.0	.0
28	14.0	13.0	13.5	6.0	5.0	5.5	.0	.0	.0	.0	.0	.0
29	13.0	11.5	12.0	6.5	6.0	6.0	.0	.0	.0	.0	.0	.0
30	11.5	11.5	11.5	6.0	6.0	6.0	.0	.0	.0	.0	.0	.0
31	11.5	11.0	11.5	---	---	---	.0	.0	.0	.0	.0	.0
MONTH	18.0	10.5	14.5	13.5	5.0	9.0	5.5	.0	1.5	1.0	.0	.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	.0	.0	.0	---	---	---	14.5	12.0	13.5	17.0	15.5	16.0
2	.0	.0	.0	1.5	1.0	1.5	13.5	12.0	13.0	16.0	13.5	15.0
3	.0	.0	.0	1.5	1.0	1.5	12.5	11.5	12.5	16.0	13.0	14.5
4	.5	.0	.0	3.0	1.5	2.0	13.0	12.0	12.5	16.5	14.0	15.5
5	4.0	.5	1.5	3.0	2.0	2.5	13.0	11.0	12.0	17.0	14.5	16.0
6	5.5	1.0	3.0	3.0	2.0	2.5	15.0	12.5	13.5	18.0	16.5	17.0
7	4.0	.5	3.0	4.5	1.0	2.5	15.0	13.0	14.0	19.5	17.0	18.0
8	5.5	3.5	4.5	1.5	.5	1.0	14.5	13.0	14.0	19.5	17.5	18.5
9	6.5	5.0	5.5	2.5	1.0	2.0	13.0	10.5	11.5	19.0	17.0	18.0
10	5.0	.0	2.0	6.0	2.5	4.0	10.5	9.5	10.0	19.5	16.5	18.0
11	3.0	.0	1.0	5.5	3.5	4.5	11.5	9.0	10.0	19.5	17.5	18.5
12	3.5	.0	1.0	5.0	3.0	3.5	12.0	10.0	11.0	19.0	17.5	18.0
13	1.5	.0	.5	4.0	3.0	3.5	12.0	10.5	11.5	18.0	16.5	17.0
14	1.0	.0	.5	4.5	4.0	4.0	12.0	10.5	11.5	19.5	17.5	18.5
15	.5	.0	.0	5.0	4.5	5.0	12.0	9.5	11.0	19.5	18.5	19.0
16	.0	.0	.0	5.0	5.0	5.0	9.5	9.0	9.0	20.5	18.5	19.5
17	.0	.0	.0	5.0	5.0	5.0	11.5	9.0	10.0	22.0	20.0	21.0
18	.5	.0	.5	6.0	4.5	5.0	13.0	11.0	12.0	21.5	19.5	20.5
19	3.5	.0	.5	6.5	5.0	6.0	13.0	12.5	12.5	19.5	17.5	18.5
20	5.5	.5	3.5	5.5	4.5	5.0	13.0	11.5	12.5	17.5	15.5	16.5
21	4.5	1.0	3.0	5.0	4.0	4.5	11.5	10.0	11.0	15.5	15.0	15.0
22	5.5	4.0	4.5	5.0	3.5	4.5	10.0	8.5	9.0	15.0	14.5	14.5
23	7.5	5.0	6.5	5.5	4.0	4.5	11.0	8.5	9.5	16.0	14.0	15.0
24	7.0	1.5	4.5	6.0	4.0	5.0	12.0	9.0	10.5	18.0	15.5	16.5
25	2.0	.5	1.5	8.0	5.0	6.5	13.5	10.5	12.0	18.5	17.5	18.0
26	1.5	1.0	1.0	8.0	7.0	7.5	15.0	12.5	13.5	18.5	17.5	18.0
27	1.5	1.5	1.5	8.0	6.5	7.5	17.0	13.5	15.0	19.0	18.0	18.5
28	---	---	---	9.0	7.0	8.0	17.0	15.5	16.5	20.0	18.5	19.0
29	---	---	---	11.5	8.5	10.0	17.0	14.5	16.0	21.0	19.0	20.0
30	---	---	---	13.0	10.5	11.5	16.5	15.5	16.0	22.5	20.5	21.5
31	---	---	---	13.5	11.0	12.5	---	---	---	23.5	21.0	22.5
MONTH	7.5	.0	2.0	13.5	.5	5.0	17.0	8.5	12.0	23.5	13.0	18.0

STREAMS TRIBUTARY TO LAKE ERIE

39

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	24.0	21.5	22.5	22.5	21.0	21.5	27.0	25.5	26.0	21.0	20.0	20.5
2	22.5	19.5	20.5	22.0	21.5	21.5	26.0	24.5	25.5	21.5	20.5	21.0
3	20.5	18.5	19.5	22.5	20.5	21.5	25.5	23.5	24.5	24.0	21.5	22.0
4	22.0	19.5	21.0	22.5	20.5	21.5	25.5	23.5	24.5	23.0	22.0	22.5
5	22.5	21.0	22.0	23.5	20.5	22.0	26.0	24.5	25.0	23.5	22.0	22.5
6	21.0	19.0	20.0	24.5	21.5	23.0	25.5	24.5	25.0	22.0	20.5	21.5
7	20.0	19.0	19.5	26.0	23.5	25.0	25.0	24.5	25.0	21.0	20.0	20.5
8	21.0	19.0	20.0	26.5	25.0	25.5	24.5	23.5	24.0	20.0	18.5	19.5
9	21.0	19.0	20.0	26.0	24.0	25.0	27.0	23.5	24.5	20.0	18.5	19.0
10	21.0	19.5	20.0	25.0	24.0	24.5	25.0	23.0	24.0	20.5	19.5	20.0
11	22.0	20.0	21.0	25.0	23.0	24.0	23.5	21.5	22.5	21.0	20.0	20.5
12	21.5	20.0	21.0	24.0	22.5	23.0	24.0	22.0	23.5	20.5	19.5	20.5
13	21.5	19.5	20.5	23.0	21.5	22.5	24.0	22.5	23.5	20.0	18.5	19.5
14	22.0	20.5	21.5	23.5	22.0	22.5	23.5	22.5	23.0	19.5	18.5	19.0
15	22.5	20.5	21.5	24.5	22.5	23.5	24.5	23.0	24.0	20.0	18.5	19.0
16	23.0	21.0	22.0	24.0	22.0	23.0	26.0	23.5	24.5	19.0	17.5	18.5
17	22.0	20.5	21.5	24.5	23.0	23.5	27.5	24.0	25.5	18.0	17.0	17.5
18	22.5	20.0	21.0	25.5	24.0	24.5	26.0	24.5	25.5	18.5	17.5	18.0
19	22.0	20.5	21.0	26.5	25.0	25.5	25.5	24.5	25.0	19.0	18.5	18.5
20	23.0	21.0	22.0	27.0	25.5	26.0	25.0	24.0	24.5	20.0	19.0	19.5
21	23.5	21.0	22.0	26.5	25.0	26.0	25.5	24.0	24.5	20.0	19.0	19.5
22	23.5	21.0	22.5	27.0	24.5	26.0	26.0	24.0	24.5	21.5	19.5	20.5
23	24.5	22.0	23.0	27.5	25.0	26.5	25.5	24.0	25.0	22.0	21.0	21.5
24	23.5	22.0	23.0	28.0	25.5	26.5	26.0	23.0	24.0	21.5	21.0	21.0
25	23.5	21.0	22.5	27.5	26.5	26.5	24.0	22.5	23.5	22.5	21.0	21.5
26	24.0	22.5	23.0	27.5	25.5	26.0	23.5	22.0	22.5	23.0	22.0	22.5
27	24.0	22.5	23.0	28.0	26.0	27.0	22.0	21.0	21.5	22.5	22.0	22.0
28	26.5	23.0	24.0	27.5	25.5	26.5	21.0	19.0	20.5	22.5	21.5	22.0
29	25.5	23.5	24.5	26.5	24.5	25.0	21.0	18.5	20.0	22.5	21.5	22.0
30	24.5	22.0	22.5	26.0	23.5	25.0	21.5	19.5	20.0	22.0	21.5	22.0
31	---	---	---	26.5	25.0	25.5	21.0	20.0	20.5	---	---	---
MONTH	26.5	18.5	21.5	28.0	20.5	24.5	27.5	18.5	23.5	24.0	17.0	20.5
YEAR	28.0	.0	13.0									

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	10.8	7.7	9.1	10.3	9.8	10.1	12.8	12.4	12.6	11.1	11.0	11.1
2	12.6	8.0	9.6	10.2	9.4	9.8	12.8	12.2	12.5	12.5	11.0	11.6
3	13.3	8.6	10.0	9.7	9.3	9.6	---	---	---	12.8	11.8	12.4
4	11.0	9.3	10.2	10.1	9.6	9.9	---	---	---	12.8	12.0	12.5
5	10.2	8.7	9.2	10.6	10.0	10.4	---	---	---	12.3	12.1	12.2
6	11.5	8.2	9.8	10.8	10.0	10.4	---	---	---	12.6	12.3	12.5
7	11.2	9.4	10.3	10.9	10.2	10.5	---	---	---	12.6	12.4	12.5
8	11.5	10.2	10.7	11.4	10.4	10.9	---	---	---	13.0	12.5	12.7
9	13.0	9.6	11.2	11.7	10.6	11.1	---	---	---	14.1	12.4	13.1
10	13.4	11.7	12.5	11.0	10.4	10.7	---	---	---	14.0	12.7	13.4
11	13.8	10.3	12.1	11.1	10.5	10.8	---	---	---	13.1	11.9	12.8
12	14.4	11.1	12.9	11.0	10.5	10.8	13.6	12.1	12.7	12.0	10.6	11.5
13	18.3	11.9	15.0	10.5	10.0	10.2	13.3	10.6	12.1	13.8	10.4	12.0
14	15.4	11.3	13.1	10.1	9.6	10.0	12.5	11.3	11.8	13.9	12.8	13.5
15	15.4	12.0	13.7	10.6	10.0	10.3	13.0	11.4	11.8	13.3	12.5	13.0
16	15.8	11.3	13.6	10.6	10.0	10.4	15.0	13.3	14.3	13.2	12.7	12.9
17	14.7	11.8	12.9	10.1	9.9	10.0	15.2	14.1	14.7	13.3	12.9	13.1
18	12.0	9.6	10.9	10.1	9.6	9.9	15.3	14.0	14.7	13.4	13.0	13.1
19	10.1	8.3	8.9	9.7	9.1	9.5	15.5	14.2	14.9	14.4	12.7	13.6
20	9.1	8.0	8.4	9.5	9.0	9.2	15.3	14.5	15.1	13.8	11.5	12.6
21	11.1	8.6	9.1	12.0	9.4	10.6	15.1	13.4	14.4	15.0	12.4	13.4
22	9.9	8.3	8.5	13.0	12.1	12.6	14.6	13.0	13.8	15.7	14.7	15.1
23	8.5	8.3	8.4	13.3	13.0	13.2	13.1	12.8	13.0	15.8	13.5	15.5
24	9.5	8.2	8.7	14.0	13.3	13.7	13.4	13.1	13.3	16.0	15.7	15.9
25	9.6	8.4	8.7	14.5	14.0	14.3	13.6	13.2	13.5	15.7	15.5	15.6
26	8.5	8.2	8.3	14.5	13.4	14.1	13.6	13.4	13.5	15.7	15.6	15.7
27	8.5	8.2	8.4	13.7	13.4	13.5	13.7	12.8	13.3	15.7	13.4	14.9
28	8.9	8.4	8.6	14.0	13.4	13.7	12.9	12.6	12.7	15.6	13.6	14.9
29	9.4	8.8	9.0	13.3	13.1	13.2	12.9	12.6	12.8	15.4	15.1	15.2
30	10.1	9.1	9.6	13.9	12.7	13.2	12.7	12.0	12.4	15.6	14.1	14.9
31	10.3	10.0	10.1	---	---	---	12.7	11.1	11.9	15.7	13.9	14.7
MONTH	18.3	7.7	10.4	14.5	9.0	11.2	15.5	10.6	13.3	16.0	10.4	13.5

04193490 MAUMEE RIVER NEAR WATERVILLE, OH--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	15.6	14.1	15.2	13.5	11.9	12.4	10.7	10.1	10.3	10.3	8.9	9.5
2	15.4	15.0	15.3	13.2	12.2	12.9	11.5	10.0	10.7	11.0	9.1	10.0
3	15.4	15.2	15.4	13.2	12.8	13.0	12.4	10.5	11.3	11.7	9.6	10.5
4	15.4	14.7	15.2	13.2	12.9	13.1	12.7	10.8	11.6	11.2	9.6	10.3
5	14.6	12.0	13.6	15.7	12.6	13.5	12.7	10.8	11.6	9.5	8.8	9.2
6	13.7	11.0	12.2	15.6	14.0	15.1	13.7	10.8	12.1	9.1	8.4	8.7
7	15.1	12.1	13.9	16.0	13.8	14.8	12.3	10.0	11.2	8.9	8.1	8.4
8	15.3	13.0	14.0	15.8	14.9	15.5	12.7	9.9	11.3	9.1	7.9	8.4
9	15.3	12.0	13.6	14.9	14.3	14.6	11.8	10.2	11.1	9.6	7.9	8.6
10	15.7	13.8	15.0	15.3	13.3	14.3	13.4	10.8	11.9	10.6	8.4	9.4
11	15.9	12.1	14.6	14.8	11.4	12.9	14.5	11.7	13.0	12.0	8.8	10.2
12	15.7	12.8	14.4	14.9	12.1	13.3	15.2	11.9	13.6	12.0	9.4	10.6
13	15.9	13.3	14.8	12.6	11.8	12.0	15.7	12.0	13.9	13.0	9.5	11.2
14	15.7	13.8	15.2	11.8	11.7	11.8	15.7	12.6	14.2	14.6	10.7	12.7
15	15.7	14.4	15.4	11.7	11.6	11.7	14.1	11.9	12.6	16.1	10.3	12.8
16	15.4	13.1	14.4	11.8	11.7	11.7	14.8	11.7	13.2	14.7	9.8	12.4
17	14.5	12.8	13.6	11.9	11.6	11.8	16.2	12.3	14.0	13.2	10.9	12.1
18	15.0	13.0	14.1	12.1	11.9	12.0	17.1	12.4	14.4	10.2	7.4	8.3
19	15.0	13.2	14.6	11.8	11.2	11.4	15.5	12.7	13.9	9.7	7.9	8.8
20	14.7	13.1	13.9	11.7	11.4	11.6	14.0	12.0	12.9	9.0	8.1	8.4
21	14.8	12.1	13.5	12.0	11.6	11.9	13.0	11.4	12.0	8.4	8.1	8.3
22	---	---	---	12.4	12.1	12.3	12.8	10.6	11.6	8.7	8.4	8.6
23	---	---	---	12.5	12.3	12.4	11.9	11.1	11.5	9.2	8.5	8.8
24	15.4	12.4	14.3	12.7	12.3	12.5	11.4	10.7	11.0	9.1	8.3	8.7
25	15.6	13.6	15.4	12.3	11.7	12.2	11.5	10.4	10.9	9.0	8.2	8.5
26	15.6	13.8	15.0	11.7	11.3	11.5	11.3	9.9	10.6	8.8	8.0	8.4
27	13.7	12.2	12.8	14.7	8.1	12.4	10.9	9.5	10.2	8.7	7.9	8.2
28	14.9	13.1	13.9	13.5	6.9	10.6	9.9	8.9	9.3	8.7	7.8	8.2
29	---	---	---	11.1	10.5	10.9	10.7	8.8	9.7	9.4	7.8	8.5
30	---	---	---	10.8	10.4	10.5	10.2	9.1	9.5	9.9	8.2	9.0
31	---	---	---	10.9	10.2	10.4	---	---	---	11.1	8.4	9.6
MONTH	15.9	11.0	14.4	16.0	6.9	12.5	17.1	8.8	11.8	16.1	7.4	9.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	9.6	7.5	8.4	8.1	7.3	7.8	7.7	6.7	7.1	11.6	8.6	9.5
2	10.0	7.8	8.8	7.8	7.6	7.7	7.8	7.0	7.3	9.7	8.0	8.8
3	10.6	8.5	9.4	7.6	7.4	7.5	7.4	6.8	7.1	11.7	7.7	9.1
4	10.7	8.6	9.7	7.8	7.5	7.7	7.9	7.1	7.4	9.1	7.8	8.5
5	9.9	7.9	8.6	7.8	7.0	7.5	8.7	7.1	7.6	10.3	7.9	8.5
6	9.1	7.9	8.4	7.6	7.0	7.3	9.2	7.2	7.9	10.1	7.8	9.2
7	8.5	7.9	8.2	7.3	6.9	7.1	10.4	7.7	8.8	10.8	8.4	9.5
8	7.8	7.7	7.8	7.0	6.8	6.9	10.1	7.8	8.8	13.2	8.8	10.6
9	8.0	7.7	7.8	7.4	7.0	7.2	12.9	7.6	9.4	14.7	10.7	12.6
10	8.0	7.7	7.8	7.8	7.1	7.3	9.4	7.1	7.8	14.5	9.4	11.7
11	7.7	7.5	7.7	7.5	7.2	7.4	8.8	7.1	7.8	9.5	8.4	9.0
12	7.9	7.5	7.7	7.8	7.4	7.5	9.7	7.8	8.7	12.0	8.0	9.4
13	8.1	7.9	8.0	7.3	6.9	7.1	9.8	7.8	8.7	11.5	8.4	9.8
14	7.9	7.7	7.8	6.9	6.6	6.7	9.4	7.9	8.6	9.6	7.5	8.1
15	7.8	7.7	7.7	6.7	6.6	6.6	10.1	7.8	8.9	9.3	7.7	8.4
16	7.9	7.6	7.8	7.3	6.8	7.1	13.0	6.3	9.3	9.1	7.7	8.4
17	8.1	7.8	7.9	6.8	5.8	6.3	14.8	6.2	9.7	10.7	8.2	9.1
18	8.0	7.7	7.9	5.7	5.4	5.5	11.8	8.1	10.3	10.3	8.6	9.6
19	8.0	7.7	7.8	5.9	5.5	5.7	13.2	8.4	10.8	10.9	8.0	8.9
20	8.0	7.6	7.8	6.3	5.9	6.0	12.9	9.2	11.0	11.9	9.0	9.7
21	7.9	7.5	7.7	6.8	6.3	6.6	13.8	7.6	10.6	9.8	7.6	8.7
22	7.6	7.3	7.5	6.9	6.7	6.8	14.7	6.9	10.7	9.8	8.6	9.1
23	7.4	7.2	7.3	7.0	6.8	6.9	16.6	8.1	12.6	9.5	8.1	8.7
24	7.8	7.2	7.5	7.1	6.8	6.9	19.6	8.9	13.0	8.1	6.4	7.5
25	7.9	7.7	7.8	7.1	6.8	6.9	17.7	11.3	14.3	10.5	6.3	8.3
26	8.6	7.4	7.8	7.6	6.8	7.1	13.9	8.8	11.2	8.7	6.5	7.4
27	9.4	7.7	8.3	7.1	6.7	6.9	8.9	6.6	7.7	7.3	6.0	6.7
28	12.0	7.5	8.5	6.9	6.5	6.7	11.6	6.7	8.9	6.0	5.9	5.9
29	8.2	7.2	7.7	6.8	6.6	6.7	13.3	9.4	11.2	6.2	5.9	6.0
30	7.6	7.0	7.4	6.9	6.7	6.8	14.8	9.6	11.7	6.4	6.2	6.3
31	---	---	---	7.0	6.7	6.8	12.8	10.1	11.4	---	---	---
MONTH	12.0	7.0	8.0	8.1	5.4	6.9	19.6	6.2	9.6	14.7	5.9	8.8
YEAR	19.6	5.4	10.7									

STREAMS TRIBUTARY TO LAKE ERIE

41

04193500 MAUMEE RIVER AT WATERVILLE, OH
(National stream quality accounting network station)

LOCATION.--Lat $41^{\circ}30'00''$, long $83^{\circ}42'46''$, Lucas County, Hydrologic Unit 04100009, on downstream side of first pier from left end of bridge on State Highway 64 at Waterville, 3 mi downstream from Tontogany Creek, and 20.7 mi upstream from mouth.

DRAINAGE AREA.--6,330 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1898 to December 1901, August 1921 to December 1935, March 1939 to current year.

REVISED RECORDS.--WSP 894: 1930(M). WSP 1084: 1946. WSP 1387: 1900(M), 1922-23, 1933. WDR OH-68-1: 1967. WDR OH-70-1: Drainage area. WRD-OH-82-2: 1981.

GAGE.--Water-stage recorder with auxilliary crest-stage gage. Datum of gage is 595.71 ft above National Geodetic Datum of 1929. Nov. 19, 1898 to Dec. 31, 1901, Aug. 26, 1921 to July 31, 1930, nonrecording gage Aug. 1, 1930 to Dec. 31, 1935, water-stage recorder, Mar. 14, 1939 to Mar. 12, 1940, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 4-9, Dec. 15 to Jan. 18, Jan. 27 to Feb. 4, 8-21, Apr. 10-29; June 7-10, June 29 to July 1, 3, 4, 27, 28. Records fair except for periods of estimated record which are poor and those after Aug. 8 which are good. Low flow slightly regulated by powerplants upstream from station. Small diversion upstream from gage into Portage River basin (see Station 04195500).

AVERAGE DISCHARGE.--61 years (1921-35, 1939-86), 4,979 ft³/s, 10.68 in/yr includes flow in Miami and Erie Canal at Waterville 1922-29; canal was abandoned in 1929 and was filled in prior to March 1939.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 121,000 ft³/s Mar. 14, 1982, gage height, 14.96 ft recorder-manometer; 17.18 ft from floodmark. Practically no flow at times prior to June 30, 1929, when entire river flow was being diverted by canal; minimum daily since canal was abandoned, 26 ft³/s Oct. 24, 1964.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 19.9 ft, from information by local resident, estimated discharge, 180,000 ft³/s, from rating curve extended above 94,000 ft³/s.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 37,700 ft³/s Feb. 7, gage height, 9.80 ft; minimum daily, 320 ft³/s, Oct. 3.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	492	1080	21300	1400	2000	6770	3020	3060	3400	5000	2870	1330
2	338	1220	18200	1400	2000	5490	2850	4200	2410	3260	3850	1100
3	320	992	15000	1400	2100	4940	2390	6910	2230	8000	4160	831
4	352	1080	12000	1400	3600	4760	2550	5710	1840	10000	2480	797
5	509	1200	11000	1300	16500	4800	3660	4260	2190	7510	1760	1040
6	366	1240	8600	1300	32400	10800	3670	3330	9360	4510	1400	1680
7	615	1350	6800	1300	30200	16200	4000	3450	11000	3290	1200	1870
8	530	1240	5000	1300	22000	13300	3620	2650	12000	2610	1230	1180
9	454	1210	4500	1300	17000	10300	3010	3060	13000	2480	1230	927
10	474	1390	4790	1300	13000	10500	2500	2990	11000	2110	1660	825
11	382	1950	12600	1300	8000	17300	2200	2560	9690	3650	1960	652
12	326	2480	33200	1200	5400	20300	2000	2530	10400	7370	2170	1710
13	455	4020	34900	1200	4000	31200	2000	2070	8440	18200	2100	2070
14	667	6990	25300	1200	3400	35200	2100	1820	6360	20200	1750	2690
15	1370	7220	19000	1200	3200	29900	2800	1690	5550	11200	1350	2240
16	2910	10700	15000	1200	3100	22300	1900	1840	7710	13400	1010	1460
17	2730	20500	12000	1200	3100	16500	2400	1640	10900	28400	1150	966
18	2970	18800	7000	2500	3000	12800	2400	3380	8570	29800	1230	1010
19	7620	23200	4000	4600	15000	18800	2000	5790	6120	21900	1080	883
20	9610	27100	3050	8270	33000	30000	2300	5970	6050	13600	1070	1010
21	7690	24100	2700	10800	36000	26400	6000	5490	8840	8850	798	989
22	5920	18800	2400	9800	30000	19900	13000	4750	7600	6250	737	1020
23	4430	13300	2100	9310	23600	14300	12000	3980	6040	4090	752	1010
24	3560	10100	2000	7790	18400	10600	9000	3050	4500	3070	407	695
25	2880	7980	1900	6010	14600	8710	6800	2700	3310	2190	393	920
26	2300	8000	1800	5220	12200	6960	5200	2200	3110	1770	851	4560
27	2000	16500	1700	4200	10500	5670	4600	2380	2600	9000	3520	12400
28	1550	24100	1600	3200	8660	4670	3800	2210	2330	6000	4080	13700
29	1400	26200	1600	2500	---	3990	3100	2210	6000	3680	2750	11000
30	1320	22200	1500	2200	---	3440	2700	2840	10000	3460	2290	7120
31	1110	---	1500	2100	---	2830	---	2970	---	2950	1830	---
TOTAL	67650	306242	294040	100400	375960	429630	119570	103690	202550	267800	55118	79685
MEAN	2182	10210	9485	3239	13430	13860	3986	3345	6752	8639	1778	2656
MAX	9610	27100	34900	10800	36000	35200	13000	6910	13000	29800	4160	13700
MIN	320	992	1500	1200	2000	2830	1900	1640	1840	1770	393	652
CFSM	.34	1.61	1.50	.51	2.12	2.19	.63	.53	1.07	1.36	.28	.42
IN.	.40	1.80	1.73	.59	2.21	2.52	.70	.61	1.19	1.57	.32	.47
CAL YR 1985	TOTAL	2218982	MEAN	6079	MAX	91100	MIN	308	CFSM	.96	IN.	13.04
WTR YR 1986	TOTAL	2402335	MEAN	6582	MAX	36000	MIN	320	CFSM	1.04	IN.	14.12

STREAMS TRIBUTARY TO LAKE ERIE

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1950 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: April 1950 to September 1984.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,240 mg/L Mar. 26, 1954; minimum daily mean, 1 mg/L on many days during 1953, 1955, and 1963.

SEDIMENT LOADS: Maximum daily, 208,000 tons Feb. 12, 1959; minimum daily, 0.26 ton Sept. 18, 1955.

WATER QUALITY DATA

WATER QUALITY DATA										OXYGEN,	
DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	DIS- SOLVED (PER- CENT SATUR- ATION)	FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	
NOV 21...	0900	24800	400	7.80	0.0	9.0	93	11.4	100	2800	
MAR 11...	1200	17600	420	7.40	3.0	5.0	140	10.8	86	1900	
JUN 03...	1200	2040	695	8.60	20.0	21.5	40	11.2	129	5700	
SEP 11...	0830	686	650	8.60	16.5	20.5	5.8	8.4	96	--	
DATE	TIME	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
NOV 21...	7800	50	12	6.7	4.2	107	39	22	0.2	8.1	
MAR 11...	1600	51	12	9.7	3.2	112	38	22	0.2	5.9	
JUN 03...	190	88	24	22	3.9	206	84	42	0.3	11	
SEP 11...	--	70	22	28	5.6	179	92	46	0.5	1.9	
DATE	TIME	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BIARIUM, DIS- SOLVED (UG/L AS BA)
NOV 21...	242	6.40	0.06	2.4	0.50	0.10	0.08	70	<1	34	
MAR 11...	246	5.00	0.24	1.9	0.30	0.11	0.08	--	--	--	
JUN 03...	440	5.50	0.04	1.4	0.21	0.09	0.07	<10	1	55	
SEP 11...	410	0.49	0.05	1.3	0.17	0.06	0.02	30	<1	50	

STREAMS TRIBUTARY TO LAKE ERIE

43

04193500 MAUMEE RIVER AT WATERVILLE, OH--Continued

WATER QUALITY DATA

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV 21...	<0.5	1	1	<3	8	170	6	7	3	<0.1
MAR 11...	--	--	--	--	--	--	--	--	--	--
JUN 03...	<0.5	<1	<1	<3	7	5	2	11	3	<0.1
SEP 11...	<0.5	2	<1	<3	4	21	<5	15	1	0.2

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SEDI- MENT, SUS- PENDE (MG/L)
NOV 21...	<10	3	<1	<1	310	<6	5	0	349
MAR 11...	--	--	--	--	--	--	--	2	356
JUN 03...	<10	5	<1	<1	1000	<6	6	1	83
SEP 11...	10	4	<1	<1	1100	<6	6	0	158

STREAMS TRIBUTARY TO LAKE ERIE

04194107 LAKE ERIE AT RENO BEACH, OH

LOCATION.-- Lat 41°40'29", long 83°17'32", Lucas County, Hydrologic Unit 04100010, on right bank at mouth of Reno side cut (Coulee Canal) which is Cedar Creek drainage.

PERIOD OF RECORD.-- November 1981 to current year.

GAGE.--Water-stage recorder. Datum of gage is 560.00 ft International Great Lakes Datum.

REMARKS.--Interruptions in record are due to malfunctions of the instruments.

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded gage height, 16.02 ft Mar. 4, 1985; minimum recorded gage height 7.70 ft Dec. 2, 1985.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 16.19 ft Nov. 28, minimum recorded gage height, 7.70 ft Dec. 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.21	13.03	13.10	12.38	12.88	12.99	13.42	13.17	13.66	14.04	13.52	13.35
2	12.73	12.63	9.06	12.68	12.71	13.07	13.57	13.36	14.08	13.81	13.58	13.42
3	12.89	12.37	12.76	12.55	12.90	13.16	13.72	13.44	14.00	13.92	13.53	13.45
4	12.20	12.81	12.97	12.83	13.07	13.06	14.01	13.50	13.64	13.70	13.62	13.12
5	10.42	13.38	12.96	11.36	12.85	13.13	13.79	13.35	13.87	13.66	13.61	12.91
6	11.60	12.69	12.94	11.72	14.05	12.43	13.50	13.43	14.11	13.71	13.75	13.14
7	12.09	12.26	12.69	12.47	13.63	12.74	13.46	13.61	13.90	13.71	13.45	13.05
8	12.11	12.18	12.74	12.40	12.96	13.14	13.38	13.64	13.70	13.84	13.45	12.91
9	12.01	12.55	12.95	11.80	12.72	13.23	13.15	14.04	14.07	13.84	13.46	13.05
10	12.13	13.16	13.01	12.31	12.85	12.98	13.25	13.77	13.86	13.91	13.54	12.81
11	12.48	13.85	13.31	12.42	12.95	12.48	13.34	13.66	13.78	14.17	13.45	12.41
12	12.65	13.01	12.76	11.79	12.71	13.97	13.55	13.84	13.65	13.81	13.63	12.42
13	12.27	13.05	12.97	12.34	12.57	13.59	13.59	13.82	13.77	13.63	13.78	12.86
14	12.52	12.94	11.82	12.64	12.83	13.38	14.01	13.70	14.02	13.66	13.59	13.28
15	12.22	13.58	11.54	12.59	12.65	13.28	13.37	13.57	14.11	14.00	13.36	13.26
16	12.21	13.10	12.15	12.61	13.14	13.39	13.51	13.45	13.72	13.83	13.49	13.36
17	12.39	12.30	12.23	12.44	13.05	13.46	13.71	13.68	14.14	13.90	13.59	13.40
18	12.13	13.09	11.82	12.58	12.95	13.66	13.65	13.60	13.95	13.78	13.74	13.00
19	12.60	13.04	12.50	12.67	13.00	12.82	13.58	13.86	13.74	13.89	13.89	13.20
20	13.54	11.82	12.94	12.27	13.05	13.43	13.73	13.68	14.09	13.92	13.82	13.03
21	12.95	13.07	12.38	12.76	13.19	13.41	13.37	13.71	14.17	14.08	13.57	13.19
22	12.55	13.19	12.25	12.31	13.33	13.22	13.69	13.74	13.81	13.99	13.80	13.15
23	12.63	12.87	12.52	12.78	12.81	13.25	13.67	13.72	13.88	13.91	13.07	12.95
24	12.38	12.55	12.53	13.13	13.16	13.64	13.70	13.77	13.81	13.83	13.38	13.19
25	12.35	13.39	12.27	12.50	13.13	13.48	13.74	13.84	13.93	13.69	13.43	13.42
26	12.42	13.27	12.15	12.70	13.60	13.33	13.78	13.97	13.85	13.64	13.14	13.08
27	12.28	13.37	11.32	12.22	13.31	13.37	13.80	13.86	13.66	13.88	13.09	13.34
28	12.93	14.53	11.69	12.37	12.92	13.44	13.66	13.75	13.72	13.75	13.29	13.38
29	13.09	13.50	12.10	12.77	---	13.37	13.33	13.72	13.86	13.48	13.34	13.26
30	12.80	13.47	12.31	12.66	---	13.34	13.67	13.66	14.05	13.71	13.28	13.06
31	12.97	---	12.26	12.72	---	13.68	---	13.60	---	13.80	13.39	---
MEAN	12.41	13.00	12.35	12.44	13.03	13.26	13.59	13.66	13.89	13.82	13.50	13.11
MAX	13.54	14.53	13.31	13.13	14.05	13.97	14.01	14.04	14.17	14.17	13.89	13.45
MIN	10.42	11.82	9.06	11.36	12.57	12.43	13.15	13.17	13.64	13.48	13.07	12.41
WTR YR 1986	MEAN	13.17	MAX	14.53	MIN	9.06						

STREAMS TRIBUTARY TO LAKE ERIE

45

04195500 PORTAGE RIVER AT WOODVILLE, OH

LOCATION.--Lat 41°26'58", long 83°21'41", in sec. 28, T.6 N., R.13 E., Sandusky County, Hydrologic Unit 04100010, on left bank at upstream side of bridge on U.S. Highway 20 in Woodville, 600 ft downstream from unnamed right bank tributary, and 10.3 mi upstream from Sugar Creek.

DRAINAGE AREA.--428 mi².

PERIOD OF RECORD.--July 1928 to December 1935, October 1939 to current year.

REVISED RECORDS.--WSP 894: 1929-30. WSP 1207: 1933. WSP 1387: 1931, 1933. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 614.75 ft above National Geodetic Vertical Datum of 1929. Prior to Oct. 8, 1933, nonrecording gage, Oct. 9, 1933 to Dec. 30, 1935 water-stage recorder, Oct. 17 to Nov. 29, 1939, nonrecording gage, all at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 20 to Jan. 16, Jan. 21 to Feb. 3. Records good except for periods of estimated record, which are fair. Flow supplemented by water imported from Maumee River basin for municipal supply for city of Bowling Green 16 mi upstream. The importation of this water began Sept. 1, 1951. Sediment data collected at this site 1950 to 1956. Water-quality data collected at this site 800 ft downstream 1968 to 1980. National Weather Service gage height telemeter at station.

AVERAGE DISCHARGE (adjusted for diversion).--54 years, 328 ft³/s, 10.41 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 11,500 ft³/s Feb. 15, 1950, gage height, 14.51 ft; minimum daily (prior to diversion) 0.4 ft³/s Aug. 26, 1931; (subsequent to diversion) 1.8 ft³/s Sept. 22, 1955.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 17 ft, from information by local residents, discharge, 17,000 ft³/s, from rating curve extended above 11,500 ft³/s.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 12	2130	*4,600	*9.40	Mar. 14	0400	4,000	8.83
Feb. 6	0600	4,330	9.15	Mar. 20	0630	3,980	8.81
Feb. 20	0600	4,360	9.18				

Minimum daily discharge, 6.9 ft³/s Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	52	796	72	100	247	133	155	120	46	26	25
2	8.9	49	633	69	130	254	135	143	90	82	25	20
3	8.8	59	488	67	240	248	130	121	73	463	24	18
4	9.3	344	323	65	688	268	134	104	62	240	19	18
5	8.5	931	259	64	3490	529	300	100	60	115	19	22
6	7.4	841	234	62	3920	1440	732	103	339	70	18	28
7	7.0	572	204	61	1600	1370	613	110	405	50	21	24
8	6.9	348	180	60	765	588	372	130	700	39	26	19
9	7.3	243	183	59	565	487	259	136	599	231	33	16
10	7.5	417	262	58	383	554	194	110	356	258	37	15
11	8.4	1170	2410	58	296	1660	158	95	245	222	38	17
12	12	1240	4280	57	269	1420	134	87	247	769	75	20
13	17	1190	3460	56	256	3320	114	81	176	1780	65	33
14	38	1510	1290	56	242	3480	102	80	120	1300	40	37
15	74	1100	625	56	199	1660	130	74	119	497	30	27
16	348	1370	487	56	176	920	207	81	217	429	24	22
17	271	3220	331	104	160	596	174	303	430	1680	35	20
18	152	2290	212	251	262	455	152	282	298	755	51	20
19	832	1150	259	948	2990	2140	133	607	163	322	34	24
20	1180	1270	205	1900	4070	3330	134	809	142	177	24	40
21	662	1110	170	700	3370	1130	1540	445	137	114	20	40
22	377	680	145	450	2520	581	1750	288	94	91	18	31
23	234	562	130	270	1210	439	731	218	72	74	16	24
24	218	443	115	190	760	360	424	174	59	54	15	21
25	280	342	105	160	587	287	315	138	51	44	14	34
26	186	586	98	140	526	261	259	111	43	39	34	41
27	126	2410	92	120	463	239	215	126	39	71	82	68
28	91	2560	86	220	306	206	186	191	38	58	139	199
29	72	2390	82	200	---	178	179	160	47	42	88	478
30	61	1300	78	150	---	163	175	132	45	34	51	184
31	55	---	74	120	---	147	---	169	---	29	33	---
TOTAL	5374.7	31749	18296	6899	30543	28957	10214	5863	5586	10175	1174	1585
MEAN	173	1058	590	223	1091	934	340	189	186	328	37.9	52.8
MAX	1180	3220	4280	1900	4070	3480	1750	809	700	1780	139	478
MIN	6.9	49	74	56	100	147	102	74	38	29	14	15
(+)	5.2	4.7	4.4	4.5	4.9	4.5	5.0	4.5	4.5	4.8	5.0	5.7
MEAN #	168	1053	586	218	1086	930	335	184	182	323	32.9	47.1
CFSM #	.39	2.46	1.37	.51	2.54	2.17	.78	.43	.43	.75	.08	.11
IN #	.46	2.75	1.58	.59	2.64	2.50	.87	.50	.47	.87	.09	.12

CAL YR 1985 TOTAL 159224.0 MEAN 436 MAX 8220 MIN 6.9 +4.8 MEAN # 431 CFSM # 1.01 IN # 13.68
WTR YR 1986 TOTAL 156415.7 MEAN 429 MAX 4280 MIN 6.9 +4.8 MEAN # 424 CFSM # .99 IN # 13.45

+ Diversion in cubic feet per second, from Maumee River basin for municipal supply; furnished by City of Bowling Green.
Adjusted for diversion.

STREAMS TRIBUTARY TO LAKE ERIE

04196800 TYMOCHTEE CREEK AT CRAWFORD, OH

LOCATION.--Lat 40°55'22", long 83°20'56", in SE 1/4 sec. 27, T.1 S., R.13 E., Wyandot County, Hydrologic Unit 04100011, on right bank at downstream side of bridge on State Highway 199 (formerly U.S. Highway 23), 0.4 mi northwest of Crawford, 1.5 mi downstream from Lick Run, 2.7 mi upstream from Little Tymochtee Creek, and 3 mi southeast of Carey.

DRAINAGE AREA.--229 mi².

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1961-63, and annual maximum, water years 1961-64, June 1964 to current year.

REVISED RECORDS.--WRD Ohio 1969: 1964(P), 1966(M), 1967(P).

GAGE.--Water-stage recorder. Datum of gage is 785.86 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 14-Jan. 18, Jan. 27-Feb. 2. Records good except those for estimated daily discharges, which are fair. Beginning Mar. 9, 1972 water was diverted at a point 29.4 mi upstream from station into Killdeer Reservoir. Storage is available for low-flow augmentation. During the year, pumpage into Killdeer Reservoir from Tymochtee Creek totaled 64.8 million gallons. No releases were made. Water-quality data collected at this site 1968 to 1977. Sediment data collected 1970 to 1974.

AVERAGE DISCHARGE.--22 years, 181 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,390 ft³/s Mar. 17, 1978, gage height, 9.94 ft; maximum gage height, 11.21 ft Mar. 6, 1963 (backwater from ice); no flow Aug. 10, Sept. 13-18, Oct. 23 to Nov. 4, 1964, Aug. 23-26, 1965.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in January 1959 reached a stage of 12.9 ft, from information by local resident.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,800 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 28	2230	2,110	6.27	Feb. 6	1200	*2,550	*6.72
Dec. 13	1100	2,450	6.62	Mar. 15	0330	2,030	6.18

Minimum daily discharge, 0.32 ft³/s Oct. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.52	3.7	854	37	66	112	55	70	39	78	9.2	1.8
2	.53	3.8	598	36	120	88	49	61	32	131	8.4	1.8
3	.45	8.7	407	35	312	91	46	61	24	354	5.9	1.6
4	.34	12	238	34	788	82	45	53	20	327	4.5	1.6
5	.36	27	167	33	1610	115	39	41	21	155	3.7	1.9
6	.36	44	122	32	2420	314	44	38	124	78	4.0	1.8
7	.32	51	99	32	1840	496	51	38	573	45	5.6	3.5
8	.34	40	84	31	1130	380	50	39	373	29	7.7	3.6
9	.39	40	76	31	647	191	48	35	180	89	9.2	2.7
10	.48	45	101	30	494	267	43	31	99	151	7.2	1.9
11	.83	377	778	30	369	977	39	27	59	267	12	2.8
12	1.4	538	1680	30	225	1310	36	26	42	740	6.0	12
13	1.8	547	2330	30	194	1460	31	22	30	833	4.2	9.7
14	5.1	742	1600	29	146	1600	28	20	27	632	2.7	7.8
15	8.0	857	1050	29	125	1800	29	22	43	328	3.4	7.7
16	2.2	838	380	29	84	962	30	276	30	226	9.0	6.4
17	1.7	841	205	29	71	411	38	554	28	283	8.0	4.0
18	5.7	790	128	200	457	275	38	418	27	167	9.6	14
19	7.0	408	140	503	1080	775	35	402	21	93	6.1	15
20	7.1	305	115	808	1260	1000	103	403	28	55	8.6	31
21	6.6	241	96	940	1300	874	944	290	70	37	6.4	36
22	5.2	168	80	620	1030	334	1470	177	31	25	3.9	24
23	3.9	134	70	409	745	226	1400	135	22	20	3.4	17
24	4.2	114	61	257	404	186	550	112	19	18	3.4	13
25	5.5	89	56	168	298	157	307	89	15	14	3.2	42
26	7.1	370	52	143	241	140	207	66	12	18	3.7	329
27	7.1	1250	48	105	191	127	152	57	9.8	18	12	419
28	6.0	1860	46	130	156	117	118	68	19	13	5.9	429
29	4.1	1870	43	153	---	91	97	112	147	13	3.5	469
30	3.7	1420	41	105	---	74	86	75	151	9.6	2.8	232
31	3.7	---	38	86	---	65	---	51	---	7.5	1.9	---
TOTAL	102.02	14034.2	11783	5164	17803	15097	6208	3869	2315.8	5254.1	185.1	2142.6
MEAN	3.29	468	380	167	636	487	207	125	77.2	169	5.97	71.4
MAX	8.0	1870	2330	940	2420	1800	1470	554	573	833	12	469
MIN	.32	3.7	38	29	66	65	28	20	9.8	7.5	1.9	1.6
CAL YR 1985	TOTAL	67294.41		MEAN	184	MAX	4000	MIN	.08			
WTR YR 1986	TOTAL	83957.82		MEAN	230	MAX	2420	MIN	.32			

STREAMS TRIBUTARY TO LAKE ERIE

47

04197020 HONEY CREEK NEAR NEW WASHINGTON, OH

LOCATION.--Lat 40°57'37", long 82°47'19", in SE 1/4, sec. 7, T.22 N., R.20 W., Crawford County, Hydrologic Unit 04100011, on left bank 250 ft downstream from State Route 103 bridge and 3.4 mi east of New Washington.

DRAINAGE AREA.--17 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 940.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 1-Nov. 2, Nov. 30-Jan. 16, Jan. 22 to Feb. 2, 7-16, 21-23. Records fair, except estimated discharges, which are poor.

AVERAGE DISCHARGE.--7 years (1980-1986), 17.4 ft³/s, 13.90 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,810 ft³/s June 13, 1981, gage height, 20.13 ft, from rating curve extended above 325 ft³/s on basis of step backwater analysis; minimum, no flow Oct. 17, 1981, July 26, 29-31, 1985.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 300 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 26	2245	302	13.96	Mar. 13	0900	411	14.77
Dec. 11	---	330	---	Sept. 27	2300	*527	*15.46
Feb. 4	2000	336	14.26				

Minimum daily discharge, 0.12 ft³/s Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.12	.19	28	2.6	13	8.0	6.6	6.5	5.1	4.0	.68	.21
2	.16	.30	26	2.5	30	6.8	6.2	5.3	3.9	54	.66	.19
3	.15	2.4	14	2.4	49	6.5	5.6	4.5	3.1	18	.55	.19
4	.13	11	11	2.3	195	6.5	5.6	4.2	3.4	9.6	.45	.25
5	.15	30	8.4	2.2	178	7.5	5.1	4.1	12	5.5	.38	.35
6	.21	27	7.3	2.1	82	18	5.8	3.9	57	3.2	.39	.30
7	.25	16	6.6	2.1	48	17	6.1	3.8	28	2.3	.47	.25
8	.22	17	6.2	2.0	29	14	5.4	3.5	20	1.9	.58	.21
9	.19	14	23	2.0	20	12	4.9	3.3	13	25	1.0	.19
10	.19	56	72	2.0	14	60	4.4	3.0	8.3	23	.75	.17
11	.25	105	182	1.9	11	98	4.1	2.8	6.4	23	.91	.29
12	.35	49	110	1.9	9.6	39	3.6	2.8	4.9	41	.69	1.5
13	.60	73	72	1.9	8.0	212	3.4	2.6	3.6	106	.52	.63
14	2.0	107	47	1.9	6.8	100	3.3	2.6	2.8	36	.44	.42
15	.50	87	31	1.8	5.8	56	6.8	2.6	3.0	15	.48	.37
16	.35	112	23	1.8	5.2	34	6.0	14	4.9	13	.48	.29
17	.30	90	16	43	29	24	5.1	9.2	22	24	.54	.27
18	.28	42	13	110	85	19	4.3	6.5	7.9	10	.47	6.3
19	.31	26	11	125	80	127	4.0	33	5.4	6.2	.38	5.7
20	.40	22	8.8	83	52	47	27	21	6.7	4.4	.32	2.4
21	1.3	19	7.5	44	45	22	94	11	3.7	3.3	.31	1.1
22	1.1	17	6.4	26	31	16	48	9.4	2.7	2.5	.31	.51
23	.90	17	5.5	18	23	14	29	9.2	2.4	1.9	.31	.31
24	.70	17	4.8	14	18	13	19	7.4	2.1	1.5	.29	.31
25	.60	15	4.4	11	15	12	15	6.0	1.7	1.4	.27	5.7
26	.55	117	4.0	8.8	13	11	13	5.1	1.5	1.4	.34	8.5
27	.48	153	3.6	7.6	11	10	11	6.2	1.7	1.2	.95	153
28	.48	116	3.3	8.2	10	9.1	9.4	6.9	6.8	1.0	.34	163
29	.39	84	3.1	7.3	---	8.7	7.8	5.9	8.0	.98	.23	58
30	.32	45	2.9	6.6	---	7.7	6.7	5.5	5.4	.87	.17	52
31	.23	---	2.7	6.1	---	6.8	---	7.1	---	.73	.15	---
TOTAL	14.16	1486.89	764.5	552.0	1116.4	1042.6	376.2	218.9	257.4	441.88	14.81	462.91
MEAN	.46	49.6	24.7	17.8	39.9	33.6	12.5	7.06	8.58	14.3	.48	15.4
MAX	2.0	153	182	125	195	212	94	33	57	106	1.0	163
MIN	.12	.19	2.7	1.8	5.2	6.5	3.3	2.6	1.5	.73	.15	.17
CFSM	.03	2.92	1.45	1.05	2.35	1.98	.74	.42	.50	.84	.03	.91
IN.	.03	3.25	1.67	1.21	2.44	2.28	.82	.48	.56	.97	.03	1.01
CAL YR 1985	TOTAL	6328.80	MEAN	17.3	MAX	815	MIN	.01	CFSM	1.02	IN.	13.85
WTR YR 1986	TOTAL	6748.65	MEAN	18.5	MAX	212	MIN	.12	CFSM	1.09	IN.	14.77

STREAMS TRIBUTARY TO LAKE ERIE

04197100 HONEY CREEK AT MELMORE, OH

LOCATION.--Lat 41°01'20", long 83°06'35", Seneca County, Hydrologic Unit 04100011, at bridge on State Highways 67 and 100 at Melmore, 1.5 mi upstream from Buckeye Creek.

DRAINAGE AREA.--149 mi².

PERIOD OF RECORD.--Annual maximum, water years 1961-75, February 1976 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 818 ft above National Geodetic Vertical Datum of 1929 from topographic map.

REMARKS.--Estimated daily discharges: Dec. 19 to Jan. 16, Jan. 26 to Feb. 3, 14-17. Records good except those for estimated daily discharges which are fair. Water-quality data collected at this site 1976 to 1977.

AVERAGE DISCHARGE.--10 years, 141 ft³/s, 12.85 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 4,400 ft³/s June 13, 1981, gage height, 11.00 ft; minimum discharge 0.58 ft³/s Sept. 11, 28, 29, 30, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 12	1600	1,640	7.38	Apr. 21	1400	1,950	7.90
Feb. 5	1930	*2,070	*8.11				

Minimum daily discharge 1.9 ft³/s Sept. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.0	3.9	249	23	64	66	42	43	29	32	5.1	3.7
2	5.5	3.3	229	22	180	62	40	37	27	108	5.0	2.9
3	5.5	33	138	22	450	58	35	32	26	230	4.3	2.4
4	5.1	347	93	21	888	59	35	29	22	123	4.1	2.3
5	5.3	654	77	20	1910	73	36	26	48	56	4.1	2.5
6	6.8	639	69	20	1520	161	36	24	93	36	4.0	2.5
7	7.0	418	62	19	775	187	43	24	122	24	4.9	2.2
8	6.4	279	58	19	500	107	47	24	116	18	4.9	1.9
9	6.0	171	56	19	309	87	38	21	132	29	5.0	2.9
10	6.1	277	249	18	194	352	34	19	75	53	6.1	3.0
11	7.5	676	1140	18	131	1150	31	18	46	94	9.9	4.8
12	8.3	576	1610	18	93	791	27	16	34	107	9.6	19
13	9.0	408	1170	18	77	1260	26	14	27	110	7.4	15
14	14	558	583	17	60	1270	24	14	24	154	5.6	13
15	24	590	265	17	52	751	39	16	19	110	5.0	8.5
16	48	787	185	17	48	382	62	535	22	73	8.5	5.9
17	29	889	105	77	62	222	52	193	29	121	6.7	3.8
18	16	600	82	529	678	159	44	101	48	95	4.9	8.5
19	14	285	70	1000	1070	787	37	167	36	54	3.8	8.7
20	10	178	61	1050	740	780	196	181	25	32	3.2	22
21	18	127	54	570	699	331	1620	120	25	22	2.9	15
22	24	102	48	344	550	166	1140	82	22	17	2.8	9.7
23	17	102	44	274	328	123	473	70	17	13	2.8	6.6
24	13	98	41	161	199	100	237	61	13	11	2.8	5.4
25	10	80	37	117	145	84	149	52	11	9.2	2.8	11
26	9.0	193	34	82	118	76	108	42	9.7	8.3	3.4	10
27	8.8	690	32	71	100	72	83	39	8.9	7.4	8.6	83
28	8.1	870	30	80	75	68	68	45	31	7.1	5.9	429
29	6.4	716	28	68	---	59	57	42	68	6.7	7.8	491
30	5.1	430	26	60	---	52	50	35	46	5.9	6.4	296
31	4.4	---	24	55	---	46	---	31	---	5.4	4.9	---
TOTAL	362.3	11780.2	6949	4846	12015	9941	4909	2153	1251.6	1772.0	163.2	1492.2
MEAN	11.7	393	224	156	429	321	164	69.5	41.7	57.2	5.26	49.7
MAX	48	889	1610	1050	1910	1270	1620	535	132	230	9.9	491
MIN	4.4	3.3	24	17	48	46	24	14	8.9	5.4	2.8	1.9
CFSM	.08	2.64	1.50	1.05	2.88	2.15	1.10	.47	.28	.38	.04	.33
IN.	.09	2.94	1.73	1.21	3.00	2.48	1.23	.54	.31	.44	.04	.37
CAL YR 1985	TOTAL	50831.9	MEAN	139	MAX	3620	MIN	1.1	CFSM	.93	IN.	12.69
WTR YR 1986	TOTAL	57634.5	MEAN	158	MAX	1910	MIN	1.9	CFSM	1.06	IN.	14.39

STREAMS TRIBUTARY TO LAKE ERIE

49

04197170 ROCK CREEK AT TIFFIN, OH

LOCATION.--Lat 41°06'49", long 83°10'06", Seneca County, Hydrologic Unit 04100011, on left bank 0.05 mi downstream from bridge on Rebecca Street, at Heidelberg College, Tiffin, Ohio.

DRAINAGE AREA.--34.6 mi².

PERIOD OF RECORD.--June 1983 to current year.

GAGE.--Water-stage recorder. Elevation of gage is 740 ft above National Geodetic Vertical Datum of 1929, from topographic map.

REMARKS.--Estimated daily discharges: Dec. 20-Jan. 16, 22-29, Feb. 8-13, and Feb. 25 to Mar. 1. Records good except those for estimated record, which are fair.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 1,640 ft³/s Feb. 23, 1985, gage height, 7.78 ft; minimum daily discharge 0.74 ft³/s Oct. 4, 1983.

EXTREMES FOR CURRENT YEAR.--Maximum discharge 1,050 ft³/s Apr. 21, gage height 6.89 ft; minimum daily discharge, 2.8 ft³/s Oct. 1.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.8	3.8	26	5.3	9.6	9.6	10	9.8	11	5.7	3.7	3.9
2	3.0	4.0	201	5.1	167	9.4	9.5	8.9	7.8	13	3.6	3.9
3	3.0	16	28	4.9	67	11	9.0	8.2	6.8	20	3.6	3.8
4	3.1	176	15	4.8	361	14	10	7.8	6.4	8.3	3.3	3.8
5	3.4	315	12	4.7	629	21	11	7.5	7.9	5.8	3.2	3.9
6	4.2	243	12	4.5	135	74	12	7.5	10	5.0	3.1	3.7
7	3.5	69	11	4.4	56	46	13	7.4	15	4.4	4.5	3.7
8	3.2	60	11	4.3	25	29	11	7.0	35	4.4	4.6	3.1
9	3.3	28	12	4.2	19	14	9.7	6.6	15	11	3.9	3.6
10	3.3	81	153	4.2	14	73	8.9	6.6	8.6	45	6.6	3.7
11	3.6	250	627	4.1	11	464	8.5	6.2	7.2	35	5.9	7.4
12	4.6	85	413	4.1	9.0	76	8.0	6.3	6.3	75	4.3	13
13	5.1	50	83	4.0	8.0	452	8.2	6.2	5.7	21	3.9	13
14	4.8	99	35	4.0	7.1	132	8.5	5.8	5.5	11	3.9	7.0
15	9.1	113	22	4.0	6.2	53	15	8.0	6.1	7.2	3.9	5.2
16	13	280	17	3.9	5.4	30	15	67	8.4	17	4.3	4.8
17	10	233	14	40	8.5	21	12	34	6.5	41	3.9	4.8
18	6.8	43	12	236	420	18	12	16	5.4	13	3.9	9.7
19	5.7	25	11	345	330	318	10	95	5.7	7.5	3.9	6.8
20	6.2	22	9.8	216	90	81	156	46	5.4	5.7	3.9	5.4
21	16	16	9.2	46	241	25	715	18	5.2	5.2	3.9	5.6
22	18	15	8.5	25	67	18	97	14	5.2	5.2	4.0	4.7
23	9.7	22	8.0	17	41	16	37	13	5.2	5.2	4.3	5.0
24	6.9	15	7.5	15	24	15	23	11	5.2	4.5	4.0	5.1
25	5.8	12	7.1	13	17	13	17	8.7	5.2	3.7	4.3	8.7
26	4.9	98	6.6	12	14	13	15	8.0	5.2	3.9	5.5	9.2
27	4.5	309	6.4	10	12	13	13	15	6.0	3.8	6.9	170
28	4.2	171	6.1	9.0	10	12	12	14	13	3.6	4.5	299
29	4.1	80	5.9	8.6	---	12	11	10	11	3.6	4.0	39
30	3.8	30	5.7	8.3	---	11	10	27	6.4	3.3	3.9	41
31	4.1	---	5.5	7.9	---	10	---	23	---	3.3	3.9	---
TOTAL	183.7	2963.8	1801.3	1079.3	2803.8	2104.0	1307.3	529.5	253.3	401.3	131.1	701.5
MEAN	5.93	98.8	58.1	34.8	100	67.9	43.6	17.1	8.44	12.9	4.23	23.4
MAX	18	315	627	345	629	464	715	95	35	75	6.9	299
MIN	2.8	3.8	5.5	3.9	5.4	9.4	8.0	5.8	5.2	3.3	3.1	3.1
CFSM	1.17	2.86	1.68	1.01	2.89	1.96	1.26	.49	.24	.37	.12	.68
IN.	.20	3.19	1.94	1.16	3.01	2.26	1.41	.57	.27	.43	.14	.75
CAL YR 1985	TOTAL	12024.8	MEAN	32.9	MAX	1180	MIN	1.2	CFSM	.95	IN.	12.93
WTR YR 1986	TOTAL	14259.9	MEAN	39.1	MAX	715	MIN	2.8	CFSM	1.13	IN.	15.33

STREAMS TRIBUTARY TO LAKE ERIE

04198000 SANDUSKY RIVER NEAR FREMONT, OH
(National stream quality accounting network station)

LOCATION.--Lat 41°18'28", long 83°09'32", in sec. 17, T.4 N., R.15 E., Sandusky County, Hydrologic Unit 04100011, on left bank at downstream side of county road bridge, 2.3 mi upstream from Ballville diversion dam, 2.5 mi downstream from Wolf Creek, and 3.5 mi southwest of Fremont.

DRAINAGE AREA.--1,251 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1898 to March 1901 (gage height and discharge measurements only, published at "at Fremont"), October 1923 to December 1935, July 1938 to current year. Monthly discharge only for October 1923, published in WSP 1307.

REVISED RECORDS.--WSP 744: 1931-32. WSP 874: 1938. WSP 1144: 1924-30. WSP 1387: 1925, 1928-29, 1931-35. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 626.3 ft above National Geodetic Vertical Datum of 1929. Nov. 18, 1898, to Mar. 10, 1901, nonrecording gage at site 4 mi downstream at different datum. Nov. 8, 1923, to Sept. 5, 1930, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 18 to Feb. 4 and Feb. 12-17. Records good except for periods of estimated record and August and September, which are poor.

AVERAGE DISCHARGE.--60 years (1923-35, 1938-86), 1,005 ft³/s, 10.91 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 36,500 ft³/s Mar. 16, 1978 gage height, 13.57 ft; maximum, gage height, 16.14 ft Feb. 24, 1979, (ice jam); minimum discharge, 4.4 ft³/s Feb. 29, 1964 (result of freezeup); minimum gage height, 0.78 ft Oct. 20, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 10,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Dec. 12	1030	11,400	6.44	Feb. 5	1730	*12,400	6.78
Jan. 20	0630	ice jam	*11.91				

Minimum daily discharge, 30 ft³/s Oct. 7.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	38	82	4900	520	860	679	420	467	371	696	130	91	
2	38	78	3600	490	1100	588	395	422	308	895	127	81	
3	39	101	2250	460	2000	551	370	376	309	1560	117	72	
4	32	703	1450	440	4000	561	375	348	276	1730	112	71	
5	33	1920	981	430	11600	642	381	332	329	1050	107	71	
6	32	2960	754	410	10900	1490	383	323	658	577	99	70	
7	30	1950	625	400	9420	2040	394	341	962	384	99	67	
8	39	1560	554	390	7340	1560	419	343	2330	297	110	64	
9	38	1050	521	380	4540	1110	392	334	1700	445	121	64	
10	33	1000	716	370	2310	1050	358	322	901	1420	175	66	
11	34	3530	5130	360	1460	5630	327	308	632	2480	248	69	
12	39	4650	10900	350	980	6110	300	299	459	3570	302	133	
13	46	3860	9550	350	800	7860	285	293	356	5340	220	286	
14	44	4200	8420	350	640	8740	268	288	305	5260	151	218	
15	180	4980	5460	350	500	7650	307	281	357	4510	119	150	
16	254	5620	2380	350	450	6060	360	977	1730	2640	113	113	
17	260	7740	1300	1000	400	3150	390	2530	1230	2200	205	92	
18	178	5160	1600	2000	600	1730	377	1890	688	1470	170	91	
19	215	3250	2100	3500	7620	3710	346	2020	502	891	117	167	
20	232	1940	2700	5200	6330	5660	378	1950	422	567	97	224	
21	218	1430	3500	3500	6280	4180	6830	1590	726	412	87	297	
22	212	1070	2200	2800	5370	2380	8080	1090	755	325	81	240	
23	191	907	1700	2000	4020	1350	5350	765	450	287	78	183	
24	147	786	1300	1600	2480	993	3470	614	314	251	78	149	
25	118	674	1100	1100	1660	817	1830	521	266	208	75	145	
26	101	893	940	896	1320	710	1200	446	224	191	76	421	
27	95	6130	820	1200	1100	656	874	508	191	183	124	1100	
28	91	8140	720	2000	833	610	690	608	254	199	249	4000	
29	88	8940	660	1600	---	555	590	528	866	190	242	2710	
30	84	7620	600	1200	---	507	519	474	1040	170	139	2190	
31	82	---	560	940	---	453	---	484	---	146	107	---	
TOTAL	3261	92924	79991	36936	96913	79782	36658	22072	19911	40544	4275	13695	
MEAN	105	3097	2580	1191	3461	2574	1222	712	664	1308	138	457	
MAX	260	8940	10900	5200	11600	8740	8080	2530	2330	5340	302	4000	
MIN	30	78	521	350	400	453	268	281	191	146	75	64	
CFSM	.08	2.48	2.06	.95	2.77	2.06	.98	.57	.53	1.05	.11	.37	
IN.	.10	2.76	2.38	1.10	2.88	2.37	1.09	.66	.59	1.21	.13	.41	
CAL YR 1985	TOTAL	448172		MEAN	1228	MAX	20700	MIN	25	CFSM	.98	IN.	13.33
WTR YR 1986	TOTAL	526962		MEAN	1444	MAX	11600	MIN	30	CFSM	1.15	IN.	15.67

STREAMS TRIBUTARY TO LAKE ERIE

51

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

WATER-QUALITY ANALYSES

PERIOD OF RECORD.--Water years 1951-56, 1978 to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: Water years 1951-1956, 1979 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,420 mg/L June 9, 1981; minimum daily mean, 1 mg/L on many days during 1952-1956, 1980, 1981.

SEDIMENT LOADS: Maximum daily, 124,000 tons June 14, 1981; minimum daily, less than 0.05 ton on several days during 1952 and 1954.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,110 mg/L Mar. 12; minimum daily mean, 7 mg/L Oct. 7, 8, 12.

SEDIMENT LOADS: Maximum daily, 18,300 tons Mar. 12; minimum daily, 0.57 ton Oct. 7.

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV 20...	1500	1810	480	8.10	1.5	10.0	55	10.2	91	1400
MAR 12...	0800	5990	360	7.50	0.0	5.0	610	11.8	95	1000
JUN 04...	0830	282	760	8.50	17.5	18.0	37	10.0	109	510
SEP 10...	1100	64	740	8.50	27.0	20.0	16	9.4	107	75

DATE	STREP- TOCOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
NOV 20...	740	64	17	8.1	4.0	132	63	26	0.2	9.6
MAR 12...	2400	40	11	8.0	3.7	78	50	18	0.3	5.9
JUN 04...	32	100	28	17	3.3	214	120	38	0.3	6.9
SEP 10...	240	70	31	26	5.2	144	180	43	0.5	0.3

DATE	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, CRTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)
NOV 20...	313	5.60	0.06	1.7	0.25	0.08	0.06	60	<1	45
MAR 12...	215	4.30	0.14	2.9	0.69	0.07	0.06	--	--	--
JUN 04...	486	4.50	0.02	0.8	0.16	0.06	0.03	10	1	58
SEP 10...	500	<0.10	0.06	0.6	0.13	0.04	0.01	30	2	65

STREAMS TRIBUTARY TO LAKE ERIE

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

WATER-QUALITY ANALYSES

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV 20...	2	<1	1	<3	14	150	5	20	11	<0.1
MAR 12...	--	--	--	--	--	--	--	--	--	--
JUN 04...	<0.5	<1	<1	<3	5	5	2	13	5	0.2
SEP 10...	<0.5	<1	<1	<3	6	17	<5	22	6	<0.1

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SED. SUSP. SIEVE DIAM. % FINER THAN .062 MM	SEDI- MENT, SUS- PENDED (MG/L)
NOV 20...	<10	5	<1	<1	840	<6	18	0	103
MAR 12...	--	--	--	--	--	--	--	2	992
JUN 04...	<10	<1	<1	<1	2100	<6	9	0	75
SEP 10...	10	4	<1	<1	3600	<6	9	1	137

STREAMS TRIBUTARY TO LAKE ERIE

53

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	38	14	1.4	82	12	2.7	4900	136	1800
2	38	12	1.2	78	9	1.9	3600	246	2390
3	39	10	1.1	101	9	2.5	2250	200	1220
4	32	11	.95	703	72	158	1450	111	435
5	33	9	.80	1920	86	446	981	74	196
6	32	9	.78	2960	131	1050	754	39	79
7	30	7	.57	1950	73	384	625	39	66
8	39	7	.74	1560	52	219	554	29	43
9	38	13	1.3	1050	38	108	521	22	31
10	33	8	.71	1000	43	116	716	39	91
11	34	9	.83	3530	122	1260	5130	217	3050
12	39	7	.74	4650	268	3360	10900	231	6800
13	46	10	1.2	3860	208	2170	9550	180	4640
14	44	19	2.3	4200	177	2010	8420	168	3820
15	180	40	19	4980	212	2850	5460	102	1500
16	254	32	22	5620	266	4040	2380	58	373
17	260	15	11	7740	308	6440	1300	50	175
18	178	16	7.7	5160	185	2580	1600	175	756
19	215	25	15	3250	137	1200	2100	122	692
20	232	35	22	1940	103	540	2700	233	1700
21	218	26	15	1430	73	282	3500	317	3000
22	212	28	16	1070	53	153	2200	219	1300
23	191	27	14	907	32	78	1700	200	918
24	147	24	9.5	786	30	64	1300	140	491
25	118	15	4.8	674	22	40	1100	100	297
26	101	14	3.8	893	44	126	940	75	190
27	95	15	3.8	6130	293	5030	820	70	155
28	91	13	3.2	8140	277	6090	720	60	117
29	88	9	2.1	8940	170	4100	660	50	89
30	84	10	2.3	7620	150	3090	600	50	81
31	82	14	3.1	---	---	---	560	45	68
TOTAL	3261	---	188.92	92924	---	47991.1	79991	---	36563
JANUARY			FEBRUARY			MARCH			
1	520	40	56	860	75	174	679	29	53
2	490	40	53	1100	95	569	588	25	40
3	460	40	50	2000	142	767	551	18	27
4	440	35	42	4000	166	2700	561	14	21
5	430	35	41	11600	409	12800	642	20	35
6	410	35	39	10900	253	7450	1490	62	249
7	400	35	38	9420	200	5090	2040	78	430
8	390	35	37	7340	150	2970	1560	65	274
9	380	30	31	4540	95	1160	1110	58	174
10	370	30	30	2310	69	430	1050	55	156
11	360	30	29	1460	49	193	5630	861	14800
12	350	30	28	980	34	90	6110	1110	18300
13	350	30	28	800	34	73	7860	560	11900
14	350	25	24	640	32	55	8740	520	12300
15	350	25	24	500	30	40	7650	454	9380
16	350	20	19	450	30	36	6060	359	5870
17	1000	120	324	400	30	32	3150	300	2550
18	2000	272	1470	600	64	668	1730	124	579
19	3500	250	2360	7620	273	5620	3710	382	3830
20	5200	332	4660	6330	162	2770	5660	664	10100
21	3500	215	2030	6280	157	2660	4180	453	5110
22	2800	102	771	5370	140	2030	2380	323	2080
23	2000	69	373	4020	128	1390	1350	182	663
24	1600	45	194	2480	53	355	993	108	290
25	1100	35	104	1660	57	255	817	83	183
26	896	26	63	1320	39	139	710	73	140
27	1200	62	568	1100	32	95	656	58	103
28	2000	226	1220	833	24	54	610	50	82
29	1600	175	756	---	---	---	555	46	69
30	1200	150	486	---	---	---	507	46	63
31	940	100	254	---	---	---	453	34	42
TOTAL	36936	---	16202	96913	---	50665	79782	---	99893

STREAMS TRIBUTARY TO LAKE ERIE

04198000 SANDUSKY RIVER NEAR FREMONT, OH--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	420	25	28	467	19	24	371	52	52
2	395	27	29	422	20	23	308	54	45
3	370	19	19	376	15	15	309	60	50
4	375	23	23	348	21	20	276	47	35
5	381	28	29	332	21	19	329	394	400
6	383	24	25	323	35	31	658	164	291
7	394	24	26	341	30	28	962	98	255
8	419	26	29	343	27	25	2330	178	1120
9	392	22	23	334	16	14	1700	410	1880
10	358	20	19	322	15	13	901	265	645
11	327	14	12	308	14	12	632	170	290
12	300	18	15	299	12	9.7	459	123	152
13	285	24	18	293	28	22	356	110	106
14	268	20	14	288	38	30	305	82	68
15	307	24	20	281	35	27	357	78	75
16	360	22	21	977	280	1420	1730	259	1210
17	390	25	26	2530	790	5400	1230	652	2170
18	377	25	25	1890	350	1790	688	260	483
19	346	50	47	2020	244	1330	502	233	316
20	378	60	61	1950	196	1030	422	184	210
21	6830	322	6560	1590	160	687	726	168	329
22	8080	180	3930	1090	128	377	755	154	314
23	5350	170	2460	765	93	192	450	181	220
24	3470	152	1420	614	83	138	314	126	107
25	1830	104	514	521	73	103	266	130	93
26	1200	100	324	446	72	87	224	107	65
27	874	69	163	508	88	121	191	80	41
28	690	35	65	608	85	140	254	90	62
29	590	24	38	528	75	107	866	177	414
30	519	18	25	474	65	83	1040	210	590
31	---	---	---	484	60	78	---	---	---
TOTAL	36658	---	16008	22072	---	13395.7	19911	---	12088
JULY			AUGUST			SEPTEMBER			
1	696	193	363	130	54	19	91	34	8.4
2	895	200	483	127	52	18	81	30	6.6
3	1560	196	826	117	58	18	72	30	5.8
4	1730	249	1160	112	58	18	71	30	5.8
5	1050	181	513	107	45	13	71	32	6.1
6	577	131	204	99	45	12	70	27	5.1
7	384	130	135	99	44	12	67	22	4.0
8	297	114	91	110	39	12	64	20	3.5
9	445	175	210	121	40	13	64	20	3.5
10	1420	386	1480	175	74	35	66	26	4.6
11	2480	331	2220	248	84	56	69	44	8.2
12	3570	363	3500	302	80	65	133	116	42
13	5340	587	8460	220	31	18	286	74	57
14	5260	516	7330	151	24	9.8	218	48	28
15	4510	354	4310	119	18	5.8	150	40	16
16	2640	231	1650	113	30	9.2	113	26	7.9
17	2200	264	1570	205	52	29	92	24	6.0
18	1470	179	710	170	34	16	91	36	8.8
19	891	128	308	117	30	9.5	167	61	28
20	567	95	145	97	31	8.1	224	65	39
21	412	102	113	87	32	7.5	297	85	68
22	325	90	79	81	26	5.7	240	62	40
23	287	78	60	78	26	5.5	183	60	30
24	251	76	52	78	36	7.6	149	55	22
25	208	66	37	75	31	6.3	145	50	20
26	191	50	26	76	28	5.7	421	149	497
27	183	53	26	124	58	19	1100	168	499
28	199	51	27	249	69	46	4000	365	3940
29	190	54	28	242	53	35	2710	307	2250
30	170	64	29	139	38	14	2190	214	1270
31	146	57	22	107	38	11	---	---	---
TOTAL	40544	---	36167	4275	---	559.7	13695	---	8930.3
YEAR	526962		338651.72						

STREAMS TRIBUTARY TO LAKE ERIE

55

04199160 OLD WOMAN'S CREEK ABOVE U.S. 6 AT HURON, OH

LOCATION.--Lat 41°22'37", long 82°30'37", Erie County, Hydrologic Unit 04100012, about 0.5 mi south of bridge on U.S. Highway 6 and State Highway 2, 0.75 mi east of Huron.

DRAINAGE AREA.--26.3 mi².

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

GAGE.-- Water-stage recorder. Datum of gage is 560.00 ft above National Geodetic Vertical Datum of 1929. Oct. 1982 to Sept. 1985 at same site at datum 0.10 ft lower.

REMARKS.--Interruptions in record are due to malfunctions of the instruments.

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded gage height, 17.56 ft April 6, 1982; minimum recorded gage height, 12.02 ft Jan. 7, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 16.90 ft July 13; minimum recorded gage height 12.91 ft, Dec. 28.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.43		---	13.68	14.21	14.29	14.76	---	14.89	15.48	15.80	15.55
2	15.41		---	13.95	14.13	14.33	14.82	---	15.64	15.52	15.78	15.54
3	15.39		---	14.09	14.21	14.43	14.97	14.91	15.12	15.56	15.75	15.53
4	15.38		---	14.14	14.53	14.34	15.14	14.71	14.93	15.58	15.74	15.53
5	15.37		14.29	14.17	14.61	14.34	15.12	14.59	15.07	15.56	15.72	15.50
6	15.35		14.48	13.74	15.03	14.24	---	14.67	15.58	15.54	15.69	15.47
7	15.33		14.56	13.91	15.37	14.45	---	14.82	15.26	15.53	15.71	15.46
8	15.32		14.58	13.75	14.34	14.38	---	14.87	15.09	15.52	15.70	15.44
9	15.31		14.59	13.09	14.14	14.43	---	15.19	15.36	15.65	15.66	15.42
10	15.26		14.68	13.46	14.25	14.39	---	14.99	15.19	15.78	15.71	15.43
11	15.15		15.16	13.70	14.38	14.53	---	14.79	15.09	15.92	15.78	15.46
12	15.31		14.71	13.45	14.11	14.98	---	14.95	15.23	16.19	15.76	15.57
13	15.31		14.64	13.38	13.97	15.09	---	15.00	15.15	16.79	15.75	15.56
14	15.31		14.09	13.46	14.16	14.75	---	14.80	15.33	16.82	15.72	15.53
15	15.40		13.38	13.53	14.12	14.70	---	14.74	15.39	16.71	15.70	15.53
16	---		13.76	13.62	14.42	14.70	---	15.00	15.20	16.67	15.69	15.54
17	---		14.03	13.78	14.45	14.73	---	14.77	15.64	16.62	15.68	15.52
18	---		13.71	14.48	14.41	14.81	---	14.72	15.33	16.54	15.68	15.52
19	---		13.87	14.43	14.52	14.59	---	15.08	15.17	16.47	15.66	15.51
20	---		14.34	14.28	14.44	15.09	---	15.04	15.47	16.40	15.64	15.52
21	---		13.92	14.00	14.95	14.81	---	14.98	15.48	16.31	15.62	15.51
22	---		13.69	13.99	14.67	14.59	---	15.01	15.33	16.13	15.61	15.50
23	---		13.87	14.19	14.55	14.62	---	14.96	15.26	16.03	15.60	15.56
24	---		13.86	14.27	14.51	14.97	---	14.98	15.33	15.98	15.57	15.59
25	---		13.86	13.90	14.45	14.76	---	15.02	15.38	15.95	15.56	15.63
26	---		13.44	14.07	14.70	14.64	---	15.10	15.36	15.92	15.57	15.66
27	---		13.23	14.98	14.67	14.79	---	15.14	15.36	15.90	15.65	15.97
28	---		13.31	14.83	14.30	14.73	---	15.01	15.39	15.86	15.63	16.39
29	---		13.45	14.17	---	14.64	---	14.94	15.40	15.84	15.60	16.39
30	---		13.45	14.04	---	14.66	---	14.91	15.46	15.82	15.58	16.30
31	---		13.55	14.06	---	14.86	---	14.85	---	15.80	15.54	---
MEAN	---		---	13.95	14.45	14.63	---	---	15.30	16.01	15.67	15.62
MAX	---		---	14.98	15.37	15.09	---	---	15.64	16.82	15.80	16.39
MIN	---		---	13.09	13.97	14.24	---	---	14.89	15.48	15.54	15.42

STREAMS TRIBUTARY TO LAKE ERIE

04199165 OLD WOMAN'S CREEK AT U.S. 6 AT HURON, OH

LOCATION.--Lat 41°22'51", long 82°30'53", Erie County, Hydrologic Unit 04100012, on left bank at U.S. Highway 6 and State Highway 2 bridge, 0.75 mi east of Huron.

DRAINAGE AREA.--26.5 mi².

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

GAGE.--Water-stage recorder. Datum of gage is 560.00 ft above National Geodetic Vertical Datum of 1929. Oct. 1982 to Sept. 1985 at same site at datum 0.10 ft lower.

REMARKS.--Interruptions in record are due to malfunctions of the instruments.

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded gage height, 16.85 ft Mar. 29, 1985; minimum recorded gage height, 10.88 ft Jan. 10,11, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 16.80 ft July 13, 14; minimum recorded gage height, 14.26 ft Mar. 19.

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1						---	14.75	14.79	15.00	15.45	15.79	15.59
2						---	14.82	14.99	15.61	15.48	15.77	15.57
3						---	14.98	14.97	15.16	15.51	15.76	15.56
4						---	15.16	14.79	14.94	15.53	15.73	15.55
5						---	15.15	14.69	15.12	15.54	15.71	15.54
6						---	14.91	14.76	15.57	15.53	15.70	15.52
7						---	14.83	14.90	15.25	15.50	15.71	15.49
8						---	14.83	14.95	15.10	15.50	15.71	15.48
9						---	15.05	15.27	15.37	15.62	15.70	15.46
10						---	15.18	15.00	15.18	15.74	15.71	15.45
11						---	15.31	14.91	15.11	15.88	15.76	15.47
12						---	15.42	15.07	15.22	16.14	15.75	15.59
13						---	15.54	15.13	15.17	16.73	15.74	15.59
14						---	15.67	14.90	15.33	16.75	15.73	15.59
15						---	15.91	---	15.38	16.63	15.73	15.57
16						---	14.90	---	15.18	16.57	15.70	15.56
17						---	15.26	---	15.60	16.51	15.70	15.56
18						---	14.97	---	15.30	16.43	15.68	15.55
19						14.57	14.91	---	15.15	16.34	15.67	15.56
20						15.04	15.06	---	15.46	16.27	15.66	15.56
21						14.76	15.70	15.02	15.46	16.19	15.65	15.56
22						14.55	15.37	15.03	15.30	16.11	15.63	15.54
23						14.60	15.08	15.01	15.24	16.04	15.62	15.58
24						14.94	14.97	15.03	15.28	15.97	15.60	15.62
25						14.74	15.00	15.08	15.34	15.93	15.58	15.66
26						14.63	15.02	15.16	15.34	15.92	15.59	15.68
27						14.78	15.01	15.19	15.36	15.89	15.65	15.99
28						14.72	14.96	15.06	15.37	15.86	15.64	16.42
29						14.63	14.79	14.99	15.38	15.84	15.63	16.43
30						14.65	14.93	14.96	15.43	15.81	15.62	16.32
31						14.89	---	14.90	---	15.80	15.60	---
MEAN						---	15.11	---	15.29	15.97	15.68	15.65
MAX						---	15.91	---	15.61	16.75	15.79	16.43
MIN						---	14.75	---	14.94	15.45	15.58	15.45

STREAMS TRIBUTARY TO LAKE ERIE

04199170 LAKE ERIE AT HURON, OH

LOCATION.--Lat 41°23'09", long 82°30'49", Erie County, Hydrologic Unit 04100012, about 600 ft off shore of mouth of Old Woman's Creek, 0.75 mi east of Huron.

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

GAGE.--Water-stage recorder. Datum of gage is 560.00 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Interruptions in record are due to malfunctions of the instruments. Records for 1985 are considered unreliable.

EXTREMES FOR PERIOD OF RECORD.--Maximum recorded gage height, 18.03 ft July 29, 1981; minimum recorded gage height, 4.80 ft Jan. 17, 1982.

EXTREMES FOR CURRENT YEAR.--Maximum recorded gage height, 18.37 ft Sept. 26 (unreliable); minimum recorded gage height, 11.65 ft Jan. 21 (unreliable).

GAGE HEIGHT (FEET ABOVE DATUM), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.03	16.04	39.31	26.84	17.24	17.02	16.56	16.58	16.75	17.08	39.29	3.53
2	15.14	15.56	39.06	27.43	17.04	17.06	16.79	16.89	17.31	16.99	39.31	3.53
3	14.69	15.15	37.61	27.83	17.29	17.17	16.91	16.85	17.01	17.05	15.40	3.53
4	14.54	16.20	35.82	28.16	17.11	17.07	17.09	16.76	16.73	16.81	3.53	3.53
5	14.67	15.89	27.26	27.01	16.66	17.10	17.00	16.49	16.85	16.70	3.53	3.53
6	15.26	15.86	28.11	19.18	17.60	16.94	16.70	16.44	17.14	16.70	3.53	3.53
7	14.33	15.88	28.28	17.16	17.59	17.17	16.64	16.59	16.92	16.69	3.53	3.53
8	14.28	15.77	28.25	17.20	16.88	17.17	16.68	16.75	16.76	16.84	3.53	3.53
9	14.27	16.21	28.84	16.46	16.78	17.14	16.84	17.07	17.06	16.79	3.53	3.53
10	14.85	17.30	28.71	16.79	16.85	16.72	16.90	16.86	16.91	16.85	3.53	3.53
11	16.72	18.99	29.17	16.84	16.97	16.84	16.79	16.79	16.80	17.01	3.53	3.53
12	16.41	20.32	29.31	16.19	16.82	17.71	16.93	16.93	16.89	16.91	3.53	3.53
13	14.61	24.83	29.62	17.15	16.81	17.39	16.94	16.91	16.93	16.76	3.53	3.53
14	14.64	29.16	27.30	17.16	16.95	17.31	17.03	16.69	17.05	16.84	3.53	3.53
15	15.80	31.79	25.86	17.15	16.86	17.28	16.70	16.61	17.10	16.98	3.53	3.53
16	15.46	32.91	27.11	17.01	17.13	17.34	16.86	16.58	16.84	16.91	3.53	3.53
17	14.70	33.88	26.37	16.64	17.00	17.46	16.90	16.70	17.28	16.90	3.53	3.53
18	15.17	37.39	25.56	16.71	16.81	17.40	16.89	16.64	17.09	16.75	3.53	3.53
19	15.33	36.34	25.74	17.17	17.02	16.54	16.76	17.01	16.94	16.87	3.53	3.53
20	16.08	37.24	26.28	16.98	17.09	17.03	16.85	16.98	17.17	16.91	3.53	3.53
21	15.64	39.31	25.73	17.11	17.67	16.78	16.89	17.00	17.17	17.17	3.53	3.53
22	15.17	38.65	25.63	16.84	17.40	16.58	17.18	16.98	16.91	17.01	3.53	3.53
23	14.66	39.15	26.90	17.39	16.97	16.48	17.02	16.89	16.93	16.97	3.53	3.53
24	14.54	38.85	26.86	17.47	17.21	16.91	16.84	16.86	17.10	16.96	3.53	3.53
25	15.09	39.31	25.63	17.30	17.16	16.61	16.83	16.91	17.06	16.81	3.53	3.53
26	14.55	39.31	25.40	17.25	17.47	16.41	16.87	16.98	16.96	16.98	3.53	3.53
27	14.63	39.31	25.28	21.07	17.59	16.74	16.85	16.93	16.76	16.97	3.53	3.53
28	15.66	39.31	25.17	22.72	16.97	16.67	16.69	16.89	16.85	16.82	3.53	3.53
29	15.67	39.31	25.47	20.89	---	16.38	16.53	16.80	16.94	21.23	3.53	3.53
30	15.42	39.31	25.63	17.06	---	16.31	16.71	16.71	17.15	31.32	3.53	3.53
31	16.08	---	26.63	17.14	---	16.79	---	16.65	---	38.61	3.53	---
MEAN	15.13	28.48	28.32	19.20	17.10	16.95	16.84	16.80	16.98	18.20	6.22	3.53
MAX	16.72	39.31	39.31	28.16	17.67	17.71	17.18	17.07	17.31	38.61	39.31	3.53
MIN	14.27	15.15	25.17	16.19	16.66	16.31	16.53	16.44	16.73	16.69	3.53	3.53
CAL YR 1985	MEAN	17.61	MAX	39.31	MIN	12.03						
WTR YR 1986	MEAN	16.98	MAX	29.31	MIN	3.53						

STREAMS TRIBUTARY TO LAKE ERIE

04200500 BLACK RIVER AT ELYRIA, OH

LOCATION.--Lat 41°22'49", long 82°06'17", in T.6 N., R.17 W., Lorain County, Hydrologic Unit 04110001, on left bank in Cascade Park at Elyria, 0.8 mi downstream from confluence of East and West Branches.

DRAINAGE AREA.--396 mi².

PERIOD OF RECORD.--October 1944 to current year. Records for May 1903 to July 1906 (published as "near Elyria") published in WSP 97, 129, and 205, are unreliable and should not be used.

REVISED RECORDS.--WSP 1912: Drainage area. See also PERIOD OF RECORD.

GAGE.--Water-stage recorder. Datum of gage is 620.83 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Dec. 18 to Jan. 18, Jan. 28 to Feb. 1. Records good except for periods of estimated record, which are fair. Some regulation at low flow for industrial use. Water-quality data collected at this site 1969 to 1974. Sediment data collected 1970 to 1974.

AVERAGE DISCHARGE.--42 years, 333 ft³/s, 11.42 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 51,700 ft³/s July 6, 1969, gage height, 26.4 ft, (from flood mark), from rating curve extended above 13,000 ft³/s on basis of slope-area measurement of peak flow; no flow for part of Oct. 10, 1956 (result of temporary storage at dam upstream).

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 3,200 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 6	0530	4,130	9.38	Jan. 20	0200	3,400	8.47
Nov. 17	0700	3,240	8.27	Feb. 5	1030	4,890	10.24
Dec. 12	1430	4,690	10.02	Mar. 14	0930	*5,260	*10.64

Minimum daily discharge, 5.2 ft³/s Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	21	510	94	120	197	94	99	51	36	9.8	8.5
2	9.8	25	555	94	1240	180	83	83	39	42	9.0	9.5
3	8.4	175	525	100	1600	190	74	72	43	70	7.5	10
4	8.8	624	317	110	1940	274	81	65	35	106	7.7	12
5	9.3	2590	232	120	4710	383	89	61	47	71	7.4	18
6	11	3750	223	140	2740	472	135	75	143	47	7.6	10
7	8.3	2100	247	110	1200	438	143	108	125	33	22	8.2
8	7.4	943	254	94	2080	265	178	91	160	26	12	6.7
9	12	644	237	86	929	257	156	91	107	255	12	6.0
10	13	885	376	80	484	675	135	70	114	201	22	5.2
11	15	2310	2760	76	286	2190	181	57	69	168	17	27
12	9.9	1930	4550	74	253	1530	223	51	102	301	12	41
13	14	992	2710	72	209	3450	195	47	140	235	11	20
14	19	1100	860	70	197	4710	170	43	61	93	11	13
15	50	1790	426	70	142	1930	317	43	41	53	9.0	10
16	28	2050	358	70	149	868	475	366	45	59	17	14
17	23	3050	251	130	149	525	376	257	47	40	8.5	14
18	42	1440	230	600	870	378	263	140	75	30	8.8	19
19	74	599	210	2670	2180	1080	207	499	57	22	8.3	11
20	49	398	190	2990	2050	1470	490	866	43	20	7.8	7.5
21	31	292	170	1490	2070	586	1690	407	35	17	8.4	8.2
22	22	357	160	892	2030	340	1070	229	44	15	7.8	8.7
23	19	431	150	710	1040	272	901	171	38	13	9.1	35
24	27	267	140	451	626	237	568	145	26	12	9.7	22
25	21	201	130	315	438	207	338	116	20	12	6.8	48
26	21	644	130	258	349	185	240	91	16	15	40	35
27	21	2580	120	154	278	168	199	86	16	10	22	136
28	29	2120	110	140	198	154	175	77	64	10	10	208
29	22	1940	110	130	---	138	141	68	117	11	9.2	74
30	23	881	100	130	---	122	115	62	49	9.6	8.8	121
31	21	---	96	125	---	107	---	56	---	9.2	7.8	---
TOTAL	683.9	37129	17437	12645	30557	23978	9502	4692	1969	2041.8	367.0	966.5
MEAN	22.1	1238	562	408	1091	773	317	151	65.6	65.9	11.8	32.2
MAX	74	3750	4550	2990	4710	4710	1690	866	160	301	40	208
MIN	7.4	21	96	70	120	107	74	43	16	9.2	6.8	5.2
CFSM	.06	3.13	1.42	1.03	2.76	1.95	.80	.38	.17	.17	.03	.08
IN.	.06	3.49	1.64	1.19	2.87	2.25	.89	.44	.18	.19	.03	.09
CAL YR 1985	TOTAL	144448.0	MEAN	396	MAX	12800	MIN	6.9	CFSM	1.00	IN.	13.57
WTR YR 1986	TOTAL	141968.2	MEAN	389	MAX	4710	MIN	5.2	CFSM	.98	IN.	13.34

STREAMS TRIBUTARY TO LAKE ERIE

59

04201500 ROCKY RIVER NEAR BERE, OH

LOCATION.--Lat 41°24'24", long 81°53'14", in T.6 N., R.15 W., Cuyahoga County, Hydrologic Unit 04110001, on right bank at downstream side of Cedar Point Road Bridge in Rocky River Reservation, just downstream from confluence of East and West Branches, and 3.0 mi northwest of Berea.

DRAINAGE AREA.--267 mi².

PERIOD OF RECORD.--October 1923 to September 1935, September 1943 to current year. Monthly discharge only for October 1923, published in WSP 1307.

REVISED RECORDS.--WSP 1437: 1924, 1925(M), 1926, 1927(M), 1928-29, 1930-35(M), 1945. WSP 1912: Drainage area. WRD-OH-2-1983: 1978-1982(M).

GAGE.--Water-stage recorder. Datum of gage is 649.90 ft above National Geodetic Vertical Datum of 1929 (Cuyahoga County bench mark). Prior to Sept. 30, 1935, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 18 to Jan. 17, Jan. 28 to Feb. 1. Records good except for period of estimated record, which is fair. Some regulation at low flow by small reservoirs on East Branch. Some inter-basin transfer of water from Lake Erie for municipal water supply by Cleveland Metro Water District. Water-quality data collected at this site 1964 to 1977.

AVERAGE DISCHARGE.--55 years, 272 ft³/s, 13.84 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,400 ft³/s Jan. 22, 1959, gage height, 14.10 ft, from rating curve extended above 11,000 ft³/s on basis of contracted-opening measurement of peak flow; maximum gage height, 18.6 ft June 29, 1924 (backwater caused by tornado); minimum daily discharge, 0.2 ft³/s Sept. 2, 1932, Aug. 22, 27, 30, 1933.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 20.9 ft.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 4,000 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 5	2100	*6,530	*5.74	Feb. 5	0130	4,920	5.05
Nov. 16	2300	4,020	4.61	Mar. 13	1600	5,400	5.27
Dec. 11	1930	4,650	4.92				

Minimum daily discharge, 25 ft³/s Aug. 22, 25, Sept. 4, 9, 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	52	36	353	150	450	158	98	93	77	72	34	26
2	50	37	481	150	1640	153	96	87	74	365	34	26
3	44	185	342	160	840	178	92	80	63	199	30	26
4	44	806	229	180	1880	237	103	71	63	97	29	25
5	40	4810	202	200	3470	258	133	70	140	67	28	43
6	40	3690	250	180	954	296	209	78	670	52	28	31
7	37	940	337	160	730	242	277	501	318	43	43	28
8	34	636	305	140	712	165	163	275	461	42	37	26
9	36	425	259	130	450	263	181	125	227	650	31	25
10	36	1410	408	120	319	1000	343	110	112	453	35	25
11	43	2430	3180	120	236	2330	452	86	85	266	49	31
12	39	850	2610	110	196	692	378	73	736	480	45	156
13	53	776	873	110	161	3860	226	65	323	355	39	69
14	99	1100	518	110	162	1900	179	57	129	146	33	48
15	274	1440	360	100	148	1010	343	44	143	87	29	37
16	104	2160	330	100	151	555	320	236	305	75	46	31
17	57	2160	232	250	260	377	299	136	337	76	39	29
18	54	644	220	1940	1970	297	245	93	169	62	32	46
19	228	398	210	2700	1950	957	171	1190	120	51	30	45
20	102	302	200	1960	1330	606	391	897	113	46	29	51
21	59	229	190	755	1810	319	656	355	93	41	26	44
22	46	289	180	613	1010	252	449	238	79	37	25	49
23	39	243	180	487	713	228	299	201	160	33	28	112
24	119	183	170	308	417	195	207	148	88	31	28	82
25	124	156	170	254	341	163	167	109	72	31	25	213
26	96	809	160	229	261	145	142	87	60	78	86	110
27	57	2220	160	203	230	148	124	193	56	43	115	401
28	43	1530	160	200	188	142	109	329	143	38	52	921
29	38	1010	150	190	---	128	98	169	121	36	45	210
30	34	497	150	180	---	119	93	107	82	37	34	288
31	35	---	150	180	---	106	---	82	---	34	29	---
TOTAL	2156	32401	13719	12669	22979	17479	7043	6385	5619	4123	1193	3254
MEAN	69.5	1080	443	409	821	564	235	206	187	133	38.5	108
MAX	274	4810	3180	2700	3470	3860	656	1190	736	650	115	921
MIN	34	36	150	100	148	106	92	44	56	31	25	25
CFSM	.26	4.04	1.66	1.53	3.07	2.11	.88	.77	.70	.50	.14	.40
IN.	.30	4.51	1.91	1.77	3.20	2.44	.98	.89	.78	.57	.17	.45
CAL YR 1985	TOTAL	134833	MEAN	369	MAX	7470	MIN	26	CFSM	1.38	IN.	18.79
WTR YR 1986	TOTAL	129020	MEAN	353	MAX	4810	MIN	25	CFSM	1.32	IN.	17.98

STREAMS TRIBUTARY TO LAKE ERIE

04202000 CUYAHOGA RIVER AT HIRAM RAPIDS, OH

LOCATION.--Lat 41°20'26", long 81°10'01", in T.5 N., R.7 W., Portage County, Hydrologic Unit 04110002, on left bank at downstream side of bridge on Winchell Road at Hiram Rapids, 0.6 mi downstream from Black Brook.

DRAINAGE AREA.--151 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--August 1927 to December 1935 (published as "near Hiram"), October 1944 to current year.

REVISED RECORDS.--WSP 1054: 1945. WSP 1437: 1931. WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,087.46 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 26, 1927, nonrecording gage and Aug. 26, 1927, to Dec. 31, 1935, water-stage recorder, at site 2.8 mi downstream at different datum. Oct. 20, 1944, to Oct. 22, 1946, nonrecording gage at present site and datum.

REMARKS.--Estimated daily discharges: Dec. 19 to Jan. 1, Jan. 8, 9, 14-16, Jan. 28 to Feb. 1. Records good except for estimated daily discharges, which are fair. Flow regulated by East Branch Reservoir, usable capacity, 4,140 acre-ft, 14.6 mi upstream since 1939 and by LaDue Reservoir, usable capacity, 18,110 acre-ft, 9.8 mi upstream since 1961. Water-quality data collected at this site 1965 to 1977.

AVERAGE DISCHARGE.--50 years, 210 ft³/s, 18.89 in/yr, unadjusted.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3,670 ft³/s Jan. 23, 1959, gage height, 8.11 ft, from rating curve extended above 2,600 ft³/s; minimum daily, 6.6 ft³/s Sept. 10, 1933.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 1,730 ft³/s June 14, gage height, 5.11 ft; minimum daily, 17 ft³/s Oct. 1

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	17	65	621	120	140	203	95	69	100	80	55	23	
2	19	67	545	122	188	165	77	69	80	97	55	21	
3	21	76	480	122	242	149	59	59	56	110	55	60	
4	21	130	391	129	348	149	54	52	45	105	57	104	
5	20	483	325	139	704	153	54	57	43	81	56	105	
6	21	909	275	145	1100	158	70	61	68	55	54	88	
7	24	1400	240	155	1230	156	127	159	143	42	55	82	
8	26	1360	226	140	1020	169	130	227	191	37	58	78	
9	25	1080	217	130	794	153	116	321	235	180	61	76	
10	37	905	212	123	606	213	121	347	240	336	61	75	
11	55	822	311	116	475	423	146	293	222	503	63	74	
12	65	757	479	114	343	648	165	209	351	572	63	83	
13	69	729	665	115	287	850	173	142	1130	525	60	88	
14	70	678	746	110	250	952	171	92	1690	453	57	85	
15	78	612	686	110	163	1050	166	72	1400	369	55	82	
16	89	618	566	110	145	957	159	78	1130	286	64	81	
17	91	738	453	111	136	777	160	90	1010	211	86	82	
18	86	866	361	202	203	609	167	77	911	157	82	82	
19	92	867	280	391	377	483	169	112	770	118	67	79	
20	116	746	230	735	613	409	164	247	627	84	57	66	
21	127	612	200	1150	819	354	179	461	506	60	51	59	
22	123	492	180	1240	865	306	205	679	402	45	48	67	
23	109	396	160	1050	823	263	208	713	335	36	46	122	
24	102	322	150	890	715	224	188	620	259	30	48	148	
25	109	256	150	636	576	183	160	501	197	43	48	182	
26	98	236	140	489	445	166	132	391	151	56	33	266	
27	87	350	140	376	349	166	113	297	123	56	34	393	
28	78	520	130	290	263	146	102	229	107	56	45	500	
29	71	684	130	240	---	142	95	187	92	57	40	534	
30	68	694	130	200	---	141	82	157	83	59	32	487	
31	65	---	120	160	---	127	---	128	---	58	27	---	
TOTAL	2079	18470	9939	10160	14219	11044	4007	7196	12697	4957	1673	4272	
MEAN	67.1	616	321	328	508	356	134	232	423	160	54.0	142	
MAX	127	1400	746	1240	1230	1050	208	713	1690	572	86	534	
MIN	17	65	120	110	136	127	54	52	43	30	27	21	
CFSM	.44	4.08	2.13	2.17	3.36	2.36	.89	1.54	2.80	1.06	.36	.94	
IN.	.51	4.55	2.45	2.50	3.50	2.72	.99	1.77	3.13	1.22	.41	1.05	
CAL YR 1985	TOTAL	95037		MEAN	260	MAX	2740	MIN	17	CFSM	1.72	IN.	23.41
WTR YR 1986	TOTAL	100713		MEAN	276	MAX	1690	MIN	17	CFSM	1.83	IN.	24.81

STREAMS TRIBUTARY TO LAKE ERIE

61

04202000 CUYAHOGA RIVER AT HIRAM RAPIDS, OHIO--Continued

SEDIMENT ANALYSIS

PERIOD OF RECORD.--February 1985 to September, 1986 (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED SEDIMENT DISCHARGE: February 1985 to September, 1986 (discontinued).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 56 mg/L Jan. 25, 1986; minimum daily mean, 2 mg/L Nov. 25, 1985.

SEDIMENT LOADS: Maximum daily, 134 tons June 13, 1986; minimum daily, 0.23 ton Oct. 3, 6, 1985.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 56 mg/L Jan. 25; minimum daily mean, 2 mg/L Nov. 25.

SEDIMENT LOADS: Maximum daily, 134 tons June 13; minimum daily, 0.23 ton Oct. 3, 6.

STREAMS TRIBUTARY TO LAKE ERIE

04202000 CUYAHOGA RIVER AT HIRAM RAPIDS, OH

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	17	30	1.4	65	22	3.9	621	4	6.7
2	19	13	.67	67	22	4.0	545	6	8.8
3	21	4	.23	76	22	4.5	480	5	6.5
4	21	13	.74	130	28	9.8	391	5	5.3
5	20	7	.38	483	42	55	325	3	2.6
6	21	4	.23	909	28	69	275	12	8.9
7	24	4	.26	1400	18	68	240	5	3.2
8	26	7	.49	1360	10	37	226	6	3.7
9	25	15	1.0	1080	7	20	217	7	4.1
10	37	18	1.8	905	6	15	212	8	4.6
11	55	21	3.1	822	7	16	311	17	14
12	65	22	3.9	757	5	10	479	6	7.8
13	69	22	4.1	729	4	7.9	665	6	11
14	70	23	4.3	678	7	13	746	6	12
15	78	23	4.8	612	4	6.6	686	4	7.4
16	89	23	5.5	618	4	6.7	566	4	6.1
17	91	23	5.7	738	5	10	453	4	4.9
18	86	23	5.3	866	5	12	361	6	5.8
19	92	23	5.7	867	6	14	280	6	4.5
20	116	23	7.2	746	4	8.1	230	20	12
21	127	23	7.9	612	4	6.6	200	3	1.6
22	123	23	7.6	492	4	5.3	180	4	1.9
23	109	15	4.4	396	4	4.3	160	4	1.7
24	102	20	5.5	322	3	2.6	150	26	11
25	109	23	6.8	256	2	1.4	150	5	2.0
26	98	23	6.1	236	4	2.5	140	5	1.9
27	87	13	3.1	350	8	7.6	140	4	1.5
28	78	36	7.6	520	7	9.8	130	3	1.1
29	71	10	1.9	684	6	11	130	3	1.1
30	68	26	4.8	694	7	13	130	7	2.5
31	65	22	3.9	---	---	---	120	4	1.3
TOTAL	2079	---	116.40	18470	---	454.6	9939	---	167.5
JANUARY			FEBRUARY			MARCH			
1	120	3	.97	140	4	1.5	203	5	2.7
2	122	4	1.3	188	4	2.0	165	8	3.6
3	122	4	1.3	242	5	3.3	149	7	2.8
4	129	4	1.4	348	5	4.7	149	5	2.0
5	139	4	1.5	704	7	13	153	5	2.1
6	145	26	10	1100	7	21	158	5	2.1
7	155	20	8.4	1230	8	27	156	6	2.5
8	140	6	2.3	1020	15	41	169	7	3.2
9	130	4	1.4	794	21	45	153	8	3.3
10	123	16	5.3	606	43	70	213	10	5.8
11	116	20	6.3	475	8	10	423	20	23
12	114	5	1.5	343	7	6.5	648	16	28
13	115	15	4.7	287	6	4.6	850	10	23
14	110	16	4.8	250	7	4.7	952	11	28
15	110	22	6.5	163	8	3.5	1050	10	28
16	110	5	1.5	145	9	3.5	957	8	21
17	111	40	12	136	10	3.7	777	7	15
18	202	10	5.5	203	14	7.7	609	6	9.9
19	391	6	6.3	377	8	8.1	483	7	9.1
20	735	12	24	613	6	9.9	409	8	8.8
21	1150	7	22	819	9	20	354	6	5.7
22	1240	10	33	865	7	16	306	6	5.0
23	1050	20	57	823	5	11	263	7	5.0
24	890	45	108	715	4	7.7	224	8	4.8
25	636	56	96	576	4	6.2	183	12	5.9
26	489	3	4.0	445	5	6.0	166	14	6.3
27	376	6	6.1	349	5	4.7	166	13	5.8
28	290	16	13	263	5	3.6	146	18	7.1
29	240	12	7.8	---	---	---	142	18	6.9
30	200	5	2.7	---	---	---	141	25	9.5
31	160	5	2.2	---	---	---	127	26	8.9
TOTAL	10160	---	458.77	14219	---	365.9	11044	---	294.8

STREAMS TRIBUTARY TO LAKE ERIE

04202000 CUYAHOGA RIVER AT HIRAM RAPIDS, OH

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	95	30	7.7	69	20	3.7	100	22	5.9
2	77	28	5.8	69	23	4.3	80	25	5.4
3	59	23	3.7	59	20	3.2	56	32	4.8
4	54	22	3.2	52	16	2.2	45	34	4.1
5	54	26	3.8	57	19	2.9	43	24	2.8
6	70	18	3.4	61	19	3.1	68	23	4.2
7	127	28	9.6	159	27	12	143	15	5.8
8	130	26	9.1	227	20	12	191	18	9.3
9	116	12	3.8	321	13	11	235	12	7.6
10	121	12	3.9	347	8	7.5	240	12	7.8
11	146	4	1.6	293	9	7.1	222	12	7.2
12	165	10	4.5	209	12	6.8	351	19	18
13	173	9	4.2	142	20	7.7	1130	44	134
14	171	16	7.4	92	21	5.2	1690	16	73
15	166	19	8.5	72	24	4.7	1400	9	34
16	159	17	7.3	78	25	5.3	1130	8	24
17	160	9	3.9	90	23	5.6	1010	6	16
18	167	9	4.1	77	26	5.4	911	5	12
19	169	23	10	112	30	9.1	770	4	8.3
20	164	23	10	247	23	15	627	4	6.8
21	179	26	13	461	19	24	506	4	5.5
22	205	18	10	679	13	24	402	5	5.4
23	208	8	4.5	713	9	17	335	5	4.5
24	188	11	5.6	620	6	10	259	6	4.2
25	160	18	7.8	501	8	11	197	10	5.3
26	132	23	8.2	391	23	24	151	10	4.1
27	113	18	5.5	297	10	8.0	123	12	4.0
28	102	22	6.1	229	12	7.4	107	14	4.0
29	95	20	5.1	187	18	9.1	92	12	3.0
30	82	25	5.5	157	20	8.5	83	14	3.1
31	---	---	---	128	24	8.3	---	---	---
TOTAL	4007	---	186.8	7196	---	285.1	12697	---	434.1
JULY			AUGUST			SEPTEMBER			
1	80	16	3.5	55	15	2.2	23	12	.75
2	97	18	4.7	55	23	3.4	21	13	.74
3	110	18	5.3	55	16	2.4	60	14	2.3
4	105	18	5.1	57	12	1.8	104	15	4.2
5	81	18	3.9	56	12	1.8	105	16	4.5
6	55	18	2.7	54	14	2.0	88	17	4.0
7	42	11	1.2	55	16	2.4	82	17	3.8
8	37	12	1.2	58	20	3.1	78	17	3.6
9	180	14	6.8	61	27	4.1	76	16	3.3
10	336	15	14	61	17	2.8	75	18	3.6
11	503	16	22	63	12	2.0	74	16	3.2
12	572	7	11	63	12	2.0	83	16	3.6
13	525	10	14	60	12	1.9	88	16	3.8
14	453	6	7.3	57	13	2.0	85	16	3.7
15	369	6	6.0	55	12	1.8	82	12	2.7
16	286	6	4.6	64	14	2.4	81	13	2.8
17	211	7	4.0	86	15	3.5	82	14	3.1
18	157	8	3.4	82	18	4.0	82	14	3.1
19	118	9	2.9	67	15	2.7	79	13	2.8
20	84	9	2.0	57	16	2.5	66	12	2.1
21	60	12	1.9	51	18	2.5	59	12	1.9
22	45	15	1.8	48	17	2.2	67	17	3.1
23	36	13	1.3	46	16	2.0	122	17	5.6
24	30	11	.89	48	15	1.9	148	17	6.8
25	43	12	1.4	48	18	2.3	182	16	7.9
26	56	13	2.0	33	15	1.3	266	14	10
27	56	14	2.1	34	12	1.1	393	11	12
28	56	18	2.7	45	14	1.7	500	11	15
29	57	22	3.4	40	15	1.6	534	10	14
30	59	16	2.5	32	15	1.3	487	10	13
31	58	10	1.6	27	12	.87	---	---	---
TOTAL	4957	---	147.19	1673	---	69.57	4272	---	150.99
YEAR	100713		3131.72						

STREAMS TRIBUTARY TO LAKE ERIE

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH

LOCATION.--Lat 41°08'08", long 81°32'50", Summit County, Hydrologic Unit 04110002, on right bank 230 ft upstream from North Portage Path bridge at Old Portage, 1.2 mi downstream from Little Cuyahoga River, and 4 mi northwest of Akron City Hall.

DRAINAGE AREA.--404 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1921 to December 1935, March 1939 to current year.

REVISED RECORDS.--WSP 1307: 1924(M). WSP 1912: Drainage area. WRD OH-79-2: 1974 (M), 1976 (M).

GAGE.--Water-stage recorder. Datum of gage is 740.11 ft above National Geodetic Vertical Datum of 1929, unadjusted. Prior to Dec. 21, 1923, nonrecording gage at same site and datum.

REMARKS.--No estimated daily discharges. Records good. Natural flow of stream affected by diversions, storage reservoirs and power plants. At Lake Rockwell, 17.7 mi upstream from gage, an average of 70 ft³/s was diverted for municipal supply of city of Akron. Sewage from city enters river 2.9 mi downstream from station. Some diversion from the Tuscarawas River basin drainage into this basin at Portage Lakes (see REMARKS for station 03116000 in volume 1 of this report). Sediment data collected at this site 1972-1981.

AVERAGE DISCHARGE.--61 years, 430 ft³/s.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,500 ft³/s Jan. 21, 1959, gage height, 11.54 ft, from rating curve extended above 3,900 ft³/s on basis of contracted-opening estimate at gage height 11.54 ft, at site with drainage area of 488 mi² adjusted to gaging station by drainage-area relation; maximum gage height, 13.29 ft Sept. 14, 1979; minimum daily, 26 ft³/s Sept. 2, 1945, July 5, 1954.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 3,390 ft³/s July 2, gage height, 8.99 ft; minimum daily, 61 ft³/s Oct. 4.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137	123	1140	331	467	520	316	150	238	431	92	175
2	134	119	1060	320	644	483	306	151	210	1240	89	94
3	73	226	921	346	654	460	232	149	177	781	83	76
4	61	641	811	359	1120	458	239	137	143	573	82	75
5	82	2140	710	361	1880	444	230	119	153	415	81	88
6	87	1820	674	345	1800	468	220	143	259	314	79	74
7	67	1560	623	337	1920	439	254	522	222	208	76	72
8	74	1750	561	315	1950	391	347	308	250	157	80	70
9	90	1780	533	328	1630	446	318	402	303	380	82	68
10	95	1950	614	317	1290	668	358	456	320	210	126	67
11	143	1850	1240	305	983	1060	369	471	391	482	108	91
12	124	1610	1590	275	769	1000	344	433	880	586	83	253
13	127	1440	1370	303	598	1710	340	365	680	648	77	91
14	131	1800	1400	272	501	1810	352	296	912	603	77	82
15	134	1810	1320	284	471	1740	429	241	1430	512	76	76
16	132	2200	1160	279	419	1680	350	310	1630	426	76	69
17	124	2090	969	351	526	1540	359	229	1340	368	73	68
18	90	1760	767	566	706	1300	351	226	1110	294	75	262
19	88	1560	563	1040	986	1220	341	340	1020	233	77	126
20	78	1500	528	1520	1090	963	352	379	866	182	77	87
21	107	1280	525	1360	1550	758	524	575	731	158	74	78
22	125	1090	446	1510	1680	668	530	645	601	139	71	81
23	130	852	430	1620	1510	594	425	722	580	113	87	164
24	221	674	430	1380	1360	567	419	762	501	104	83	229
25	206	576	400	1190	1190	500	387	703	382	101	89	328
26	153	746	372	927	962	446	351	616	308	109	209	274
27	137	953	367	738	803	427	320	622	377	109	266	613
28	125	1060	356	548	653	405	302	521	378	105	204	417
29	126	1090	342	449	---	365	183	403	258	97	196	353
30	107	1150	335	464	---	328	148	320	230	90	182	611
31	107	---	341	439	---	340	---	280	---	96	180	---
TOTAL	3615	39200	22898	19179	30112	24198	9996	11996	16880	10264	3310	5212
MEAN	117	1307	739	619	1075	781	333	387	563	331	107	174
MAX	221	2200	1590	1620	1950	1810	530	762	1630	1240	266	613
MIN	61	119	335	272	419	328	148	119	143	90	71	67
CAL YR 1985	TOTAL	199636		MEAN	547	MAX	3440	MIN	61			
WTR YR 1986	TOTAL	196860		MEAN	539	MAX	2200	MIN	61			

STREAMS TRIBUTARY TO LAKE ERIE

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1966 to 1967, 1969 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1970 to current year.

pH: October 1970 to current year.

WATER TEMPERATURES: October 1970 to current year.

DISSOLVED OXYGEN: October 1970 to current year.

SUSPENDED SEDIMENT DISCHARGE: March 1972 to September 1981.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 3,000 microsiemens Aug. 4, 1977; minimum, 120 microsiemens July 20, 1973.

pH: Maximum, 11.4 units Nov. 8, 1974; minimum, 6.2 units July 3, 1973.

WATER TEMPERATURES: Maximum, 34.5°C July 18, 1977; minimum, 0.0°C on several days during winter periods.

DISSOLVED OXYGEN: Maximum, ≥ 20.0 mg/L Mar. 30, 31, Apr. 1, 2, 1986; minimum, 0.0 mg/L July 24, 29, 31, Aug. 1, 3-6, 1977.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,060 mg/L July 14, 1978; minimum daily mean, 1 mg/L

Sept. 10, 1973, July 31, Aug. 1, 2, 1978.

SEDIMENT LOADS: Maximum daily, 9,340 tons Sept. 14, 1979; minimum daily, 0.15 ton Sept. 10, 1973.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,250 microsiemens Jan. 17; minimum, 195 microsiemens July 2.

pH: Maximum, 9.2 units Apr. 3; minimum, 7.4 units Oct. 24, May 6, 7, June 27.

WATER TEMPERATURES: Maximum, 30.0°C July 19, 21; minimum, 0.0°C, Dec. 26.

DISSOLVED OXYGEN: Maximum, ≥ 20.0 mg/L Mar. 30, 31, Apr. 1, 2; minimum, 1.9 mg/L, Aug. 10.

STREAMS TRIBUTARY TO LAKE ERIE

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	963	897	929	756	681	724	360	336	349	651	606	627
2	948	852	897	780	723	747	378	336	355	615	588	602
3	852	810	830	780	462	632	402	354	381	717	606	651
4	858	825	842	672	459	570	417	384	396	699	663	677
5	885	870	877	465	375	398	492	390	418	720	666	687
6	900	882	891	411	363	392	504	459	489	708	654	687
7	903	837	856	408	381	398	495	462	479	648	630	639
8	906	846	872	396	342	373	471	450	460	636	624	631
9	963	888	909	363	327	347	459	435	449	642	621	633
10	1090	897	974	339	306	321	477	432	453	627	609	617
11	999	906	962	324	303	314	465	375	406	624	597	615
12	990	924	963	336	303	316	387	336	362	624	594	610
13	927	906	917	345	315	330	408	339	361	759	621	675
14	945	843	896	336	291	318	423	363	397	786	636	702
15	873	789	830	342	309	325	366	342	353	777	693	735
16	897	861	887	330	282	314	387	348	366	819	708	739
17	927	891	910	330	306	318	423	375	393	1250	738	887
18	900	870	890	339	315	328	441	387	418	858	771	792
19	909	774	865	336	315	325	444	426	436	789	612	700
20	867	786	849	345	315	328	471	435	450	600	504	552
21	903	861	888	360	333	345	474	459	470	501	450	474
22	900	870	889	369	351	359	486	468	476	450	405	428
23	879	855	868	378	360	370	603	471	538	450	396	421
24	855	582	758	399	366	378	696	582	655	411	396	404
25	792	720	753	402	378	390	651	606	630	450	396	419
26	729	675	704	399	330	382	630	606	619	450	435	445
27	708	681	696	405	348	373	618	612	615	483	441	464
28	705	648	682	366	339	352	624	615	619	498	480	489
29	723	663	698	366	348	357	624	618	620	570	492	528
30	864	684	724	363	345	355	621	615	617	642	537	599
31	750	684	716	---	---	---	642	579	612	627	591	605
MONTH	1090	582	846	780	282	393	696	336	472	1250	396	604
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	912	591	677	504	465	486	585	555	569	708	636	673
2	927	675	729	507	483	494	585	525	559	732	684	704
3	693	549	628	573	504	543	606	501	558	744	705	728
4	606	546	569	576	543	559	615	585	604	753	693	730
5	564	432	491	567	543	554	642	615	627	774	702	720
6	429	414	422	849	552	671	627	537	599	798	540	766
7	597	444	518	795	657	703	657	627	641	738	459	682
8	459	390	415	717	651	683	654	615	629	732	675	708
9	387	372	376	747	672	708	636	597	608	666	603	636
10	387	372	378	807	627	681	675	561	593	606	546	580
11	411	381	398	702	519	606	588	561	572	540	513	526
12	438	408	424	516	435	478	570	552	564	519	507	511
13	468	435	450	510	417	452	573	552	564	546	516	533
14	591	462	503	429	393	406	585	558	569	588	534	553
15	657	534	586	420	372	392	585	519	559	630	567	596
16	663	594	624	375	354	364	576	513	551	660	474	597
17	936	651	812	369	348	358	555	540	546	636	573	614
18	750	687	726	390	354	364	570	552	560	645	585	635
19	681	537	613	408	375	393	573	546	565	669	507	632
20	528	438	479	408	390	400	576	546	557	642	603	625
21	603	438	524	414	396	405	585	486	544	603	516	563
22	540	444	470	432	414	426	540	489	510	510	444	478
23	438	399	413	465	429	442	504	477	487	450	417	434
24	411	387	398	492	459	476	540	504	522	417	393	405
25	420	387	404	492	474	483	543	480	527	402	387	397
26	429	402	413	534	480	503	549	519	537	411	387	400
27	567	426	497	537	480	519	561	522	547	447	333	405
28	567	480	507	579	528	547	579	546	559	444	393	425
29	---	---	---	555	525	542	621	585	606	471	444	458
30	---	---	---	561	537	548	636	597	620	495	456	472
31	---	---	---	576	546	562	---	---	---	501	486	491
MONTH	936	372	516	849	348	508	675	477	568	798	333	570

STREAMS TRIBUTARY TO LAKE ERIE

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	543	504	525	579	201	524	762	747	756	552	531	542
2	600	543	563	474	195	400	777	753	765	702	558	617
3	606	579	594	417	339	368	798	774	783	678	666	675
4	633	600	609	369	345	354	810	783	798	702	678	690
5	675	561	628	414	369	392	834	810	823	714	609	681
6	675	567	628	465	414	437	849	831	839	747	714	739
7	678	657	670	606	465	509	861	852	857	768	747	763
8	678	651	664	627	495	555	906	861	873	795	768	785
9	657	609	641	615	369	508	876	771	839	819	801	814
10	615	549	588	675	516	577	882	522	789	837	816	825
11	555	219	512	543	459	511	852	759	815	861	486	832
12	477	279	411	480	420	445	891	861	881	942	324	722
13	420	396	409	417	393	407	900	891	893	897	819	878
14	405	369	393	405	387	398	906	897	902	918	900	910
15	447	303	344	399	390	395	918	888	909	927	870	906
16	348	270	310	402	393	398	927	918	921	879	861	866
17	327	270	283	444	399	422	930	906	922	909	888	897
18	303	270	287	462	441	452	945	900	917	924	381	759
19	381	276	300	504	465	479	954	939	947	942	831	878
20	288	270	276	528	501	510	948	936	945	885	849	874
21	303	282	293	570	534	550	954	939	949	897	885	891
22	330	297	312	597	537	563	939	912	928	909	879	895
23	339	324	331	585	546	562	945	663	898	900	594	818
24	393	333	345	606	567	581	945	711	837	858	735	819
25	387	357	366	684	612	632	963	948	957	789	549	687
26	450	357	394	690	660	679	957	813	932	687	549	646
27	471	303	389	696	675	689	873	696	793	600	216	512
28	501	384	472	717	684	697	771	627	692	612	492	572
29	507	483	496	744	723	732	672	561	625	555	519	534
30	546	507	529	729	705	719	573	540	560	519	375	481
31	---	---	---	750	723	733	558	540	548	---	---	---
MONTH	678	219	452	750	195	522	963	522	835	942	216	750
YEAR	1250	195	588									

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.50	8.00	8.20	8.30	7.70	7.90	7.90	7.90	7.90	8.20	8.10	8.10
2	8.30	7.80	8.10	8.00	7.80	7.90	8.00	7.90	7.90	8.10	8.00	8.10
3	8.10	7.80	7.90	7.80	7.60	7.70	8.00	7.90	8.00	8.10	8.00	8.10
4	8.20	7.70	7.90	7.90	7.70	7.80	8.00	7.90	8.00	8.20	8.10	8.10
5	8.00	7.70	7.80	8.20	7.70	7.80	8.00	7.90	7.90	8.20	8.10	8.10
6	8.30	7.80	8.00	8.10	7.90	7.90	8.00	7.90	8.00	8.20	8.10	8.10
7	8.20	7.70	7.90	7.90	7.90	7.90	8.00	7.90	8.00	8.20	8.10	8.20
8	8.40	7.70	7.90	8.00	7.80	7.90	8.00	7.90	8.00	8.20	8.20	8.20
9	8.40	7.70	8.00	7.90	7.80	7.80	8.10	8.00	8.00	8.20	8.10	8.20
10	8.40	7.70	7.90	7.80	7.80	7.80	8.00	7.90	8.00	8.20	8.10	8.10
11	8.30	7.80	8.00	7.80	7.70	7.80	8.00	7.90	7.90	8.30	8.10	8.10
12	8.10	7.80	7.90	7.80	7.70	7.80	8.00	8.00	8.00	8.20	8.00	8.10
13	8.20	7.70	7.90	7.80	7.70	7.80	8.00	7.90	7.90	8.30	8.10	8.20
14	7.90	7.80	7.80	8.60	7.60	7.80	8.00	7.90	8.00	8.40	8.20	8.20
15	8.10	7.70	7.90	7.80	7.70	7.80	8.10	8.00	8.00	8.40	8.20	8.20
16	8.20	7.80	7.90	7.80	7.70	7.70	8.00	8.00	8.00	8.30	8.10	8.20
17	8.30	7.80	8.00	7.80	7.70	7.80	8.10	8.00	8.10	8.20	8.00	8.10
18	8.00	7.70	7.90	7.80	7.70	7.80	8.20	8.10	8.10	8.20	8.10	8.10
19	7.80	7.50	7.60	7.90	7.80	7.80	8.10	8.00	8.10	8.10	8.00	8.00
20	7.80	7.60	7.70	7.80	7.80	7.80	8.10	8.00	8.10	8.00	8.00	8.00
21	7.90	7.60	7.70	7.90	7.80	7.80	8.10	8.10	8.10	8.00	8.00	8.00
22	7.90	7.70	7.80	7.90	7.80	7.90	8.20	8.10	8.10	8.00	8.00	8.00
23	7.90	7.60	7.80	7.90	7.90	7.90	8.20	8.10	8.10	8.00	7.90	8.00
24	7.90	7.40	7.70	7.90	7.80	7.90	8.10	8.10	8.10	8.00	7.90	7.90
25	8.10	7.70	7.90	7.90	7.80	7.90	8.20	8.10	8.10	8.00	7.90	7.90
26	8.10	7.70	7.90	7.90	7.80	7.80	8.20	7.90	8.00	8.00	7.90	7.90
27	8.10	7.70	7.90	7.90	7.80	7.90	8.00	7.90	8.00	8.10	7.90	8.00
28	8.20	7.80	7.90	7.90	7.90	7.90	8.00	8.00	8.00	8.20	8.00	8.00
29	8.20	7.70	7.90	8.00	7.90	7.90	8.00	7.90	8.00	8.20	8.00	8.00
30	8.10	7.70	7.80	8.00	7.90	7.90	8.00	8.00	8.00	8.20	8.00	8.10
31	8.30	7.70	7.90	---	---	---	8.10	8.00	8.10	8.20	8.00	8.10
MONTH	8.50	7.40	7.88	8.60	7.60	7.84	8.20	7.90	8.02	8.40	7.90	8.08

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	8.10	8.00	8.00	8.10	7.90	8.00	9.10	7.80	8.30	8.70	7.60	8.00
2	8.00	8.00	8.00	8.20	7.90	8.00	9.10	7.90	8.30	8.70	7.70	8.10
3	8.00	7.90	8.00	8.20	7.80	8.00	9.20	7.80	8.40	8.80	7.70	8.20
4	8.00	7.90	7.90	8.10	7.80	7.90	8.90	7.80	8.20	8.80	7.70	8.20
5	7.90	7.90	7.90	8.30	7.80	8.00	8.70	7.80	8.20	8.70	7.60	8.10
6	8.00	7.90	7.90	8.20	7.90	8.00	8.50	7.70	8.00	8.60	7.40	7.90
7	7.90	7.90	7.90	8.40	8.00	8.10	8.70	7.80	8.10	8.30	7.40	7.90
8	7.90	7.90	7.90	8.50	8.00	8.20	8.70	7.80	8.20	8.30	7.80	8.00
9	7.90	7.90	7.90	8.50	7.90	8.10	8.60	7.90	8.10	8.20	7.80	7.90
10	7.90	7.90	7.90	8.40	7.80	8.10	8.40	7.90	8.10	8.30	7.80	8.00
11	8.00	7.90	7.90	8.00	8.00	8.00	8.60	7.90	8.20	8.30	7.80	8.00
12	8.00	7.90	8.00	8.00	8.00	8.00	8.80	7.90	8.20	8.30	7.80	8.00
13	8.10	8.00	8.00	8.00	7.80	7.90	8.80	7.90	8.30	8.20	7.80	7.90
14	8.10	8.00	8.00	7.90	7.80	7.90	8.80	7.90	8.20	8.10	7.70	7.80
15	8.20	8.00	8.10	7.90	7.80	7.90	8.60	7.70	8.10	8.10	7.70	7.80
16	8.20	8.00	8.10	7.90	7.80	7.90	8.60	7.90	8.10	8.30	7.60	7.80
17	8.00	7.90	8.00	7.90	7.80	7.90	8.60	7.90	8.20	7.90	7.60	7.70
18	8.00	7.90	8.00	8.00	7.80	7.90	8.80	7.90	8.20	7.90	7.50	7.70
19	8.00	7.90	7.90	8.00	7.80	7.90	8.90	7.80	8.20	7.90	7.60	7.70
20	8.00	7.90	7.90	8.10	7.80	7.90	8.40	7.80	8.00	7.90	7.70	7.80
21	8.00	7.90	8.00	8.20	7.90	8.00	8.30	7.80	8.00	8.00	7.90	7.90
22	8.00	7.90	8.00	8.20	7.90	8.00	8.40	7.90	8.10	8.00	7.90	7.90
23	8.00	7.90	7.90	8.30	7.90	8.00	8.70	7.90	8.20	8.00	7.90	7.90
24	8.00	7.90	8.00	8.40	7.90	8.10	8.70	7.90	8.20	8.00	7.90	7.90
25	8.00	7.90	7.90	8.60	7.90	8.10	8.80	7.80	8.20	8.00	7.80	7.90
26	8.00	7.90	7.90	8.70	7.80	8.10	8.90	7.80	8.20	8.00	7.80	7.90
27	8.10	7.90	8.00	8.80	7.80	8.20	8.90	7.80	8.20	8.20	7.50	7.80
28	8.10	7.90	8.00	8.80	7.80	8.20	8.80	7.70	8.20	8.00	7.70	7.80
29	---	---	---	8.90	7.80	8.20	8.90	7.70	8.20	8.10	7.70	7.90
30	---	---	---	9.00	7.80	8.30	8.70	7.70	8.00	8.10	7.70	7.90
31	---	---	---	9.10	7.80	8.30	---	---	---	8.20	7.70	7.90
MONTH	8.20	7.90	7.96	9.10	7.80	8.04	9.20	7.70	8.17	8.80	7.40	7.91
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	8.30	7.70	7.90	8.10	7.50	7.90	8.50	7.70	8.00	8.40	7.80	8.00
2	8.40	7.80	8.00	7.80	7.60	7.80	8.50	7.70	8.00	8.30	7.80	8.00
3	8.30	7.80	8.00	7.80	7.70	7.80	8.40	7.70	8.00	8.20	7.70	7.90
4	8.30	7.70	7.90	7.80	7.70	7.70	8.40	7.70	8.00	8.20	7.60	7.80
5	8.00	7.60	7.70	7.80	7.70	7.70	8.40	7.60	8.00	8.10	7.50	7.80
6	8.00	7.60	7.70	7.90	7.70	7.80	8.20	7.60	7.90	8.00	7.60	7.80
7	8.10	7.60	7.80	7.90	7.70	7.80	8.20	7.60	7.90	8.20	7.60	7.80
8	8.10	7.60	7.80	8.20	7.60	7.80	8.00	7.50	7.80	8.20	7.70	7.90
9	8.20	7.70	7.90	7.80	7.50	7.60	7.80	7.50	7.70	8.20	7.70	7.90
10	8.30	7.80	8.00	7.90	7.70	7.80	8.20	7.50	7.60	8.30	7.70	7.90
11	8.20	7.70	7.90	7.90	7.80	7.80	7.80	7.70	7.70	8.10	7.50	7.80
12	7.90	7.70	7.80	8.00	7.80	7.90	7.80	7.70	7.70	8.00	7.60	7.80
13	7.90	7.80	7.80	8.00	7.80	7.90	7.90	7.60	7.70	8.00	7.70	7.90
14	7.90	7.80	7.90	8.00	7.80	7.90	7.90	7.60	7.70	8.00	7.70	7.90
15	7.90	7.80	7.90	8.00	7.80	7.90	8.00	7.60	7.80	8.00	7.80	7.90
16	7.90	7.70	7.80	8.00	7.70	7.80	8.10	7.60	7.80	8.00	7.70	7.80
17	7.90	7.70	7.80	8.00	7.60	7.80	8.20	7.60	7.80	8.00	7.80	7.90
18	7.90	7.80	7.80	8.10	7.60	7.80	8.20	7.60	7.80	8.10	7.70	7.80
19	7.80	7.70	7.80	8.20	7.60	7.80	8.20	7.70	7.90	7.90	7.80	7.80
20	7.80	7.70	7.80	8.20	7.60	7.80	8.20	7.60	7.90	7.90	7.70	7.80
21	7.90	7.70	7.80	8.40	7.60	7.90	8.10	7.60	7.80	7.90	7.60	7.70
22	8.00	7.70	7.80	8.40	7.60	7.90	8.00	7.60	7.80	8.00	7.70	7.90
23	8.00	7.70	7.80	8.50	7.60	8.00	8.50	7.60	7.80	7.80	7.60	7.70
24	8.00	7.70	7.80	8.50	7.60	7.90	7.90	7.50	7.70	7.90	7.70	7.80
25	8.10	7.70	7.90	8.50	7.50	7.90	8.00	7.60	7.70	7.90	7.70	7.80
26	8.30	7.70	7.90	8.40	7.50	7.90	8.10	7.70	7.80	8.10	7.70	7.90
27	8.20	7.40	7.80	8.50	7.60	8.00	8.20	7.60	7.90	8.10	7.60	7.80
28	7.90	7.60	7.80	8.50	7.60	8.00	8.20	7.90	8.00	8.00	7.80	7.90
29	8.00	7.70	7.80	8.20	7.50	7.80	8.20	7.90	8.00	8.00	7.80	7.90
30	8.00	7.70	7.80	8.40	7.60	7.90	8.30	7.80	8.00	8.10	7.60	7.90
31	---	---	---	8.50	7.60	8.00	8.20	7.80	8.00	---	---	---
MONTH	8.40	7.40	7.84	8.50	7.50	7.85	8.50	7.50	7.85	8.40	7.50	7.85
YEAR	9.20	7.40	7.94									

STREAMS TRIBUTARY TO LAKE ERIE

69

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	18.5	15.5	17.0	13.5	11.5	12.5	7.5	6.5	7.0	2.5	1.5	2.0
2	17.5	14.5	16.0	13.5	13.0	13.0	7.0	6.0	6.5	3.0	2.0	2.5
3	16.0	13.5	14.5	13.0	12.5	13.0	6.0	4.5	5.0	3.0	2.5	3.0
4	18.5	13.0	15.5	13.0	12.5	13.0	5.5	4.0	4.5	3.5	2.5	3.0
5	17.5	15.5	16.0	13.0	11.5	12.0	5.5	5.0	5.5	3.5	2.0	3.0
6	17.0	14.5	15.5	12.0	11.0	11.5	5.5	4.5	5.0	2.5	2.0	2.5
7	17.5	14.0	15.5	11.0	10.5	11.0	5.5	4.5	5.0	2.0	1.0	1.5
8	19.0	15.0	16.5	10.5	9.5	10.0	5.5	4.0	4.5	2.5	1.0	1.5
9	20.5	17.0	18.5	10.0	9.0	9.5	5.0	4.0	4.5	3.5	2.0	2.5
10	21.0	17.0	18.5	9.5	9.0	9.5	5.5	4.5	5.0	3.5	3.0	3.0
11	21.0	16.5	18.5	9.5	9.0	9.5	6.5	5.5	6.0	4.0	2.5	3.0
12	18.5	16.0	17.5	10.5	9.0	10.0	6.0	5.0	5.5	3.5	3.0	3.0
13	21.0	18.0	19.0	11.5	10.0	11.0	5.0	3.5	4.5	3.0	1.5	2.0
14	18.5	17.5	18.0	12.0	11.0	11.5	3.5	2.0	2.5	2.5	1.5	2.0
15	19.0	17.0	18.0	11.5	10.5	11.0	2.0	1.0	1.5	2.5	1.0	1.5
16	19.5	15.5	17.5	10.5	9.5	10.0	2.0	1.5	2.0	3.5	1.0	2.5
17	17.0	14.0	15.5	10.0	9.5	9.5	2.0	1.0	1.5	4.0	3.0	3.5
18	21.5	15.5	18.0	10.0	9.0	9.5	1.5	.5	1.0	4.0	3.0	3.5
19	20.5	19.0	19.5	12.0	9.5	10.5	2.0	1.0	1.5	3.5	3.0	3.0
20	19.0	16.5	17.5	12.0	10.5	11.0	2.5	1.5	2.0	3.0	2.0	2.5
21	18.5	15.5	17.0	10.5	9.0	9.5	2.0	1.0	1.5	2.0	1.5	2.0
22	19.0	18.0	18.5	9.0	8.0	8.5	1.5	1.0	1.5	2.0	2.0	2.0
23	20.0	17.0	18.5	8.0	7.0	7.5	2.5	2.0	2.0	2.0	1.5	1.5
24	19.0	16.5	18.0	8.0	7.0	7.5	2.5	1.5	2.0	2.0	1.0	1.5
25	17.0	14.5	15.5	8.5	7.5	8.0	1.5	.5	1.0	2.0	2.0	2.0
26	17.0	13.5	15.0	10.0	7.0	8.5	.5	.0	.5	2.0	1.5	2.0
27	16.5	13.5	14.5	9.5	8.0	8.5	1.5	.5	1.0	1.5	.5	1.0
28	14.5	12.0	13.0	8.0	6.5	7.5	1.0	.5	.5	1.5	.5	1.0
29	14.0	11.0	12.5	6.5	6.0	6.5	2.0	.5	1.0	2.0	1.0	1.5
30	13.0	12.0	12.5	6.5	6.0	6.5	1.5	.0	1.0	2.5	1.5	2.0
31	14.0	12.0	12.5	---	---	---	3.0	1.5	2.0	2.5	1.0	1.5
MONTH	21.5	11.0	16.5	13.5	6.0	10.0	7.5	.0	3.0	4.0	.5	2.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	3.0	1.5	2.5	3.5	1.5	2.0	16.5	12.5	14.0	20.5	17.5	18.5
2	3.0	2.0	2.5	4.0	2.0	3.0	16.0	12.0	13.5	17.5	15.0	16.0
3	3.0	2.0	2.5	4.5	3.5	4.0	16.5	11.5	13.5	18.5	13.5	15.5
4	4.0	2.5	3.5	4.5	4.0	4.0	17.5	13.5	15.0	20.0	13.0	16.0
5	4.0	3.5	4.0	5.0	4.0	4.5	15.5	13.5	14.5	21.5	14.5	17.5
6	3.5	2.5	2.5	4.0	3.5	4.0	17.0	13.5	15.0	22.0	17.5	19.5
7	2.5	2.0	2.0	3.5	2.0	2.5	17.5	14.0	15.5	22.0	19.0	20.0
8	2.0	1.5	1.5	3.5	1.5	2.5	17.0	14.0	15.0	22.0	18.0	19.5
9	1.5	1.5	1.5	4.5	2.5	3.5	14.5	13.5	14.0	21.5	17.5	19.0
10	1.5	1.0	1.5	7.5	3.5	5.0	14.0	10.5	12.5	20.5	17.0	18.5
11	2.0	1.5	1.5	6.5	5.0	5.5	13.0	11.0	12.0	20.5	17.0	18.5
12	2.0	1.0	1.5	5.0	4.0	4.5	13.0	10.0	11.0	21.5	17.5	19.5
13	2.5	.5	1.5	4.5	4.0	4.5	13.5	10.0	11.0	21.5	18.5	19.5
14	2.0	1.0	1.5	5.5	4.5	5.0	15.5	9.5	12.5	22.0	19.5	20.5
15	2.5	1.5	2.0	5.5	5.0	5.5	15.0	13.0	14.0	21.5	19.5	20.5
16	2.0	1.5	2.0	5.0	4.5	5.0	13.5	12.0	13.0	22.5	19.5	21.0
17	3.0	2.0	3.0	5.0	4.5	4.5	13.0	11.0	12.0	24.0	20.0	22.0
18	3.5	3.0	3.5	6.0	4.5	5.0	14.5	10.0	12.0	25.0	21.5	23.0
19	3.5	3.0	3.5	7.0	6.0	6.5	16.5	11.5	13.5	23.0	20.5	22.0
20	3.5	3.0	3.5	6.5	5.0	6.0	15.0	13.5	14.5	21.5	20.0	20.5
21	3.5	2.5	3.0	5.5	4.0	4.5	14.0	12.0	13.0	20.0	17.0	18.0
22	2.5	2.0	2.5	6.0	4.0	5.0	12.0	10.5	11.5	17.0	16.5	16.5
23	2.5	2.0	2.5	7.0	5.0	6.0	13.0	10.5	11.0	18.0	16.0	17.0
24	2.5	2.0	2.0	8.0	5.5	6.5	15.0	10.5	12.5	17.5	17.0	17.0
25	2.5	2.0	2.5	9.5	6.5	7.5	17.0	12.5	14.5	18.0	17.0	17.5
26	2.5	2.0	2.0	10.5	7.5	9.0	17.5	14.0	15.5	20.0	17.0	18.5
27	3.0	1.5	2.0	10.5	9.0	9.5	20.0	14.5	17.0	21.0	19.0	19.5
28	2.5	1.5	2.0	12.0	8.5	10.0	22.0	16.5	19.0	22.5	19.0	20.5
29	---	---	---	13.0	9.0	10.5	21.0	17.5	19.0	23.5	19.5	21.5
30	---	---	---	14.5	10.0	12.0	19.0	16.5	17.5	24.0	20.5	22.0
31	---	---	---	15.5	11.0	13.0	---	---	---	24.5	21.0	22.5
MONTH	4.0	.5	2.5	15.5	1.5	6.0	22.0	9.5	14.0	25.0	13.0	19.5

STREAMS TRIBUTARY TO LAKE ERIE

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	25.0	21.0	22.5	23.5	20.0	21.5	27.0	22.5	24.5	21.5	18.0	19.5
2	23.5	19.5	21.5	22.0	21.0	21.5	27.0	22.0	24.0	22.5	18.5	20.5
3	24.0	18.5	21.0	21.5	20.0	20.5	26.0	22.0	23.5	24.0	19.5	21.5
4	25.5	19.0	22.0	22.0	19.5	20.5	26.0	20.5	23.0	24.5	21.5	23.0
5	24.0	22.5	23.0	23.0	20.0	21.5	26.5	21.0	23.5	25.0	22.5	24.0
6	24.5	23.0	24.0	25.0	21.0	22.5	26.0	22.0	24.0	23.5	20.5	22.0
7	26.0	23.0	24.5	28.0	22.5	24.5	26.0	23.0	24.5	22.0	20.0	21.0
8	25.5	23.0	24.5	28.0	24.5	26.0	26.5	23.0	24.5	22.0	17.5	19.5
9	25.5	21.5	23.5	27.5	24.0	25.5	27.0	22.5	24.5	22.5	17.0	19.5
10	25.5	22.0	24.0	27.0	23.5	25.0	24.5	22.0	23.0	23.5	18.5	21.0
11	27.0	23.5	25.0	25.0	23.0	24.0	24.5	21.5	23.0	23.0	21.5	22.5
12	25.5	23.5	24.5	24.5	23.5	24.0	24.5	19.0	21.5	22.5	20.5	21.5
13	24.0	23.0	23.5	24.5	23.5	23.5	25.0	19.0	22.0	23.0	18.5	20.5
14	23.0	22.5	22.5	24.5	23.0	23.5	25.0	20.5	22.5	22.5	19.5	21.0
15	23.0	21.5	22.0	25.0	22.5	23.5	25.5	22.5	24.0	23.0	18.5	20.5
16	23.5	22.5	23.0	25.5	23.5	24.5	26.5	23.0	24.5	21.5	18.0	20.0
17	22.5	21.0	21.5	27.5	23.5	25.5	26.0	23.0	24.5	20.5	16.0	18.5
18	21.5	20.5	21.0	29.5	25.0	27.0	26.5	22.5	24.0	21.0	17.5	19.0
19	21.5	21.0	21.0	30.0	27.0	28.5	26.0	21.5	23.5	23.5	20.5	21.5
20	21.5	21.0	21.0	29.0	27.0	28.0	26.5	22.0	24.0	24.0	21.5	23.0
21	22.5	20.5	21.5	30.0	25.5	27.0	26.0	22.5	24.5	23.5	22.0	22.5
22	24.0	21.0	22.5	29.5	24.0	26.5	26.5	22.5	24.5	24.5	20.0	22.0
23	24.5	22.5	23.5	29.5	23.5	26.0	27.0	24.0	25.0	25.0	22.0	23.5
24	24.0	21.5	22.5	30.0	24.0	26.5	25.5	22.5	24.0	24.0	23.0	24.0
25	23.0	20.5	21.5	29.5	25.0	27.0	23.5	20.0	22.0	24.0	22.0	23.0
26	23.5	20.0	21.5	28.5	26.0	27.0	25.5	23.0	24.0	25.0	22.5	24.0
27	23.5	20.0	22.0	29.0	24.5	26.5	23.5	21.5	23.0	24.5	22.0	23.0
28	24.0	22.0	23.0	28.0	24.0	26.0	22.5	20.5	21.5	23.5	22.0	22.5
29	25.0	21.5	23.0	26.5	24.5	25.0	22.0	19.5	20.5	25.0	22.0	23.5
30	22.0	20.5	21.5	27.5	22.5	24.5	23.0	19.0	20.5	24.5	22.5	23.5
31	---	---	---	27.5	21.5	24.5	22.0	18.5	20.0	---	---	---
MONTH	27.0	18.5	22.5	30.0	19.5	25.0	27.0	18.5	23.5	25.0	16.0	21.5
YEAR	30.0	.0	14.0									

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.9	5.5	7.1	11.1	7.6	9.0	11.8	11.2	11.5	12.4	11.9	12.2
2	10.7	6.6	8.3	10.0	8.0	8.7	11.9	11.3	11.6	12.3	11.8	12.1
3	10.2	7.6	8.9	8.7	7.3	8.3	12.4	12.0	12.3	12.0	11.7	11.8
4	10.8	6.8	8.3	9.5	8.5	9.0	12.6	12.0	12.3	12.2	11.6	12.0
5	8.2	6.1	7.1	10.4	9.5	10.1	12.2	11.8	12.0	12.2	11.5	11.9
6	10.4	6.8	8.3	10.6	10.3	10.5	12.2	11.8	12.0	12.4	11.9	12.1
7	10.2	6.8	8.2	10.8	10.6	10.6	12.3	11.8	12.1	12.7	12.2	12.4
8	10.9	6.4	8.0	11.3	10.8	11.1	12.4	11.8	12.2	12.8	12.1	12.4
9	11.0	6.4	8.0	11.4	11.0	11.2	12.4	12.1	12.2	12.4	11.7	12.1
10	10.3	6.5	7.7	11.3	11.2	11.2	12.2	11.7	12.1	12.2	11.6	11.8
11	9.3	6.6	7.7	11.4	11.2	11.3	12.0	11.5	11.8	12.5	11.6	11.9
12	9.0	6.7	7.7	11.4	10.8	11.1	12.2	11.8	12.1	12.2	11.5	11.7
13	9.8	6.5	7.6	10.9	10.5	10.7	12.4	12.1	12.3	12.5	11.6	11.9
14	8.0	6.5	7.0	10.7	10.0	10.5	13.1	12.5	12.9	12.6	11.7	12.1
15	8.6	6.3	7.2	11.0	10.6	10.9	13.4	13.1	13.3	12.8	11.9	12.2
16	8.9	6.8	7.6	11.2	11.0	11.0	13.3	12.9	13.1	12.8	11.5	12.1
17	10.0	7.0	8.2	11.4	11.1	11.2	13.3	13.0	13.1	11.8	11.4	11.5
18	9.0	5.2	7.5	11.5	10.9	11.2	13.4	13.1	13.2	12.2	11.5	11.8
19	6.7	4.4	5.4	11.2	10.5	10.9	13.3	12.5	12.8	11.9	11.7	11.8
20	6.6	4.6	5.6	10.9	10.5	10.7	12.6	12.2	12.4	12.3	11.8	12.0
21	6.8	5.5	6.0	11.3	10.9	11.2	12.8	12.3	12.5	12.4	12.1	12.3
22	6.9	5.7	6.1	11.3	11.2	11.2	12.5	12.2	12.3	12.4	12.1	12.3
23	7.3	5.5	6.2	11.7	11.4	11.5	12.2	12.0	12.1	13.9	12.4	13.4
24	7.8	4.2	6.5	11.6	11.2	11.5	12.2	11.7	12.0	13.9	13.5	13.7
25	9.2	7.1	8.2	11.5	11.0	11.2	12.3	12.2	12.3	13.5	13.3	13.4
26	9.7	7.6	8.5	11.4	10.6	10.9	12.9	12.2	12.5	13.4	13.1	13.2
27	9.9	7.8	8.6	11.1	10.8	11.0	12.5	12.3	12.4	13.6	13.1	13.4
28	10.5	7.9	9.0	11.6	11.2	11.5	12.9	12.4	12.7	13.9	13.3	13.5
29	11.0	8.0	9.1	11.9	11.6	11.8	12.6	12.3	12.4	13.7	13.0	13.3
30	10.8	8.3	9.0	11.9	11.7	11.8	12.7	12.2	12.5	13.9	13.0	13.3
31	11.4	7.7	9.4	---	---	---	12.3	11.8	12.0	13.9	13.2	13.5
MONTH	11.4	4.2	7.7	11.9	7.3	10.8	13.4	11.2	12.4	13.9	11.4	12.4

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	13.6	12.6	13.1	14.0	12.8	13.4	20.3	8.9	12.0	12.2	6.1	8.1
2	13.4	12.8	13.2	13.8	12.4	13.1	20.8	9.0	11.9	12.8	6.2	8.8
3	13.4	13.0	13.2	13.5	12.0	12.6	16.9	8.6	11.7	13.6	6.8	9.5
4	13.0	12.7	12.8	13.1	12.0	12.4	16.4	8.2	10.7	13.6	6.7	9.6
5	13.0	12.7	12.8	13.7	11.9	12.6	12.8	8.0	9.9	12.9	5.7	8.6
6	13.5	13.1	13.3	12.8	11.9	12.2	11.9	8.0	9.2	11.5	2.0	7.3
7	13.5	13.1	13.3	14.5	12.2	13.2	13.7	7.9	10.2	9.3	4.8	7.5
8	13.8	13.5	13.7	15.2	12.5	13.7	13.3	7.9	10.0	10.0	6.5	7.9
9	13.7	13.5	13.6	14.7	12.4	13.1	12.6	8.4	9.8	9.2	6.8	7.8
10	13.8	13.5	13.6	13.9	10.6	12.6	11.5	8.6	9.9	9.7	7.3	8.3
11	13.7	13.4	13.5	12.4	11.6	12.1	13.3	9.3	10.8	9.7	7.5	8.4
12	13.7	13.4	13.5	12.8	12.5	12.7	14.7	9.6	11.5	9.6	7.2	8.2
13	13.9	13.3	13.6	12.9	12.6	12.7	15.3	9.5	11.6	8.9	6.8	7.7
14	13.7	13.0	13.4	12.7	12.3	12.5	14.8	8.4	11.2	8.7	6.4	7.4
15	14.0	13.0	13.4	12.6	12.3	12.5	12.5	7.7	9.6	8.4	6.3	7.2
16	13.8	12.8	13.3	12.8	12.5	12.7	12.5	8.9	10.1	8.1	5.8	7.0
17	12.9	12.6	12.7	13.0	12.7	12.8	13.6	9.2	11.0	7.7	5.8	6.8
18	13.0	12.5	12.7	13.1	12.0	12.7	14.6	9.3	11.5	7.7	4.8	6.4
19	12.9	12.5	12.7	12.2	11.8	11.9	15.0	8.4	11.1	7.2	5.8	6.6
20	13.2	12.7	13.0	12.8	11.9	12.4	11.7	8.4	9.4	7.4	6.5	7.0
21	13.4	12.7	13.1	13.5	12.5	12.9	11.2	8.6	9.6	8.4	7.4	8.0
22	13.7	13.2	13.5	13.5	12.3	12.8	12.0	9.8	10.7	8.8	8.3	8.5
23	13.6	13.2	13.4	13.4	11.9	12.5	13.8	9.9	11.4	8.8	8.3	8.5
24	13.7	13.2	13.5	13.8	11.7	12.5	14.3	9.3	11.3	8.9	8.3	8.6
25	13.8	13.2	13.4	14.0	11.2	12.4	14.4	8.4	10.8	8.8	8.2	8.5
26	13.5	13.0	13.3	14.1	10.5	11.9	16.9	8.1	11.0	8.7	7.7	8.3
27	13.8	13.0	13.3	14.1	10.3	11.6	18.2	7.6	11.1	7.8	5.4	7.5
28	13.8	13.0	13.4	14.8	10.2	11.9	16.5	6.7	10.0	8.2	7.1	7.7
29	---	---	---	18.9	9.6	12.4	14.1	6.7	9.5	8.8	7.1	7.7
30	---	---	---	20.3	9.2	12.5	12.8	6.5	8.9	8.7	6.7	7.6
31	---	---	---	20.5	8.9	12.1	---	---	---	8.7	6.8	7.6
MONTH	14.0	12.5	13.3	20.5	8.9	12.6	20.8	6.5	10.6	13.6	2.0	7.9
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	9.0	6.6	7.6	8.7	5.9	7.7	14.5	5.2	8.2	10.3	7.7	8.7
2	9.5	6.6	7.8	8.1	7.4	7.9	15.0	5.5	8.4	10.7	7.2	8.

STREAMS TRIBUTARY TO LAKE ERIE

04207200 TINKERS CREEK AT BEDFORD, OH

LOCATION.--Lat 41°23'04", long 81°31'39", in T.6 N., R.11 W., Cuyahoga County, Hydrologic Unit 04110002, on left bank at downstream side of bridge on State Highway 14 in Bedford, 5.5 mi upstream from mouth.

DRAINAGE AREA.--83.9 mi².

PERIOD OF RECORD.--November 1962 to current year.

REVISED RECORDS.--WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 876.18 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Oct. 3-10, Dec. 18 to Jan. 2, Jan. 8-16, Jan. 28 to Feb. 1. Records good except for estimated daily discharges, which are fair. Water-quality data collected at this site 1965 to 1977. Sediment data collected at this site 1974 to 1979.

AVERAGE DISCHARGE.--23 years (1963-86), 131 ft³/s, 21.21 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 7,220 ft³/s July 20, 1969, gage height, 10.10 ft, from rating₃ curve extended above 3,400 ft³/s on the basis of contracted-opening measurement of peak flow; minimum, 5.2 ft³/s Aug. 19, 1963.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 1,500 ft³/s and maximum (*).

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 5	0700	2,200	6.68	July 9	1500	1,920	6.45
May 19	0930	1,670	6.22				

Minimum daily discharge, 16 ft³/s Sept. 1, 2.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	68	36	162	50	55	76	39	45	28	34	22	16	
2	34	39	169	50	236	68	37	39	31	349	20		
3	29	171	117	74	212	76	33	36	22	285	18	17	
4	27	468	97	85	737	93	43	30	23	81	18	17	
5	26	1540	94	81	983	92	43	30	81	44	18		
6	25	1070	139	68	705	104	136	58	292	31	18	20	
7	24	758	156	59	329	89	105	434	140	27	21	19	
8	24	357	135	50	207	93	63	283	123	80	20		
9	23	252	121	45	151	185	81	93	49	731	17	17	
10	25	558	216	40	117	652	199	55	38	279	48	17	
11	41	567	738	38	97	718	296	40	174	140	35	57	
12	28	455	712	35	86	453	207	36	743	172	20	118	
13	40	353	486	34	82	954	115	34	208	179	18	36	
14	69	321	236	32	81	685	80	33	83	79	18	23	
15	156	349	169	32	63	403	112	32	190	52	17	21	
16	48	759	133	31	54	226	104	104	392	46	43	22	
17	48	649	104	211	185	167	131	50	186	38	22	20	
18	75	476	95	660	596	129	94	30	87	34	19	46	
19	211	215	90	907	727	323	69	632	111	27	18	36	
20	78	150	85	931	555	206	138	305	87	24	17	29	
21	62	113	80	584	665	125	193	144	61	24	17	22	
22	48	103	75	338	572	100	168	96	53	22	17	90	
23	41	91	70	230	324	89	114	75	165	21	32	149	
24	119	69	70	144	207	82	82	55	76	20	21	66	
25	110	60	65	119	157	69	69	40	41	20	17	432	
26	65	468	65	106	118	61	60	33	31	44	87	109	
27	44	528	60	81	104	62	53	137	32	22	87	181	
28	39	517	60	70	85	54	49	117	46	21	32	173	
29	38	368	55	65	---	48	45	57	36	24	21	86	
30	37	205	55	60	---	43	43	38	34	30	17	319	
31	35	---	55	60	---	41	---	30	---	22	17	---	
TOTAL	1737	12065	4964	5370	8490	6566	3001	3221	3663	3002	812	2240	
MEAN	56.0	402	160	173	303	212	100	104	122	96.8	26.2	74.7	
MAX	211	1540	738	931	983	954	296	632	743	731	87	432	
MIN	23	36	55	31	54	41	33	30	22	20	17	16	
CFSM	.67	4.79	1.91	2.06	3.61	2.53	1.19	1.24	1.45	1.15	.31	.89	
IN.	.77	5.35	2.20	2.38	3.76	2.91	1.33	1.43	1.62	1.33	.36	.99	
CAL YR 1985	TOTAL	55555		MEAN	152	MAX	1540	MIN	20	CFSM	1.81	IN.	24.63
WTR YR 1986	TOTAL	55131		MEAN	151	MAX	1540	MIN	16	CFSM	1.80	IN.	24.44

STREAMS TRIBUTARY TO LAKE ERIE

73

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH
(National stream quality accounting network station)

LOCATION.--Lat 41°23'43", long 81°37'48", in T.6 N., R.12 W., Cuyahoga County, Hydrologic Unit 04110002, on left bank 240 ft downstream from bridge on Old Rockside Road, 0.8 mi northeast of Independence, and 3.0 mi downstream from Tinkers Creek.

DRAINAGE AREA.--707 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--September 1903 to December 1905 (fragmentary), January to July 1906 (gage heights and discharge measurements only), September 1921 to May 1923, September 1927 to December 1935, March 1940 to current year.

REVISED RECORDS.--WSP 1307: 1922-23(M), 1928-30(M), 1933(M), 1940(M), 1947(M), 1950(M). WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 583.57 ft above National Geodetic Vertical Datum of 1929. Sept. 21, 1903 to July 21, 1906, nonrecording gage at bridge 240 ft upstream at present datum. Sept. 28, 1921 to May 30, 1923, nonrecording gage at bridge 240 ft upstream at datum 2.42 ft higher. Sept. 5, to Oct. 8, 1927, nonrecording gage, and Oct. 9, 1927, to Dec. 31, 1935, Mar. 5, 1940, to June 19, 1969, water-stage recorder, at site 100 ft upstream at present datum.

REMARKS.--No estimated daily discharges. Records fair. Natural flow of stream affected by diversion, storage reservoirs and power plants. Some diversion from the Tuscarawas River basin drainage into this basin at Portage Lakes (see REMARKS for station 03117000). Water diverted into Ohio Canal at Brecksville, 6 mi upstream from station, bypasses station. These records do not include flow in canal except above about 15,000 ft³/s, when channels merge.

AVERAGE DISCHARGE.--55 years (1921-22, 1927-35, 1940-86), 833 ft³/s, not including flow in Ohio Canal.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 24,800 ft³/s Jan. 22, 1959, gage height, 22.41 ft, from rating curve, extended above 17,000 ft³/s on basis of contracted-opening measurement of peak flow; minimum daily, 21 ft³/s Aug. 28, 1933; minimum combined daily discharge of river and canal, 55 ft³/s Aug. 28, 1933.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,630 ft³/s Nov. 5, gage height, 15.65 ft; minimum daily, 124 ft³/s Sept. 10.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	339	201	1870	631	813	971	637	403	543	459	339	272
2	312	266	1950	604	2360	893	586	409	509	2290	327	242
3	257	620	1680	714	1820	872	573	388	450	1880	304	152
4	155	1920	1460	831	3450	964	508	373	395	1140	286	143
5	170	7490	1300	811	5970	922	556	371	569	828	291	228
6	185	5640	1350	749	3610	963	747	391	1540	667	286	163
7	174	3240	1360	649	2950	935	742	2380	985	521	290	148
8	162	2720	1190	595	2830	762	679	1160	930	493	232	136
9	172	2550	1100	629	2420	1010	722	781	677	2350	228	134
10	185	3780	1340	601	2040	2370	1130	703	644	1260	235	124
11	246	4290	4020	585	1650	3580	1390	675	789	922	451	136
12	244	2970	4090	568	1350	2270	1170	635	2930	1330	319	675
13	267	2690	2840	597	1100	5200	847	566	1470	1290	252	295
14	342	2830	2300	570	943	3720	745	479	1230	1070	191	192
15	540	3380	2060	537	877	3110	959	426	1930	891	195	159
16	293	4330	1870	540	817	2580	869	725	3010	794	294	144
17	263	4900	1670	921	1110	2300	873	490	2210	716	238	125
18	277	3160	1380	2930	2800	2010	779	405	1700	624	187	275
19	513	2480	1090	3770	3250	2450	703	2570	1570	524	193	433
20	303	2220	937	4650	2740	1890	787	1370	1530	446	185	217
21	216	1990	929	2890	3730	1460	1240	1110	1240	380	190	166
22	251	1740	837	2550	3170	1250	1300	1130	1030	343	177	249
23	243	1520	820	2470	2670	1130	968	1200	1270	301	186	468
24	510	1220	882	2160	2210	1080	831	1210	907	305	248	510
25	556	1020	804	1860	1980	981	773	1150	724	338	181	1450
26	371	1900	719	1660	1690	859	690	1020	576	419	371	624
27	282	3110	734	1340	1430	841	630	1230	538	351	676	1070
28	260	2810	670	1090	1210	760	588	1450	928	331	390	1930
29	244	2390	639	980	---	759	508	898	606	334	338	731
30	242	2000	614	843	---	681	418	732	494	353	306	1220
31	248	---	637	807	---	639	---	612	---	318	286	---
TOTAL	8822	81377	45142	41132	62990	50212	23948	27442	33924	24268	8672	12811
MEAN	285	2713	1456	1327	2250	1620	798	885	1131	783	280	427
MAX	556	7490	4090	4650	5970	5200	1390	2570	3010	2350	676	1930
MIN	155	201	614	537	813	639	418	371	395	301	177	124
CAL YR 1985	TOTAL	422645		MEAN	1158	MAX	8020	MIN	155			
WTR YR 1986	TOTAL	420740		MEAN	1153	MAX	7490	MIN	124			

STREAMS TRIBUTARY TO LAKE ERIE

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1948 to September 1949, October 1950 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: July 1965 to current year.

pH: February 1973 to current year.

WATER TEMPERATURES: October 1948 to September 1949, October 1952 to current year.

DISSOLVED OXYGEN: July 1965 to current year.

SUSPENDED SEDIMENT DISCHARGE: Water years 1950-74, December 1976 to September 1984.

INSTRUMENTATION.--Alcohol-actuated thermograph October 1956 to June 1965, water-quality monitor since July 1965.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 3,000 microsiemens Feb. 12, 1977; minimum, 149 microsiemens Nov. 23, 1974.

pH: Maximum, 8.9 units Aug. 27, 28, 1976; minimum, 5.9 units Jan. 26, 1976.

WATER TEMPERATURES: Maximum, 31.0°C Aug. 18, 1949, July 21, 1980; minimum, 0.0°C on many days during winter periods.

DISSOLVED OXYGEN: Maximum, 17.0 mg/L Feb. 22, 1985; minimum, 0.0 mg/L Oct. 23, 1965, Feb. 10-12, June 23, July 26, 1966.

SEDIMENT CONCENTRATIONS: Maximum daily mean, 4,800 mg/L Aug. 21, 1960; minimum daily mean, 1 mg/L Sept. 4, 10, 1955.

SEDIMENT LOADS: Maximum daily, 97,000 tons Sept. 14, 1979; minimum daily, 0.25 ton Sept. 4, 1955.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,790 microsiemens Jan. 17; minimum, 312 microsiemens Nov. 16.

pH: Maximum 8.8 units, Mar. 31, Apr. 1-3; minimum, 7.4 units May 7, June 12, July 2.

WATER TEMPERATURES: Maximum, 28.5°C July 18; minimum, 0.5°C on several days during winter period.

DISSOLVED OXYGEN: Maximum recorded, 15.7 mg/L Apr. 2, 3; minimum, 2.7 mg/L Oct. 22.

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	DIS- SOLVED (PER- CENT SATUR- ATION)	OXYGEN, FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)
NOV 19...	1300	2380	426	7.90	9.0	11.5	25	10.2	95	17000
MAR 13...	0900	5780	545	7.50	5.0	4.5	450	12.4	99	16000
JUN 04...	1430	344	775	8.00	25.0	21.0	10	8.4	97	210
SEP 03...	1130	159	770	8.40	20.0	20.5	12	9.4	108	230

DATE	TIME	STREP- TOCOCCEI FECAL, KF AGAR (COLS. PER 100 ML)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY LAB (MG/L AS CACO3)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
NOV 19...	2000	41	9.4	28	4.3	84	56	45	0.2	8.0	
MAR 13...	3400	35	7.4	55	2.6	82	42	88	0.2	5.2	
JUN 04...	1100	69	16	65	4.9	144	81	110	0.3	6.6	
SEP 03...	100	66	16	62	5.5	137	81	100	0.4	4.9	

DATE	TIME	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)
NOV 19...	267	1.20	0.12	1.1	0.22	0.06	0.03	70	1	41	
MAR 13...	289	0.81	0.15	2.0	0.43	0.03	0.03	--	--	--	
JUN 04...	440	3.00	0.15	0.8	0.24	0.15	0.13	20	2	50	
SEP 03...	440	3.80	0.05	1.2	0.32	0.21	0.18	30	2	46	

STREAMS TRIBUTARY TO LAKE ERIE
04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued
WATER QUALITY DATA

DATE	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COBALT, DIS- SOLVED (UG/L AS CO)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)
NOV 19...	0.6	2	<1	<3	10	200	1	6	49	<0.1
MAR 13...	--	--	--	--	--	--	--	--	--	--
JUN 04...	<0.5	1	<1	<3	5	24	2	14	55	<0.1
SEP 03...	<6	<1	<1	<3	4	13	<5	22	34	<0.1

DATE	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	VANA- DIUM, DIS- SOLVED (UG/L AS V)	ZINC, DIS- SOLVED (UG/L AS ZN)	SED. SUSP. SIEVE DIAM. & FINER THAN .062 MM	SEDI- MENT, SUS- PENDEED (MG/L)
NOV 19...	<10	3	<1	<1	130	<6	20	0	104
MAR 13...	--	--	--	--	--	--	--	5	1280
JUN 04...	<10	2	<1	<1	190	<6	17	2	50
SEP 03...	<10	1	<1	<1	200	<6	7	2	130

STREAMS TRIBUTARY TO LAKE ERIE

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	909	870	892	1050	915	987	444	432	438	1010	846	896
2	984	855	921	1010	906	958	462	423	444	1010	897	951
3	906	858	885	948	747	870	498	444	466	1170	864	976
4	921	909	915	723	492	595	561	504	535	1280	1170	1230
5	966	909	933	450	330	355	555	528	538	1220	1170	1200
6	969	945	960	414	363	395	870	570	726	1180	1100	1150
7	1170	942	1010	465	408	437	873	642	737	1150	1040	1090
8	1010	972	987	468	438	446	636	591	617	1020	930	955
9	999	957	975	441	411	423	648	588	613	939	879	896
10	999	960	975	441	369	402	678	597	647	882	849	868
11	1070	1010	1030	381	357	368	630	402	484	870	843	852
12	1270	1020	1150	414	384	396	423	417	421	921	831	869
13	1020	960	990	438	402	420	483	423	437	1060	933	1010
14	993	837	915	441	372	418	588	489	554	1200	999	1070
15	852	645	769	399	381	391	576	504	533	1200	1070	1120
16	888	819	856	417	312	378	525	492	501	1160	1060	1090
17	915	846	889	372	315	353	636	522	575	1790	1060	1280
18	966	795	929	405	372	383	645	621	632	1350	732	1000
19	810	618	716	423	405	416	657	642	650	774	714	737
20	879	777	852	426	411	421	660	639	650	708	654	679
21	924	858	895	435	411	424	699	648	679	717	645	685
22	927	858	910	462	432	445	750	690	723	693	630	666
23	957	930	949	471	462	465	903	747	807	624	525	558
24	960	861	921	486	474	483	1370	927	1160	525	489	502
25	852	735	771	510	480	502	1320	1190	1280	534	504	515
26	930	846	875	552	366	476	1170	993	1060	618	543	599
27	987	927	953	429	366	404	975	915	934	612	567	586
28	993	894	944	432	390	413	942	912	924	714	603	663
29	960	891	929	429	396	410	912	855	890	762	714	733
30	1360	954	1250	438	426	432	846	810	827	858	753	801
31	1270	951	1070	---	---	---	843	819	831	921	852	875
MONTH	1360	618	936	1050	312	476	1370	402	688	1790	489	874
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	1230	834	918	699	648	667	729	702	718	1010	843	889
2	1650	852	1150	672	654	663	741	711	730	843	822	832
3	852	747	792	693	651	678	747	696	724	849	816	831
4	861	564	741	759	693	740	783	717	749	1140	861	968
5	552	531	539	759	726	749	795	768	785	1290	1160	1240
6	531	492	507	951	726	846	810	756	784	1330	993	1260
7	765	504	602	1170	948	1070	780	750	763	762	510	603
8	807	561	665	1090	966	1000	789	768	779	675	615	645
9	555	504	532	1530	978	1100	798	756	772	735	678	717
10	504	489	494	1260	771	983	834	789	816	732	705	723
11	537	489	504	720	657	678	810	726	781	705	669	696
12	558	534	544	657	627	639	720	693	701	681	654	668
13	591	558	573	651	471	533	732	696	713	699	657	681
14	642	594	620	525	513	519	720	705	712	729	690	713
15	804	645	726	525	504	515	753	696	724	762	702	728
16	933	792	849	510	483	495	717	687	702	780	699	740
17	1540	891	1120	489	474	481	750	720	730	765	672	713
18	1440	732	979	507	480	486	717	705	709	792	753	770
19	738	639	701	588	516	560	726	702	717	768	417	560
20	636	603	621	558	546	553	765	726	748	648	537	592
21	693	594	628	570	561	566	744	675	717	690	648	670
22	708	624	658	588	573	582	693	633	654	666	609	644
23	639	537	582	609	591	605	663	645	657	627	570	598
24	540	516	523	627	600	617	684	654	672	576	528	557
25	534	507	518	654	621	642	705	678	695	549	528	538
26	540	519	525	687	633	670	714	684	698	549	525	541
27	630	543	584	717	681	700	717	693	708	615	534	572
28	765	639	722	702	687	694	732	699	720	603	519	554
29	---	---	---	729	690	710	843	714	757	627	558	603
30	---	---	---	717	702	712	1020	855	920	675	618	653
31	---	---	---	732	702	715	---	---	---	711	657	685
MONTH	1650	489	676	1530	471	683	1020	633	735	1330	417	716

STREAMS TRIBUTARY TO LAKE ERIE

77

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

SPECIFIC CONDUCTANCE, MICROSIEMENS PER CENTIMETER AT 25 DEG. C, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	729	690	711	813	747	773	852	834	847	735	699	717
2	759	711	736	810	363	525	861	843	855	717	696	708
3	759	732	748	501	465	485	873	855	865	753	723	741
4	822	759	782	507	477	493	867	858	863	849	753	811
5	1020	774	915	531	486	513	885	858	874	876	732	809
6	678	471	551	585	528	559	903	882	895	1030	810	922
7	696	543	642	645	582	610	927	879	899	864	813	827
8	717	615	675	726	591	669	915	891	902	894	825	849
9	753	720	738	516	393	454	930	915	924	957	906	935
10	762	738	750	558	474	515	948	879	924	948	924	933
11	789	633	739	669	561	610	1070	855	1000	969	837	946
12	582	411	464	615	537	572	951	798	839	951	615	784
13	516	489	504	552	528	541	918	849	889	750	588	666
14	543	501	528	540	519	530	1130	918	1040	879	759	845
15	510	384	468	561	522	544	1130	1080	1110	933	873	906
16	438	360	408	585	543	563	1070	798	969	957	924	939
17	420	378	393	645	579	619	915	816	892	972	963	966
18	417	381	395	678	630	657	942	894	918	975	876	937
19	459	393	410	693	651	675	930	912	922	942	681	769
20	483	411	443	717	672	691	945	909	925	861	699	789
21	459	432	450	741	702	717	978	939	956	933	867	910
22	495	450	480	768	729	746	1020	972	1000	999	810	927
23	525	477	495	780	762	773	1020	939	977	1320	654	895
24	516	486	505	792	774	784	972	894	921	834	720	781
25	552	501	525	810	783	800	975	918	942	804	483	665
26	594	537	566	828	777	808	909	687	814	738	684	717
27	639	582	608	819	804	810	861	696	798	771	444	697
28	630	537	589	834	810	818	816	753	783	621	402	513
29	690	564	628	843	822	830	804	741	771	690	627	667
30	750	696	715	867	837	852	807	744	767	678	519	631
31	---	---	---	885	849	867	774	702	729	---	---	---
MONTH	1020	360	585	885	363	658	1130	687	897	1320	402	807
YEAR	1790	312	729									

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.50	8.20	8.40	8.50	8.10	8.30	7.90	7.80	7.80	8.00	7.90	8.00
2	8.50	8.20	8.30	8.50	8.10	8.20	7.90	7.80	7.80	8.00	7.90	8.00
3	8.50	8.20	8.40	8.20	8.00	8.10	7.90	7.80	7.80	8.00	8.00	8.00
4	8.60	8.30	8.40	8.00	7.80	7.90	7.90	7.80	7.90	8.00	8.00	8.00
5	8.70	8.30	8.40	7.90	7.80	7.80	7.90	7.90	7.90	8.00	8.00	8.00
6	8.50	8.10	8.30	8.00	7.80	7.90	7.90	7.80	7.90	8.10	8.00	8.00
7	8.50	8.30	8.40	8.10	8.00	8.00	7.90	7.90	7.90	8.10	8.10	8.10
8	8.60	8.30	8.50	8.00	8.00	8.00	7.90	7.90	7.90	8.10	7.90	8.00
9	8.70	8.30	8.50	8.00	8.00	8.00	7.90	7.80	7.90	8.10	8.00	8.00
10	8.60	8.20	8.40	8.00	8.00	8.00	8.00	7.80	7.90	8.00	8.00	8.00
11	8.50	8.10	8.30	8.00	7.90	7.90	7.90	7.70	7.80	8.00	8.00	8.00
12	8.40	8.20	8.20	7.90	7.90	7.90	7.80	7.70	7.80	8.00	8.00	8.00
13	8.40	8.00	8.20	8.00	7.90	7.90	7.80	7.80	7.80	8.00	8.00	8.00
14	8.40	8.00	8.10	8.00	7.90	7.90	7.90	7.80	7.80	8.10	8.00	8.00
15	8.10	8.00	8.00	8.00	7.90	7.90	7.90	7.80	7.80	8.10	8.00	8.00
16	8.30	8.10	8.20	8.00	7.90	8.00	7.90	7.80	7.90	8.10	7.90	8.00
17	8.30	8.20	8.20	8.00	7.80	7.90	8.00	7.90	7.90	8.00	8.00	8.00
18	8.30	8.10	8.20	7.90	7.90	7.90	7.90	7.90	7.90	8.00	7.90	7.90
19	8.20	7.90	7.90	7.90	7.90	7.90	7.90	7.80	7.80	7.90	7.90	7.90
20	8.10	8.00	8.00	7.90	7.80	7.90	7.90	7.80	7.90	7.90	7.80	7.80
21	8.10	8.00	8.10	7.80	7.80	7.80	7.90	7.80	7.90	7.80	7.70	7.80
22	8.20	8.10	8.10	7.90	7.80	7.80	8.00	7.90	7.90	7.90	7.80	7.90
23	8.20	8.00	8.00	7.80	7.80	7.80	8.00	7.90	8.00	7.90	7.80	7.90
24	8.10	7.90	8.00	7.90	7.80	7.80	8.00	7.90	7.90	7.90	7.80	7.90
25	8.20	7.90	8.00	7.90	7.80	7.90	8.00	7.90	7.90	7.80	7.70	7.70
26	8.30	8.10	8.20	7.90	7.70	7.80	8.00	8.00	8.00	7.80	7.70	7.80
27	8.30	8.10	8.20	7.80	7.70	7.80	8.00	7.90	8.00	7.90	7.80	7.90
28	8.40	8.10	8.20	7.90	7.80	7.80	8.00	8.00	8.00	7.90	7.80	7.90
29	8.50	8.20	8.30	7.90	7.80	7.80	8.00	7.90	8.00	7.90	7.80	7.90
30	8.40	8.20	8.30	7.80	7.80	7.80	8.00	7.90	8.00	7.90	7.90	7.90
31	8.40	8.20	8.30	---	---	---	8.00	8.00	8.00	8.00	7.90	7.90
MONTH	8.70	7.90	8.23	8.50	7.70	7.91	8.00	7.70	7.89	8.10	7.70	7.94

STREAMS TRIBUTARY TO LAKE ERIE

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	7.90	7.90	7.90	8.00	7.80	7.90	8.80	8.10	8.50	8.50	7.90	8.10
2	8.00	7.80	7.90	7.90	7.90	7.90	8.80	8.20	8.60	8.50	8.10	8.30
3	8.00	7.90	7.90	7.90	7.90	7.90	8.80	8.10	8.50	8.70	8.20	8.40
4	8.00	7.80	7.90	7.90	7.90	7.90	8.70	8.10	8.40	8.60	8.30	8.50
5	7.80	7.80	7.80	8.00	7.90	8.00	8.40	8.00	8.20	8.60	8.30	8.50
6	7.80	7.70	7.70	8.00	8.00	8.00	8.30	7.80	8.10	8.50	8.10	8.30
7	7.80	7.70	7.80	8.00	7.90	8.00	8.50	7.80	8.10	7.80	7.40	7.60
8	7.80	7.70	7.80	8.00	7.90	8.00	8.60	8.00	8.30	7.90	7.70	7.80
9	7.80	7.70	7.80	8.00	7.90	8.00	8.40	8.00	8.20	8.00	7.70	7.90
10	7.80	7.70	7.70	8.00	7.90	7.90	8.20	7.90	8.00	8.00	7.70	7.90
11	7.80	7.70	7.80	7.90	7.80	7.80	8.20	7.90	8.00	8.10	7.80	7.90
12	7.80	7.70	7.80	7.90	7.90	7.90	8.30	7.90	8.10	8.10	7.80	8.00
13	7.80	7.80	7.80	7.90	7.70	7.80	8.60	7.90	8.20	8.00	7.80	7.90
14	7.90	7.80	7.80	7.70	7.70	7.70	8.70	7.90	8.30	7.90	7.70	7.80
15	7.90	7.80	7.90	7.80	7.70	7.70	8.50	7.80	8.00	8.00	7.70	7.80
16	7.90	7.80	7.80	7.80	7.80	7.80	8.30	7.70	8.00	7.90	7.60	7.70
17	8.00	7.80	7.90	7.80	7.70	7.80	8.60	7.90	8.20	7.90	7.60	7.80
18	7.90	7.80	7.90	7.80	7.60	7.70	8.60	8.00	8.20	7.90	7.70	7.80
19	8.00	7.80	7.80	7.80	7.70	7.80	8.50	8.00	8.20	7.80	7.50	7.70
20	7.80	7.80	7.80	7.90	7.80	7.80	8.20	7.90	8.00	7.80	7.60	7.70
21	7.90	7.80	7.80	7.90	7.80	7.80	7.90	7.80	7.80	7.80	7.80	7.80
22	7.90	7.70	7.80	7.90	7.80	7.80	8.10	7.70	7.90	7.80	7.80	7.80
23	7.80	7.80	7.80	7.90	7.80	7.90	8.40	7.80	8.10	7.80	7.70	7.70
24	7.80	7.80	7.80	8.00	7.90	7.90	8.30	7.80	8.10	7.80	7.70	7.70
25	7.80	7.70	7.80	8.00	7.90	7.90	8.50	7.70	8.10	7.80	7.80	7.80
26	7.80	7.70	7.80	8.00	7.80	7.90	8.70	7.90	8.30	7.80	7.80	7.80
27	7.80	7.80	7.80	8.10	7.80	8.00	8.70	8.00	8.40	7.80	7.70	7.70
28	7.90	7.80	7.90	8.30	7.90	8.10	8.70	8.00	8.40	7.70	7.50	7.60
29	---	---	---	8.50	7.90	8.20	8.60	7.90	8.30	7.80	7.70	7.80
30	---	---	---	8.60	7.90	8.30	8.40	8.10	8.20	7.90	7.70	7.80
31	---	---	---	8.80	8.00	8.40	---	---	---	7.90	7.70	7.80
MONTH	8.00	7.70	7.82	8.80	7.60	7.92	8.80	7.70	8.19	8.70	7.40	7.89
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.90	7.70	7.80	8.00	7.80	7.90	8.50	8.10	8.30	8.30	8.00	8.20
2	8.00	7.80	7.90	7.90	7.40	7.60	8.50	8.10	8.40	8.30	8.00	8.20
3	8.00	7.90	7.90	7.70	7.70	7.70	8.60	8.10	8.30	8.40	8.20	8.30
4	8.00	7.80	7.90	7.80	7.70	7.70	8.60	8.10	8.40	8.40	8.20	8.30
5	7.90	7.70	7.80	7.80	7.70	7.70	8.70	8.10	8.40	8.30	7.90	8.20
6	7.70	7.60	7.70	7.90	7.70	7.80	8.60	8.10	8.30	8.30	7.90	8.10
7	7.90	7.70	7.80	8.00	7.70	7.80	8.50	8.00	8.30	8.30	8.10	8.20
8	7.90	7.70	7.80	8.00	7.60	7.90	8.60	8.00	8.30	8.30	8.10	8.20
9	8.00	7.90	7.90	8.10	7.60	7.70	8.50	8.00	8.30	8.30	8.20	8.20
10	8.10	7.90	8.00	7.80	7.60	7.70	8.20	8.00	8.10	8.30	8.20	8.20
11	8.10	7.80	7.90	7.80	7.70	7.80	8.10	7.90	8.00	8.30	8.00	8.20
12	7.70	7.40	7.60	7.80	7.70	7.80	8.10	7.80	7.90	8.20	7.70	7.80
13	7.70	7.70	7.70	7.90	7.80	7.80	8.10	7.90	8.00	8.00	7.60	7.80
14	7.70	7.70	7.70	7.90	7.80	7.90	8.00	7.90	7.90	8.20	7.90	8.10
15	7.70	7.60	7.70	7.90	7.80	7.90	8.10	7.90	8.00	8.30	8.10	8.20
16	7.70	7.50	7.60	7.90	7.80	7.80	8.20	7.70	8.00	8.40	8.10	8.20
17	7.70	7.60	7.60	8.00	7.80	7.90	8.20	7.70	7.90	8.30	8.20	8.20
18	7.80	7.70	7.70	8.10	7.70	7.90	8.20	7.90	8.00	8.20	7.90	8.10
19	7.80	7.70	7.70	8.20	7.80	7.90	8.20	8.00	8.10	7.90	7.50	7.70
20	7.80	7.50	7.70	8.20	7.80	8.00	8.10	8.00	8.00	8.00	7.70	7.90
21	7.80	7.70	7.70	8.30	7.90	8.10	8.20	8.00	8.10	8.00	7.90	8.00
22	7.90	7.70	7.80	8.40	8.00	8.20	8.20	8.00	8.10	8.00	7.80	7.90
23	7.80	7.70	7.70	8.40	8.00	8.20	8.20	8.10	8.20	7.80	7.70	7.80
24	7.90	7.80	7.80	8.60	8.10	8.30	8.20	7.90	8.10	7.80	7.70	7.80
25	8.00	7.80	7.80	8.50	8.10	8.30	8.20	8.00	8.10	7.80	7.60	7.70
26	7.90	7.80	7.80	8.40	8.10	8.30	8.20	7.80	8.00	7.80	7.60	7.70
27	8.00	7.70	7.80	8.40	8.00	8.20	8.00	7.80	7.90	7.80	7.60	7.80
28	7.90	7.50	7.60	8.40	8.10	8.30	8.40	7.80	8.10	7.70	7.50	7.60
29	8.00	7.60	7.80	8.30	8.10	8.20	8.30	8.00	8.10	7.90	7.80	7.80
30	8.00	7.80	7.90	8.30	8.00	8.20	8.30	8.00	8.10	7.90	7.70	7.80
31	---	---	---	8.50	8.00	8.30	8.30	8.00	8.20	---	---	---
MONTH	8.10	7.40	7.77	8.60	7.40	7.96	8.70	7.70	8.13	8.40	7.50	8.01
YEAR	8.80	7.40	7.97									

STREAMS TRIBUTARY TO LAKE ERIE

79

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	18.5	16.5	17.5	14.0	12.5	13.5	9.0	7.5	8.5	3.5	2.5	3.0
2	16.5	15.5	16.0	14.0	13.5	13.5	9.0	5.5	7.0	3.5	2.5	3.0
3	16.0	14.0	15.0	13.5	13.0	13.5	5.0	5.0	5.0	3.5	3.0	3.5
4	16.0	14.0	15.0	13.5	12.5	13.0	5.5	4.5	5.0	3.5	3.0	3.0
5	16.0	14.0	15.0	12.5	12.0	12.0	5.5	5.0	5.5	3.0	2.5	3.0
6	14.0	13.0	13.5	12.0	11.0	11.5	5.5	5.5	5.5	2.5	1.5	2.5
7	14.5	12.5	13.5	11.0	10.5	11.0	5.5	5.5	5.5	1.5	1.0	1.5
8	15.0	13.0	14.5	10.5	9.5	10.0	6.0	5.0	5.5	1.0	.5	.5
9	17.0	14.5	15.5	10.5	10.0	10.0	5.5	5.0	5.5	2.0	.5	1.0
10	17.5	16.0	16.5	10.5	10.0	10.5	6.5	5.5	6.0	3.0	2.0	2.5
11	17.0	16.0	16.5	10.5	10.0	10.0	7.0	6.5	6.5	3.5	2.5	3.0
12	16.5	15.5	15.5	11.5	10.0	10.5	7.0	6.0	6.5	4.0	3.0	3.5
13	18.0	15.5	17.0	12.5	11.5	12.0	6.0	4.5	5.5	3.5	2.0	2.5
14	17.0	16.5	17.0	13.0	12.0	12.5	4.5	2.5	3.5	2.0	1.5	1.5
15	17.5	16.5	17.0	12.5	11.0	12.0	2.5	2.0	2.0	1.5	.5	1.0
16	16.5	15.0	16.0	11.0	10.0	10.5	2.5	2.0	2.5	2.0	.5	1.5
17	14.5	13.0	14.0	10.0	10.0	10.0	2.5	1.5	2.0	3.0	2.0	2.5
18	16.5	13.5	15.0	10.0	9.0	9.5	1.5	.5	1.0	3.5	2.5	3.0
19	17.5	16.5	17.0	12.5	10.5	11.5	1.5	.5	1.0	3.5	3.0	3.5
20	17.0	15.5	16.5	12.5	10.5	12.0	2.0	1.0	1.5	3.0	2.0	2.5
21	15.5	14.5	14.5	10.5	9.0	10.0	2.5	1.5	2.0	3.0	2.5	3.0
22	15.5	14.5	15.0	9.0	8.5	8.5	2.0	1.0	1.5	3.0	3.0	3.0
23	17.0	15.0	16.0	9.0	8.0	8.5	3.0	2.0	2.5	3.0	2.5	3.0
24	18.5	16.5	17.5	8.0	7.5	8.0	3.0	2.5	3.0	2.5	1.5	2.0
25	17.5	14.5	16.0	7.5	7.0	7.5	2.5	.5	1.5	3.0	2.5	2.5
26	14.5	13.0	14.0	9.5	7.5	8.5	.5	.5	.5	3.5	2.5	3.0
27	13.5	12.5	13.0	10.0	8.5	9.5	1.5	.5	1.0	2.5	1.0	1.5
28	13.5	12.0	13.0	8.5	7.5	8.0	1.5	1.0	1.5	1.0	.5	.5
29	12.0	11.0	11.5	7.5	7.0	7.0	1.5	.5	1.5	1.5	.5	1.0
30	12.0	11.0	11.5	8.0	7.0	7.5	1.5	.5	1.0	2.5	1.5	2.0
31	13.0	11.5	12.5	---	---	---	3.0	1.5	2.5	2.5	1.5	2.0
MONTH	18.5	11.0	15.0	14.0	7.0	10.5	9.0	.5	3.5	4.0	.5	2.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	3.5	2.5	3.0	3.0	1.0	2.0	16.0	13.0	14.5	18.5	16.5	17.0
2	3.0	1.5	2.5	4.5	2.5	3.5	15.5	13.5	14.5	17.0	14.0	15.0
3	3.0	2.5	2.5	5.0	4.0	4.5	14.5	12.0	13.5	14.5	12.5	13.5
4	4.0	3.0	3.5	4.5	4.5	4.5	16.0	13.5	14.5	16.0	12.5	14.5
5	5.0	4.5	5.0	5.0	4.0	4.5	15.0	14.5	15.0	18.5	15.0	16.5
6	4.5	3.5	4.0	5.0	3.0	4.0	16.0	14.0	15.0	20.5	18.0	19.0
7	3.5	2.5	3.0	3.0	1.5	2.5	16.5	14.0	15.5	19.5	16.5	18.0
8	2.5	2.0	2.5	3.0	1.0	2.0	16.0	14.5	15.5	20.0	17.5	18.5
9	2.5	2.0	2.5	4.5	2.5	3.5	14.5	10.0	12.5	19.5	17.0	18.5
10	2.5	2.0	2.0	8.0	4.0	5.5	10.0	8.5	9.0	20.5	17.0	18.5
11	2.0	1.5	2.0	7.5	5.5	6.5	10.0	7.5	8.5	20.5	17.5	19.0
12	2.0	1.5	2.0	5.5	4.5	4.5	11.5	8.5	10.0	20.5	17.5	19.0
13	2.0	1.0	1.5	6.0	4.5	5.0	13.0	10.0	11.5	19.5	18.5	19.0
14	2.0	1.5	2.0	7.0	6.0	6.5	13.5	10.5	12.5	20.0	18.0	19.0
15	3.0	2.0	2.5	7.0	6.5	6.5	14.0	12.5	13.5	20.5	19.0	20.0
16	2.5	2.0	2.5	6.5	5.5	6.0	12.5	10.5	11.5	21.5	19.0	20.5
17	3.5	2.5	3.0	5.5	5.0	5.5	13.0	10.0	11.5	23.0	20.0	21.5
18	3.5	2.5	3.0	7.0	5.0	6.0	14.5	11.0	13.0	23.0	21.5	22.0
19	4.5	3.5	4.0	8.5	7.0	8.0	16.0	12.5	14.5	22.0	18.5	20.0
20	5.0	4.0	4.5	7.5	4.5	6.0	15.0	14.0	14.5	19.5	17.0	18.0
21	4.5	3.0	3.5	5.5	3.5	4.5	14.0	12.0	13.0	17.0	16.5	17.0
22	3.5	2.5	3.0	6.5	4.0	5.0	12.0	9.5	10.5	17.0	16.0	16.0
23	3.5	3.0	3.0	7.5	5.5	6.5	12.0	9.0	10.5	17.5	15.5	16.5
24	3.5	2.5	3.0	8.0	6.0	7.0	13.5	10.5	12.0	18.5	16.5	17.5
25	3.5	2.5	3.0	10.0	7.0	8.5	16.5	13.0	15.0	19.0	17.0	18.0
26	3.5	2.5	3.0	11.5	10.0	10.5	18.0	15.5	17.0	20.5	18.0	19.5
27	3.5	2.5	3.0	11.0	9.0	10.0	20.0	16.5	18.5	20.5	18.5	19.5
28	2.5	1.5	2.0	11.0	8.0	9.5	21.0	18.0	19.5	21.5	18.5	20.0
29	---	---	---	14.0	10.5	12.5	19.5	18.0	19.0	22.5	19.5	21.0
30	---	---	---	15.5	12.5	14.0	18.5	16.5	17.0	23.5	20.5	22.0
31	---	---	---	15.5	13.0	14.5	---	---	---	24.0	21.5	23.0
MONTH	5.0	1.0	3.0	15.5	1.0	6.5	21.0	7.5	14.0	24.0	12.5	18.5

STREAMS TRIBUTARY TO LAKE ERIE

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	25.0	23.0	24.0	21.0	19.5	20.5	25.5	23.0	24.5	21.5	19.5	20.5
2	23.5	21.0	22.0	22.5	20.5	21.5	25.5	23.0	24.5	22.0	20.0	21.0
3	21.0	18.5	20.0	22.0	20.0	21.0	25.5	23.0	24.5	23.0	20.5	22.0
4	22.0	19.0	20.5	22.5	20.0	21.0	25.0	22.5	24.0	23.5	22.0	22.5
5	22.5	21.0	22.0	24.0	21.0	22.5	25.0	22.5	23.5	23.5	22.0	23.0
6	21.0	19.5	20.5	25.5	22.5	24.0	24.5	22.5	23.5	22.5	21.0	22.0
7	23.5	21.0	22.0	27.0	24.0	25.5	25.0	23.0	24.0	21.5	20.0	20.5
8	24.5	22.0	23.0	26.0	25.0	25.5	25.0	23.0	24.0	19.5	18.0	19.0
9	24.0	22.0	23.0	24.0	23.0	23.5	25.5	23.0	24.5	19.0	17.5	18.5
10	23.0	21.0	22.0	24.0	21.5	23.0	24.5	22.5	23.5	20.0	18.0	19.0
11	25.0	22.5	23.5	23.0	21.5	22.0	23.5	21.5	22.5	22.0	20.0	21.0
12	23.5	22.0	23.0	24.0	22.0	23.0	23.0	20.5	22.0	21.5	20.0	20.5
13	24.0	22.0	23.0	25.0	23.0	24.0	23.5	20.5	22.0	20.5	18.5	19.5
14	24.0	22.5	23.5	24.5	23.0	24.0	24.0	22.0	23.0	20.5	19.0	20.0
15	24.0	22.0	23.0	25.0	22.5	23.5	25.5	23.5	24.5	20.5	18.5	19.5
16	24.5	21.5	23.0	25.0	23.5	24.0	25.0	24.0	24.5	20.0	18.5	19.0
17	23.5	21.5	22.0	27.0	23.5	25.0	25.5	23.0	24.5	18.5	17.0	18.0
18	22.5	19.5	21.0	28.5	25.5	27.0	26.0	24.0	25.0	17.5	16.5	17.0
19	21.5	20.0	20.5	28.0	27.0	27.5	25.5	24.0	25.0	19.0	17.5	18.5
20	22.0	20.5	21.0	28.0	27.0	27.5	25.0	23.5	24.5	21.0	19.0	20.0
21	23.0	20.0	21.5	27.5	25.5	26.5	25.5	23.5	24.5	21.5	20.5	21.0
22	24.0	21.5	23.0	26.5	24.0	25.5	25.5	24.0	25.0	21.0	20.0	20.5
23	24.5	23.0	23.5	26.5	23.5	25.0	25.5	24.5	25.0	21.5	20.5	21.0
24	23.5	21.5	22.5	27.5	24.0	26.0	24.0	22.5	23.5	21.5	21.0	21.5
25	22.5	20.0	21.5	27.0	24.5	26.0	23.0	21.0	21.5	22.5	20.0	21.5
26	22.5	20.0	21.5	26.0	24.5	25.5	22.0	20.5	21.5	24.0	22.0	23.0
27	23.0	21.0	22.0	26.5	24.0	25.5	22.0	21.0	21.5	23.5	21.5	23.0
28	24.0	21.5	23.0	26.5	24.5	25.5	20.5	19.5	20.0	23.0	21.5	22.0
29	24.5	22.5	23.5	26.0	24.5	25.0	19.5	18.5	19.0	24.0	22.0	23.0
30	24.0	20.5	22.0	25.5	22.5	24.0	20.5	17.5	19.0	24.0	23.0	23.5
31	---	---	---	25.5	23.0	24.5	21.5	18.5	20.0	---	---	---
MONTH	25.0	18.5	22.0	28.5	19.5	24.5	26.0	17.5	23.0	24.0	16.5	20.5
YEAR	28.5	.5	13.5									

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	8.4	6.9	7.7	9.2	7.6	8.5	11.1	10.6	10.9	13.1	12.3	12.6
2	9.7	7.0	8.1	8.6	7.2	7.7	11.5	10.4	10.9	13.0	12.5	12.7
3	10.1	8.2	9.2	7.6	6.3	6.9	11.7	11.4	11.5	12.8	12.5	12.7
4	9.8	8.2	9.1	8.3	7.3	8.0	11.8	11.6	11.7	14.1	12.4	12.9
5	9.3	8.0	8.6	8.6	8.0	8.5	11.7	11.4	11.5	14.1	12.0	12.9
6	9.9	7.8	8.8	9.8	8.6	9.3	11.5	11.1	11.4	14.5	12.7	13.4
7	10.8	8.1	9.4	10.1	9.7	9.9	11.5	11.4	11.5	15.0	13.5	14.2
8	11.2	8.9	10.1	10.4	9.9	10.3	11.6	11.4	11.5	15.6	13.5	15.0
9	11.1	8.6	10.0	10.5	10.3	10.4	11.7	11.4	11.6	15.6	14.0	15.1
10	10.0	8.0	9.0	10.5	10.1	10.3	11.6	11.1	11.4	14.9	13.3	14.4
11	9.3	7.2	8.2	10.5	10.1	10.3	11.3	10.7	11.1	14.8	13.3	14.5
12	8.2	6.9	7.2	10.4	10.1	10.3	11.4	11.0	11.2	14.5	14.2	14.3
13	7.2	5.8	6.5	10.0	9.7	9.8	11.7	11.4	11.5	14.6	13.4	14.3
14	6.1	5.3	5.5	9.9	9.3	9.7	12.4	11.7	12.0	15.1	13.7	14.7
15	5.4	5.1	5.3	10.2	9.5	9.9	12.6	12.3	12.4	15.1	12.2	14.2
16	5.6	4.9	5.2	10.6	10.1	10.3	12.6	12.3	12.5	14.2	11.9	13.5
17	5.2	4.7	4.9	10.6	10.0	10.3	12.5	12.3	12.4	13.8	13.4	13.5
18	4.7	4.1	4.4	10.7	10.5	10.6	13.0	12.1	12.5	13.9	13.2	13.7
19	4.0	3.8	3.9	10.5	10.0	10.3	13.0	12.5	12.8	13.6	11.9	13.0
20	3.9	3.4	3.7	10.3	9.8	10.0	13.7	12.1	12.8	13.7	11.8	13.2
21	3.4	3.1	3.3	10.7	10.2	10.5	13.3	11.8	12.3	13.6	11.9	13.1
22	3.0	2.7	2.8	10.8	10.6	10.7	13.2	12.0	12.4	13.7	12.3	13.4
23	8.5	8.1	8.2	10.9	10.5	10.8	12.9	11.7	12.2	14.0	13.6	13.8
24	8.1	6.9	7.5	11.1	10.9	11.0	12.2	11.1	11.6	14.2	13.7	14.0
25	8.7	6.9	7.9	11.2	10.9	11.1	12.9	11.7	12.0	13.6	11.4	12.4
26	9.8	8.2	9.1	11.0	10.1	10.7	13.8	12.4	13.0	11.4	10.8	11.2
27	9.7	8.5	9.2	10.7	10.1	10.4	13.2	11.3	12.2	11.3	10.6	10.8
28	10.5	8.5	9.7	11.1	10.6	10.9	12.8	11.6	12.2	11.9	11.0	11.4
29	10.9	9.3	10.2	11.3	11.1	11.2	13.3	12.3	12.7	12.2	11.0	11.2
30	10.1	7.5	8.6	11.2	11.1	11.1	13.9	12.1	12.7	12.4	11.2	11.5
31	9.6	7.2	8.8	---	---	---	13.0	12.4	12.7	12.6	11.5	12.0
MONTH	11.2	2.7	7.4	11.3	6.3	10.0	13.9	10.4	12.0	15.6	10.6	13.2

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY				MARCH			APRIL			MAY		
1	12.9	11.4	11.8	13.2	12.8	13.0	15.0	9.4	11.9	10.7	6.3	8.5
2	13.3	11.3	11.9	12.8	12.3	12.6	15.7	9.2	12.1	10.9	7.0	8.8
3	13.3	11.8	12.3	12.5	12.2	12.3	15.7	9.8	12.5	12.3	7.9	10.1
4	12.6	11.8	12.3	12.2	12.0	12.1	15.0	9.2	11.6	12.2	8.3	10.3
5	12.4	11.6	12.0	12.6	12.1	12.3	12.5	8.7	10.5	9.8	7.4	8.8
6	12.2	11.9	12.1	12.4	11.5	12.0	11.6	8.8	10.0	8.1	5.8	6.9
7	12.3	12.0	12.1	13.1	12.1	12.7	12.6	8.3	10.3	5.8	4.5	5.2
8	12.6	12.3	12.5	13.7	12.9	13.2	13.7	8.6	11.0	6.7	5.8	6.3
9	12.5	12.4	12.5	13.1	12.4	12.7	12.4	8.8	10.6	7.0	5.9	6.4
10	12.5	12.4	12.5	12.6	11.3	12.1	11.4	10.2	10.8	7.1	5.8	6.3
11	12.5	12.3	12.4	12.0	11.0	11.6	11.8	10.7	11.1	7.2	5.8	6.4
12	12.4	12.2	12.4	12.3	12.0	12.2	13.0	10.2	11.4	8.2	5.9	6.8
13	12.5	12.3	12.4	12.5	11.8	12.1	13.8	10.0	11.7	8.6	7.7	8.1
14	12.3	11.6	12.0	11.9	11.5	11.8	14.1	9.6	11.6	8.3	7.6	7.9
15	11.9	11.6	11.8	11.8	11.4	11.6	11.1	8.8	9.9	9.1	7.4	8.1
16	11.9	11.6	11.8	12.1	11.7	11.9	12.1	8.7	10.2	7.9	6.7	7.5
17	11.8	11.4	11.7	12.7	12.0	12.4	12.9	9.7	10.9	8.4	6.5	7.6
18	11.8	11.5	11.8	12.4	11.6	12.2	12.9	9.2	10.6	8.0	7.0	7.4
19	12.6	11.5	12.1	11.5	10.7	11.0	12.4	8.5	9.9	7.6	7.1	7.4
20	12.6	12.2	12.5	12.0	11.1	11.6	9.7	7.8	8.6	8.2	7.6	7.9
21	13.2	12.3	12.8	12.5	11.9	12.3	9.0	8.0	8.4	8.5	8.2	8.4
22	13.5	13.1	13.3	12.6	12.0	12.3	10.0	7.8	9.2	8.8	8.4	8.6
23	13.2	13.0	13.1	12.2	11.7	12.0	11.5	9.1	10.2	8.7	7.9	8.3
24	13.3	13.0	13.2	12.6	11.7	12.1	11.6	8.3	9.7	8.5	8.2	8.3
25	13.2	13.0	13.1	12.4	11.0	11.8	11.2	7.5	9.1	8.7	8.3	8.5
26	13.0	12.7	12.9	11.7	10.3	10.9	11.6	7.1	9.2	8.6	8.1	8.4
27	13.0	12.7	12.8	11.9	9.9	10.9	12.1	6.9	9.2	8.2	7.9	8.1
28	13.2	12.8	13.0	13.2	10.8	11.8	11.6	6.5	8.8	7.9	7.1	7.6
29	---	---	---	13.3	10.1	11.4	10.5	6.1	8.1	8.0	7.2	7.7
30	---	---	---	14.0	9.5	11.5	9.2	6.5	7.5	7.7	7.1	7.4
31	---	---	---	14.9	9.4	11.8	---	---	---	7.9	6.5	7.2
MONTH	13.5	11.3	12.4	14.9	9.4	12.0	15.7	6.1	10.2	12.3	4.5	7.8
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
JUNE				JULY			AUGUST			SEPTEMBER		
1	7.6	6.1	6.8	9.4	8.2	8.7	10.6	6.6	8.5	10.4	7.9	9.2
2	8.4	6.7	7.5	8.4	6.0	7.4	10.4	6.4	8.5	10.7	7.6	9.2

STREAMS TRIBUTARY TO LAKE ERIE

04208502 BIG CREEK AT CLEVELAND, OH

LOCATION.--Lat 41°27'01", long 81°43'18", Cuyahoga County, Hydrologic Unit 04110002, on right bank 8 ft downstream from footbridge in Brookside Park, 0.2 mi upstream from bridge on Fulton Road and 2.5 mi upstream from mouth.

DRAINAGE AREA.--35.3 mi².

PERIOD OF RECORD.--October 1972 to September 1986 (discontinued).

RECORDS.-- WRD OH-82-2: 1973-81.

GAGE.--Water-stage recorder. Datum of gage is 620.7 ft above National Geodetic Vertical Datum of 1929 (levels by U.S. Army Corps of Engineers).

REMARKS.--Estimated daily discharges: Dec. 19 to Jan. 16, Jan. 23 to Feb. 16, and Feb. 27 to Mar. 4. Records poor. Flow slightly regulated by industry upstream from station. Water-quality data collected at this site 1972 to 1977.

AVERAGE DISCHARGE.--14 years, 57.9 ft³/s, 22.27 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,100 ft³/s Aug. 24, 1975, gage height, 16.20 ft (from flood-marks), from rating curve extended above 500 ft³/s on basis of slope-area measurements of peak flow; minimum daily, 2.3 ft³/s Sept. 16-17, 1973.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 2,700 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 5	0445	3,630	10.24	Aug. 26	1830	2,700	8.37
Mar. 13	0430	2,900	8.78	Sept. 25	0830	4,790	12.12
May 16	0330	2,860	8.71	Sept. 27	1900	4,240	11.30
May 19	0845	3,440	9.87	Sept. 30	1700	3,360	9.72
June 15	2045	*5,380	*12.85				

Minimum daily discharge, 4.7 ft³/s Oct. 8.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	6.1	42	12	17	19	14	12	11	22	14	13
2	8.1	6.1	43	12	120	18	20	8.1	17	48	9.3	8.0
3	10	160	22	40	100	17	13	6.8	8.5	62	7.6	13
4	15	563	21	44	450	17	29	7.0	33	13	8.0	7.9
5	15	1580	25	40	600	30	20	7.7	55	12	8.0	38
6	16	252	81	32	200	66	151	171	42	6.6	10	9.5
7	10	80	41	23	70	37	37	126	40	6.4	53	8.7
8	4.7	41	27	19	35	32	19	17	41	92	18	9.0
9	6.9	141	22	16	26	53	70	12	12	293	8.9	6.8
10	36	289	120	14	23	284	85	9.0	9.0	32	24	6.4
11	36	140	596	13	21	126	69	7.9	21	46	26	75
12	6.5	67	159	12	19	70	34	7.9	50	59	7.8	224
13	44	127	55	12	18	618	20	8.2	13	54	6.3	16
14	51	83	40	11	17	113	15	9.6	8.8	16	7.0	13
15	352	45	29	11	16	62	59	9.3	549	11	7.4	8.9
16	17	492	25	11	15	37	24	284	179	26	69	8.2
17	9.1	90	23	137	84	26	48	17	31	16	13	8.0
18	189	37	21	128	111	24	23	26	12	10	7.2	68
19	259	25	20	336	201	116	16	454	53	9.4	6.5	12
20	39	26	19	412	82	34	72	71	26	8.7	6.1	9.1
21	17	19	18	429	155	22	68	32	12	8.1	5.9	8.6
22	11	149	18	457	77	20	44	32	63	8.0	6.7	92
23	8.0	30	17	200	53	18	30	25	48	8.1	51	184
24	143	20	16	100	41	16	26	18	12	7.7	14	21
25	19	36	16	48	31	15	25	13	9.2	14	6.2	804
26	10	422	15	25	24	15	24	11	8.5	41	289	46
27	11	214	14	22	22	19	22	62	32	10	161	976
28	6.9	167	14	20	20	17	18	38	23	8.9	18	346
29	6.3	60	13	19	---	14	11	16	10	9.8	12	27
30	6.0	33	13	18	---	14	15	12	25	9.1	13	654
31	6.0	---	13	18	---	16	---	11	---	6.7	8.8	---
TOTAL	1402.5	5400.2	1598	2691	2648	1985	1121	1541.5	1454.0	974.5	902.7	3721.1
MEAN	45.2	180	51.5	86.8	94.6	64.0	37.4	49.7	48.5	31.4	29.1	124
MAX	352	1580	596	457	600	618	151	454	549	293	289	976
MIN	4.7	6.1	13	11	15	14	11	6.8	8.5	6.4	5.9	6.4
CAL YR 1985	TOTAL	22045.6	MEAN	60.4	MAX	1580	MIN	4.7				
WTR YR 1986	TOTAL	25439.5	MEAN	69.7	MAX	1580	MIN	4.7				

STREAMS TRIBUTARY TO LAKE ERIE

83

04208506 CUYAHOGA RIVER AT WEST THIRD STREET BRIDGE, IN CLEVELAND, OH

LOCATION.--Lat 41°29'17", long 81°41'07", in T.7 N., R.12 W., Cuyahoga County, Hydrologic Unit 04110002, on left bank just upstream from bridge on West Third Street in Cleveland, 3.0 mi upstream from mouth, and 1.2 mi downstream from turning basin.

DRAINAGE AREA.--798 mi².

PERIOD OF RECORD.--November 1966 to current year.

PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: November 1966 to current year.

pH: November 1966 to current year.

WATER TEMPERATURES: November 1966 to current year.

DISSOLVED OXYGEN: November 1966 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. No discharge records available.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 3,480 microsiemens Feb. 12, 13, 1985; minimum, 192 microsiemens May 22, 1984.

pH: Maximum, 9.3 units Sept. 14, 1969; minimum, 4.3 units May 16, 1969.

WATER TEMPERATURES: Maximum, 35.0°C July 24, 1967; minimum, 1.0°C Jan. 1, 1969.

DISSOLVED OXYGEN: Maximum, 15.7 mg/L Mar. 31, 1984; minimum, 0.0 mg/L on many days during 1967, 1968, 1971 to 1974, 1977 to 1984.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 2,330 microsiemens Jan. 18; minimum, 369 microsiemens Nov. 17.

pH: Maximum, 8.2 units Feb. 2; minimum, 7.1 units Oct. 1, 2, 20, 21, Nov. 4, July 1.

WATER TEMPERATURES: Maximum, 29.5°C Aug. 20; minimum, 1.5°C Jan. 28, 29.

DISSOLVED OXYGEN: Maximum, 13.4 mg/L Mar. 13; minimum, 0.1 mg/L Sept 8.

STREAMS TRIBUTARY TO LAKE ERIE

04208506 CUYAHOGA RIVER AT WEST THIRD STREET STREET BRIDGE, IN CLEVELAND, OH--Continued
 SPECIFIC CONDUCTANCE (MICROSIEMENS/CM at 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	960	951	957	1160	1060	1100	558	543	549	1120	1090	1110
2	954	939	949	1800	1160	1210	579	552	567	1240	1120	1200
3	945	936	939	1180	1030	1120	609	552	576	1260	1230	1240
4	963	936	951	990	531	758	705	612	666	1670	1220	1440
5	978	963	971	546	399	432	756	714	737	1660	1550	1620
6	996	981	991	486	408	451	1040	723	825	1650	1500	1560
7	1030	996	1020	561	489	513	1190	1040	1130	1660	1580	1610
8	1030	1020	1020	564	543	554	1030	822	910	1580	1430	1490
9	1020	1010	1020	549	528	541	822	768	799	1420	1250	1310
10	1030	1020	1020	537	462	503	825	756	784	1250	1110	1170
11	1040	1010	1030	456	426	440	840	480	641	1120	1080	1100
12	1010	966	989	516	450	483	501	483	490	1100	1050	1070
13	969	957	963	543	498	517	537	498	512	1140	1070	1090
14	1040	969	1010	543	507	518	777	549	643	1370	1160	1250
15	1000	576	756	510	456	470	834	741	793	1570	1390	1490
16	678	558	620	522	393	471	762	639	693	1710	1600	1670
17	852	678	773	444	369	405	747	660	708	1740	1590	1650
18	945	828	875	489	444	457	891	762	858	2330	1230	1710
19	933	639	792	519	483	501	921	867	905	1190	978	1050
20	681	630	655	549	519	530	918	894	907	1010	873	931
21	762	660	702	546	513	529	912	894	906	1090	981	1020
22	891	762	835	558	531	541	999	906	949	1110	1020	1080
23	957	894	931	585	555	572	1060	978	1010	1010	792	886
24	984	957	971	606	579	594	1700	1070	1340	789	714	742
25	972	855	882	648	606	626	2180	1800	2040	738	708	717
26	918	888	905	675	495	609	2040	1720	1840	858	744	807
27	912	879	891	495	456	472	1700	1420	1530	927	861	895
28	981	918	952	552	492	519	1420	1320	1360	912	855	882
29	1020	987	1010	507	477	489	1420	1380	1400	1060	915	1000
30	1030	1010	1020	543	510	532	1380	1220	1300	1200	1060	1130
31	1050	1030	1040	---	---	---	1210	1120	1160	1380	1210	1290
MONTH	1050	558	917	1800	369	582	2180	480	953	2330	708	1200
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	1380	1370	1370	1070	924	1020	858	840	846	996	888	928
2	2240	1380	1760	963	894	928	867	846	856	1070	1000	1050
3	1450	1100	1230	897	867	884	903	864	883	1070	1030	1050
4	1200	861	1060	915	873	897	909	897	903	1020	1010	1020
5	825	639	685	991	909	951	951	900	921	1020	1010	1010
6	666	633	651	1040	971	991	960	897	937	1100	1010	1050
7	927	630	719	1550	1040	1370	903	825	850	1100	579	767
8	1100	927	1020	1620	1510	1560	873	843	854	711	618	659
9	918	783	825	1560	1370	1440	921	876	898	774	711	751
10	792	693	731	1640	1150	1440	921	909	916	840	777	807
11	714	684	700	1240	761	853	972	903	936	855	840	849
12	735	693	723	801	741	767	921	831	887	852	816	834
13	780	735	763	831	530	659	840	822	832	819	810	813
14	849	771	820	621	540	591	870	831	850	816	801	806
15	933	825	873	621	591	604	876	849	860	837	804	821
16	1160	942	1050	621	591	603	870	819	838	858	690	777
17	1660	1160	1270	591	571	580	873	801	829	774	687	743
18	2040	1260	1680	591	571	580	876	840	858	822	774	798
19	1020	885	930	711	591	645	870	843	852	819	486	654
20	876	768	791	657	630	640	879	852	862	621	510	564
21	831	768	797	687	654	669	873	813	843	750	624	702
22	933	843	902	720	687	710	825	774	805	792	750	774
23	936	786	863	741	711	730	792	771	779	783	735	767
24	777	681	721	762	726	746	813	777	798	732	690	715
25	696	678	688	765	735	752	825	801	817	687	657	677
26	693	678	686	792	750	774	837	822	829	669	651	660
27	765	684	717	852	783	808	846	831	838	660	648	655
28	933	780	877	873	846	858	891	837	866	696	624	646
29	---	---	---	870	843	853	879	864	871	657	624	636
30	---	---	---	864	834	848	900	882	892	756	660	708
31	---	---	---	864	828	845	---	---	---	798	759	778
MONTH	2240	630	925	1640	530	858	972	771	860	1100	486	789

04208506 CUYAHOGA RIVER AT WEST THIRD STREET STREET BRIDGE, IN CLEVELAND, OH--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM at 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	843	798	818	792	732	755	963	864	921	792	783	788
2	846	828	835	852	456	728	963	882	896	792	753	773
3	861	828	848	558	456	519	963	885	893	879	735	792
4	879	861	865	570	543	557	900	885	891	882	855	867
5	912	882	898	603	573	590	912	873	902	909	882	897
6	897	630	828	636	597	615	891	867	880	918	906	911
7	675	618	649	666	636	650	888	879	884	927	912	917
8	717	612	692	714	669	689	900	882	892	966	924	944
9	738	711	722	750	435	573	894	864	883	981	966	975
10	837	747	789	564	459	501	885	852	865	978	957	969
11	879	822	849	666	567	602	990	849	925	1010	978	987
12	873	480	626	735	672	712	921	831	855	1020	642	818
13	558	495	514	678	609	637	948	825	874	732	648	677
14	633	564	607	636	624	630	969	948	962	816	735	790
15	663	444	611	648	621	634	1010	885	975	852	819	830
16	486	405	441	669	639	657	1070	897	983	873	825	850
17	537	471	501	708	669	691	1100	1000	1080	969	870	912
18	504	486	492	744	699	723	1070	903	981	1150	936	978
19	528	507	518	783	744	765	942	897	913	1010	960	993
20	579	522	550	798	783	792	909	879	890	969	933	951
21	588	537	570	798	789	794	885	879	881	939	894	923
22	594	570	580	816	795	806	900	879	889	930	879	909
23	606	591	599	828	813	822	930	903	915	915	756	829
24	609	582	598	876	819	849	939	918	934	756	693	721
25	657	606	626	933	885	910	918	858	888	795	414	600
26	708	645	677	945	897	922	867	756	834	705	561	625
27	732	705	716	903	867	880	786	516	603	792	513	743
28	765	735	756	912	855	880	681	576	624	549	429	508
29	768	702	725	903	837	882	771	684	731	651	528	581
30	732	705	716	903	834	848	786	774	781	771	513	681
31	---	---	---	930	831	865	783	774	779	---	---	---
MONTH	912	405	674	945	435	725	1100	516	878	1150	414	825
YEAR	2330	369	849									

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.20	7.10	7.20	7.50	7.40	7.50	7.50	7.40	7.40	7.80	7.70	7.70
2	7.20	7.10	7.20	7.60	7.40	7.50	7.50	7.40	7.50	7.80	7.70	7.70
3	7.30	7.20	7.30	7.40	7.30	7.30	7.50	7.40	7.40	7.80	7.70	7.80
4	7.40	7.30	7.30	7.40	7.10	7.30	7.70	7.40	7.50	7.80	7.70	7.70
5	7.40	7.30	7.30	7.60	7.40	7.50	7.60	7.50	7.50	7.80	7.70	7.80
6	7.30	7.20	7.30	7.60	7.40	7.50	7.50	7.50	7.50	7.90	7.80	7.80
7	7.30	7.20	7.30	7.60	7.50	7.50	7.50	7.50	7.50	7.80	7.70	7.80
8	7.30	7.20	7.20	7.70	7.50	7.60	7.60	7.50	7.50	7.80	7.70	7.80
9	7.30	7.30	7.30	7.60	7.50	7.50	7.60	7.50	7.60	7.80	7.70	7.80
10	7.40	7.30	7.30	7.60	7.50	7.50	7.70	7.50	7.60	7.80	7.80	7.80
11	7.40	7.30	7.30	7.70	7.50	7.60	7.80	7.60	7.70	8.00	7.80	7.80
12	7.30	7.20	7.30	7.60	7.40	7.50	7.80	7.70	7.70	7.80	7.70	7.80
13	7.30	7.20	7.20	7.50	7.40	7.40	8.00	7.70	7.70	7.80	7.70	7.70
14	7.30	7.20	7.30	7.50	7.30	7.40	7.90	7.70	7.70	7.80	7.70	7.70
15	7.40	7.30	7.30	7.50	7.40	7.40	7.80	7.70	7.70	7.80	7.80	7.80
16	7.40	7.20	7.30	7.60	7.40	7.50	7.80	7.60	7.70	7.90	7.80	7.80
17	7.40	7.30	7.30	7.60	7.40	7.50	8.00	7.70	7.80	7.90	7.80	7.80
18	7.40	7.20	7.30	7.50	7.30	7.40	7.90	7.70	7.70	7.90	7.70	7.80
19	7.30	7.20	7.20	7.50	7.30	7.40	7.80	7.70	7.70	7.90	7.80	7.90
20	7.30	7.10	7.20	7.50	7.30	7.30	7.80	7.70	7.70	8.00	7.80	7.90
21	7.20	7.10	7.10	7.60	7.30	7.30	7.80	7.70	7.70	8.10	7.80	7.80
22	7.30	7.20	7.20	7.70	7.30	7.40	7.80	7.70	7.80	8.00	7.80	7.90
23	7.40	7.30	7.30	7.50	7.40	7.40	7.80	7.70	7.70	7.90	7.80	7.90
24	7.40	7.30	7.30	7.50	7.40	7.40	7.80	7.70	7.70	8.10	7.80	7.90
25	7.40	7.30	7.30	7.50	7.30	7.40	7.80	7.70	7.70	7.80	7.80	7.80
26	7.50	7.30	7.40	7.50	7.30	7.40	7.80	7.70	7.80	7.80	7.70	7.80
27	7.40	7.30	7.30	7.50	7.30	7.40	7.80	7.80	7.80	7.80	7.80	7.80
28	7.40	7.30	7.30	7.50	7.40	7.50	8.00	7.70	7.80	7.80	7.80	7.80
29	7.40	7.40	7.40	7.50	7.50	7.50	7.80	7.70	7.90	7.80	7.70	7.80
30	7.40	7.40	7.40	7.50	7.40	7.50	8.00	7.80	7.90	7.80	7.70	7.80
31	7.50	7.40	7.40	---	---	---	8.00	7.70	7.90	7.90	7.70	7.80
MONTH	7.50	7.10	7.28	7.70	7.10	7.44	8.00	7.40	7.67	8.10	7.70	7.80

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	7.80	7.70	7.70	8.10	7.80	7.90	7.80	7.60	7.70	7.40	7.40	7.40
2	7.80	7.70	7.80	7.80	7.70	7.70	7.80	7.60	7.70	7.40	7.30	7.40
3	7.90	7.70	7.80	7.80	7.70	7.70	7.80	7.60	7.70	7.50	7.40	7.40
4	8.00	7.60	7.80	7.80	7.70	7.70	7.80	7.70	7.70	7.50	7.40	7.40
5	8.00	7.70	7.80	7.80	7.70	7.70	7.60	7.50	7.60	7.50	7.40	7.40
6	7.80	7.70	7.80	7.80	7.70	7.80	7.60	7.50	7.60	7.50	7.30	7.40
7	8.20	7.70	7.80	7.80	7.80	7.80	7.80	7.40	7.50	7.50	7.30	7.40
8	7.80	7.80	7.80	7.90	7.80	7.80	7.50	7.30	7.40	7.40	7.30	7.30
9	7.80	7.80	7.80	7.80	7.80	7.80	7.70	7.50	7.60	7.40	7.30	7.40
10	7.90	7.70	7.80	8.00	7.70	7.80	7.60	7.40	7.50	7.40	7.30	7.40
11	7.80	7.80	7.80	8.00	7.80	7.90	7.60	7.50	7.60	7.40	7.30	7.40
12	7.80	7.70	7.80	7.90	7.80	7.80	7.70	7.60	7.60	7.50	7.30	7.40
13	7.80	7.80	7.80	8.00	7.80	7.90	7.60	7.50	7.60	7.40	7.30	7.30
14	7.80	7.70	7.70	7.80	7.70	7.70	7.60	7.40	7.50	7.30	7.30	7.30
15	7.80	7.80	7.80	7.70	7.70	7.70	7.70	7.60	7.60	7.30	7.30	7.30
16	7.80	7.70	7.80	7.70	7.70	7.70	7.60	7.50	7.60	7.40	7.20	7.30
17	7.70	7.70	7.70	7.70	7.60	7.60	7.70	7.50	7.60	7.30	7.20	7.20
18	7.80	7.70	7.70	7.70	7.60	7.60	8.00	7.70	7.80	7.30	7.20	7.20
19	8.00	7.70	7.80	7.80	7.60	7.70	7.80	7.70	7.80	7.50	7.20	7.40
20	7.80	7.80	7.80	7.80	7.80	7.80	7.80	7.50	7.70	7.50	7.30	7.40
21	7.90	7.80	7.90	7.80	7.70	7.80	7.80	7.50	7.60	7.40	7.30	7.40
22	7.80	7.80	7.80	7.80	7.70	7.80	7.70	7.60	7.60	7.50	7.40	7.50
23	7.90	7.80	7.80	7.80	7.70	7.70	7.70	7.40	7.60	7.50	7.40	7.50
24	7.80	7.80	7.80	7.80	7.70	7.80	7.80	7.70	7.70	7.50	7.40	7.40
25	7.80	7.80	7.80	7.80	7.70	7.80	7.70	7.60	7.70	7.50	7.40	7.50
26	7.80	7.80	7.80	7.80	7.70	7.80	7.60	7.50	7.50	7.60	7.40	7.50
27	7.90	7.80	7.80	7.70	7.60	7.70	7.60	7.40	7.50	7.50	7.40	7.40
28	8.10	7.80	7.80	7.70	7.60	7.70	7.60	7.40	7.50	7.40	7.30	7.40
29	---	---	---	7.80	7.70	7.70	7.50	7.40	7.50	7.50	7.30	7.30
30	---	---	---	7.80	7.70	7.70	7.50	7.40	7.50	7.40	7.30	7.30
31	---	---	---	7.80	7.60	7.70	---	---	---	7.30	7.30	7.30
MONTH	8.20	7.60	7.79	8.10	7.60	7.75	8.00	7.30	7.60	7.60	7.20	7.37
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	7.50	7.30	7.30	7.20	7.10	7.20	7.30	7.30	7.30	7.40	7.30	7.30
2	7.50	7.20	7.30	7.50	7.20	7.30	7.30	7.30	7.30	7.40	7.30	7.30
3	7.30	7.20	7.20	7.50	7.30	7.40	7.30	7.30	7.30	7.40	7.30	7.40
4	7.30	7.20	7.20	7.50	7.40	7.40	7.40	7.30	7.30	7.40	7.30	7.30
5	7.30	7.20	7.20	7.40	7.40	7.40	7.40	7.30	7.30	7.30	7.20	7.30
6	7.40	7.20	7.20	7.40	7.30	7.40	7.40	7.30	7.30	7.30	7.20	7.30
7	7.40	7.30	7.30	7.40	7.20	7.30	7.40	7.30	7.30	7.30	7.20	7.20
8	7.40	7.20	7.30	7.40	7.20	7.30	7.30	7.30	7.30	7.30	7.20	7.20
9	7.40	7.30	7.30	7.50	7.20	7.30	7.30	7.20	7.20	7.30	7.20	7.20
10	7.40	7.30	7.30	7.50	7.40	7.40	7.40	7.20	7.30	7.30	7.20	7.30
11	7.40	7.30	7.30	7.50	7.30	7.40	7.30	7.30	7.30	7.30	7.30	7.30
12	7.50	7.30	7.40	7.50	7.30	7.40	7.30	7.30	7.30	7.40	7.20	7.30
13	7.40	7.30	7.40	7.50	7.30	7.40	7.40	7.30	7.30	7.30	7.20	7.30
14	7.50	7.40	7.40	7.50	7.40	7.50	7.30	7.30	7.30	7.40	7.30	7.30
15	7.80	7.50	7.60	7.50	7.30	7.40	7.30	7.30	7.30	7.30	7.20	7.20
16	7.70	7.40	7.50	7.50	7.30	7.40	7.30	7.30	7.30	7.30	7.20	7.20
17	7.50	7.40	7.40	7.40	7.20	7.30	7.30	7.30	7.30	7.30	7.20	7.20
18	7.50	7.30	7.40	7.40	7.30	7.30	7.30	7.30	7.30	7.30	7.20	7.20
19	7.50	7.40	7.40	7.40	7.20	7.30	7.40	7.20	7.30	7.30	7.30	7.30
20	7.40	7.30	7.40	7.40	7.20	7.30	7.30	7.20	7.30	7.40	7.30	7.30
21	7.40	7.20	7.30	7.40	7.20	7.30	7.30	7.20	7.30	7.40	7.30	7.30
22	7.40	7.30	7.30	7.50	7.30	7.30	7.30	7.20	7.30	7.30	7.20	7.30
23	7.30	7.20	7.30	7.50	7.20	7.30	7.30	7.20	7.30	7.30	7.20	7.20
24	7.30	7.20	7.30	7.50	7.30	7.40	7.30	7.30	7.30	7.30	7.20	7.20
25	7.40	7.30	7.30	7.60	7.30	7.40	7.30	7.30	7.30	7.60	7.30	7.50
26	7.50	7.20	7.30	7.50	7.20	7.30	7.30	7.20	7.30	7.50	7.30	7.40
27	7.30	7.20	7.20	7.30	7.20	7.30	7.30	7.30	7.30	7.50	7.30	7.40
28	7.30	7.20	7.30	7.30	7.20	7.30	7.30	7.20	7.20	7.50	7.40	7.50
29	7.40	7.20	7.30	7.30	7.20	7.30	7.30	7.30	7.30	7.40	7.30	7.30
30	7.30	7.20	7.30	7.30	7.20	7.30	7.40	7.30	7.30	7.50	7.30	7.40
31	---	---	---	7.40	7.30	7.30	7.40	7.30	7.30	---	---	---
MONTH	7.80	7.20	7.32	7.60	7.10	7.34	7.40	7.20	7.29	7.60	7.20	7.30
YEAR	8.20	7.10	7.50									

STREAMS TRIBUTARY TO LAKE ERIE

87

04208506 CUYAHOGA RIVER AT WEST THIRD STREET STREET BRIDGE, IN CLEVELAND, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	23.0	22.0	22.5	17.5	17.5	17.5	9.5	8.5	9.0	5.0	4.0	4.5
2	22.0	21.0	21.5	18.0	17.5	17.5	9.5	7.5	9.0	5.5	5.0	5.0
3	21.5	20.5	21.0	18.0	17.0	18.0	7.5	6.0	6.5	6.0	5.5	5.5
4	21.0	20.5	20.5	17.0	14.0	15.0	6.5	6.0	6.5	6.0	5.5	5.5
5	20.5	20.0	20.5	13.5	12.0	12.5	7.0	6.0	7.0	5.5	5.0	5.0
6	20.5	20.0	20.0	12.0	11.5	12.0	7.5	6.5	7.0	5.0	4.5	5.0
7	21.0	20.0	20.5	11.5	11.5	11.5	7.5	7.0	7.0	4.5	4.0	4.0
8	20.0	19.5	19.5	11.5	10.5	11.0	7.5	7.0	7.0	4.0	3.5	4.0
9	20.5	19.0	19.5	11.0	10.5	11.0	7.5	7.0	7.5	4.0	3.5	3.5
10	21.0	20.0	20.5	11.0	11.0	11.0	7.5	7.5	7.5	4.5	3.5	4.0
11	21.0	20.5	20.5	11.0	10.5	10.5	8.0	7.0	7.5	5.5	4.5	5.0
12	21.0	20.5	20.5	11.5	10.5	11.0	7.0	7.0	7.0	6.5	5.5	6.0
13	21.0	20.5	21.0	13.0	11.5	12.5	7.0	6.0	6.5	6.5	5.5	6.0
14	21.0	20.5	21.0	13.0	13.0	13.0	6.0	4.5	5.0	6.0	4.5	5.5
15	21.0	18.0	19.5	13.0	12.0	12.5	4.5	3.0	3.5	4.5	4.0	4.5
16	19.0	18.0	18.5	12.0	10.5	11.0	3.5	3.5	3.5	4.5	4.0	4.5
17	19.5	18.5	19.0	10.5	10.0	10.0	4.0	3.0	3.5	6.0	4.5	5.0
18	20.0	19.0	19.5	10.5	10.0	10.0	3.0	2.0	3.0	5.0	3.5	4.0
19	20.0	19.5	19.5	12.5	10.5	11.5	2.5	2.0	2.5	4.5	4.0	4.0
20	19.5	19.0	19.0	13.0	12.5	13.0	3.0	2.0	2.5	4.0	2.5	3.0
21	19.5	19.0	19.0	12.5	10.5	11.5	3.5	2.5	3.0	4.0	2.5	3.0
22	19.5	19.0	19.5	10.5	9.0	10.0	4.0	3.0	3.5	4.0	3.5	4.0
23	20.0	19.5	19.5	9.5	9.5	9.5	4.5	3.5	4.0	4.0	3.5	3.5
24	21.0	19.5	20.5	10.0	9.5	9.5	5.5	4.5	5.0	3.5	2.5	3.0
25	20.0	19.0	19.5	9.5	9.0	9.5	5.0	4.0	4.5	3.5	3.0	3.5
26	19.5	19.0	19.0	10.0	9.0	9.5	3.5	2.5	3.0	4.0	3.5	4.0
27	19.0	18.0	18.5	10.0	10.0	10.0	2.5	2.0	2.5	3.5	2.0	3.0
28	18.0	17.5	17.5	10.0	8.5	9.0	3.5	3.0	3.0	2.0	1.5	2.0
29	18.0	17.5	17.5	8.0	8.0	8.0	3.5	3.0	3.5	2.5	1.5	2.0
30	18.0	17.5	17.5	8.5	8.0	8.0	4.0	3.0	3.5	3.0	2.0	2.5
31	17.5	17.0	17.5	---	---	---	4.5	3.5	4.0	4.0	2.5	3.5
MONTH	23.0	17.0	19.5	18.0	8.0	11.5	9.5	2.0	5.0	6.5	1.5	4.0
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	4.5	3.5	4.0	4.0	3.5	4.0	17.5	15.5	16.5	20.5	19.5	20.0
2	5.0	3.0	4.0	5.5	4.0	4.5	16.5	16.0	16.5	19.5	18.5	19.0
3	3.5	3.0	3.0	6.5	5.0	6.0	16.5	15.5	16.0	18.5	17.5	18.0
4	5.0	3.5	4.5	7.0	6.0	6.5	16.5	15.0	16.0	18.0	17.0	17.5
5	5.0	4.5	5.0	6.5	6.5	6.5	17.0	16.0	16.5	19.0	17.5	18.0
6	5.0	4.0	4.5	6.5	6.0	6.5	18.0	15.0	16.5	19.5	18.5	19.0
7	4.0	3.0	3.5	6.0	4.0	5.5	17.0	15.0	16.0	19.0	17.5	18.0
8	3.0	2.5	3.0	4.0	3.5	4.0	17.0	15.0	16.0	19.5	18.0	19.0
9	3.0	3.0	3.0	5.5	3.5	4.5	16.5	15.5	16.5	20.0	19.0	19.5
10	3.0	2.5	3.0	7.5	5.0	6.0	15.0	10.5	12.5	20.5	19.0	19.5
11	3.0	2.5	2.5	8.5	6.5	7.0	10.5	9.5	9.5	20.5	19.5	20.0
12	3.0	2.5	3.0	6.5	5.5	6.0	11.5	9.5	10.5	21.0	20.0	20.5
13	3.0	2.5	3.0	5.5	4.5	5.0	12.5	10.0	11.5	21.5	20.0	20.5
14	3.5	2.5	3.0	7.0	5.5	6.5	14.5	11.0	13.0	21.0	20.5	20.5
15	4.5	3.5	4.0	7.0	7.0	7.0	14.5	14.0	14.5	21.0	20.5	21.0
16	4.5	4.0	4.5	7.0	6.5	7.0	14.5	14.0	14.5	21.0	20.0	20.5
17	5.0	4.5	5.0	6.5	5.5	6.0	14.0	11.0	11.5	22.0	20.0	21.0
18	5.5	4.0	4.5	6.5	6.0	6.0	14.5	11.0	12.5	23.5	21.5	22.5
19	5.0	4.5	5.0	8.5	6.5	8.0	16.5	14.0	15.5	23.0	18.5	20.5
20	5.0	5.0	5.0	8.5	6.5	8.0	17.0	15.0	16.5	19.0	18.5	19.0
21	5.5	3.5	4.5	6.5	5.5	6.0	16.5	14.5	15.5	18.5	17.5	18.0
22	4.0	3.0	3.0	6.5	5.5	6.0	14.5	10.5	12.5	17.5	17.5	17.5
23	4.0	3.5	3.5	7.5	6.0	7.0	12.0	10.0	11.0	17.5	17.0	17.0
24	4.0	3.5	3.5	9.0	7.5	8.0	11.5	10.0	11.0	18.5	17.0	17.5
25	4.0	3.5	4.0	10.0	8.0	9.0	16.0	11.5	14.0	19.0	18.0	18.5
26	4.5	4.0	4.0	11.5	9.5	11.0	16.5	15.0	15.5	21.0	19.0	20.0
27	4.5	4.0	4.0	12.5	11.5	12.0	18.5	15.5	16.5	21.0	20.0	20.5
28	4.5	3.5	4.0	12.5	11.5	12.0	21.0	16.5	19.5	20.0	19.0	19.5
29	---	---	---	13.0	11.0	12.0	21.0	20.0	20.5	21.5	19.5	20.5
30	---	---	---	15.5	12.5	14.0	21.5	20.5	20.5	23.0	21.0	22.0
31	---	---	---	16.5	14.5	15.5	---	---	---	24.0	22.5	23.5
MONTH	5.5	2.5	4.0	16.5	3.5	7.5	21.5	9.5	15.0	24.0	17.0	19.5

STREAMS TRIBUTARY TO LAKE ERIE

04208506 CUYAHOGA RIVER AT WEST THIRD STREET STREET BRIDGE, IN CLEVELAND, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	26.0	24.0	24.5	24.5	24.0	24.5	28.0	27.0	27.5	24.0	23.0	23.5
2	24.5	23.5	24.0	24.0	21.5	22.5	28.0	27.5	27.5	25.0	24.0	25.0
3	24.0	23.0	23.5	22.5	21.5	22.0	28.0	27.5	27.5	26.0	24.5	25.0
4	23.5	23.0	23.0	23.0	21.5	22.5	28.5	27.5	28.0	26.5	25.0	26.0
5	23.5	23.0	23.0	24.0	22.0	23.0	29.0	27.5	29.0	26.5	25.5	26.0
6	23.0	21.0	22.0	25.0	23.5	24.5	28.5	27.5	28.0	26.0	25.5	25.5
7	22.0	21.0	21.5	26.5	24.5	25.5	28.5	27.5	27.5	26.0	25.5	25.5
8	23.5	22.0	23.0	27.0	26.0	26.5	28.0	27.0	27.5	26.0	25.5	25.5
9	24.0	23.5	23.5	26.5	23.0	24.5	27.5	27.5	27.5	26.0	25.0	25.5
10	25.0	23.5	24.0	23.0	22.5	23.0	28.5	27.5	28.0	25.5	25.0	25.0
11	24.5	24.0	24.0	24.0	23.0	23.5	28.0	26.5	27.5	26.0	25.5	25.5
12	24.5	22.5	23.5	24.0	23.0	23.5	26.5	26.0	26.0	25.0	22.5	24.0
13	23.5	23.0	23.0	24.5	23.5	24.0	26.5	26.0	26.0	22.5	22.0	22.5
14	24.0	23.0	23.5	25.5	24.5	25.0	27.0	26.0	26.5	23.5	22.5	23.0
15	25.0	22.5	24.0	25.0	24.5	25.0	28.0	26.5	27.0	24.5	23.5	24.0
16	23.0	21.5	22.0	25.0	24.5	25.0	28.5	27.5	28.0	24.0	23.0	23.5
17	23.5	22.0	23.0	26.0	25.0	25.0	28.5	28.0	28.0	24.5	23.0	23.5
18	22.0	21.0	22.0	27.0	25.5	26.0	28.5	28.0	28.5	24.0	23.5	23.5
19	22.0	21.0	21.5	28.5	27.0	27.5	29.0	28.5	29.0	23.5	22.0	23.0
20	21.5	21.0	21.0	29.0	28.0	28.5	29.5	28.0	29.0	22.5	21.5	22.0
21	22.5	21.0	22.0	29.0	28.0	28.5	29.0	28.5	29.0	24.5	22.5	23.0
22	24.5	22.0	23.0	29.0	28.0	28.5	29.0	28.5	29.0	24.5	24.0	24.0
23	24.5	24.0	24.0	28.5	27.5	28.0	29.0	29.0	29.0	24.0	23.0	23.5
24	25.0	24.0	24.0	28.5	28.0	28.0	29.0	27.5	28.5	23.5	22.5	23.0
25	23.5	23.0	23.5	29.0	28.0	28.5	27.5	27.5	27.5	23.5	21.0	22.0
26	23.5	23.0	23.5	28.0	27.5	28.0	27.5	26.0	27.0	24.0	22.0	23.0
27	23.5	23.0	23.5	28.0	27.5	27.5	25.5	22.5	23.5	25.0	23.0	24.0
28	24.0	23.5	24.0	29.0	27.5	28.5	22.5	22.5	22.5	23.5	22.0	22.5
29	25.0	24.0	24.5	27.5	27.5	27.5	23.5	22.5	23.0	24.0	23.0	23.5
30	25.0	24.5	24.5	27.5	27.0	27.5	23.5	23.0	23.0	25.0	24.0	24.5
31	---	---	---	28.0	27.5	27.5	23.5	23.0	23.0	---	---	---
MONTH	26.0	21.0	23.0	29.0	21.5	26.0	29.5	22.5	27.0	26.5	21.0	24.0
YEAR	29.5	1.5	15.5									

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	3.9	2.6	3.4	5.3	4.9	5.1	8.7	8.3	8.5	10.5	9.8	10.3
2	3.3	2.4	2.9	5.1	4.8	5.0	8.5	7.6	7.9	10.3	9.7	10.0
3	4.5	2.9	3.5	5.2	4.7	4.9	8.8	7.9	8.5	10.2	9.8	10.0
4	4.4	3.6	4.0	7.0	5.3	6.3	8.4	7.8	8.1	10.1	9.6	9.8
5	3.8	2.9	3.2	7.8	6.8	7.5	8.0	6.3	7.4	10.3	9.9	10.0
6	2.8	2.1	2.4	8.4	7.7	8.0	7.4	6.2	6.9	10.1	9.8	9.9
7	4.3	2.6	3.5	8.4	8.3	8.3	7.3	6.7	7.0	10.3	9.9	10.2
8	3.8	3.0	3.4	8.6	8.3	8.5	7.5	6.9	7.2	10.6	10.1	10.4
9	4.2	3.4	3.8	8.7	8.5	8.6	7.4	6.9	7.1	10.6	10.3	10.5
10	4.6	3.1	3.8	8.9	8.5	8.7	7.3	6.6	6.9	10.8	10.4	10.6
11	3.8	2.5	3.1	9.2	8.9	9.0	10.0	6.5	8.9	10.4	9.6	10.0
12	3.8	.9	2.3	9.2	8.6	8.9	9.9	9.7	9.8	9.5	9.1	9.3
13	3.1	2.2	2.6	8.7	7.7	8.1	9.9	9.5	9.7	10.0	8.8	9.1
14	4.1	3.1	3.8	7.9	6.7	7.4	9.8	9.5	9.7	10.2	9.2	9.7
15	5.2	3.5	4.5	8.0	7.2	7.7	10.4	9.6	10.1	10.0	9.5	9.8
16	4.3	3.6	4.0	9.1	8.1	8.6	10.5	10.2	10.3	10.3	9.9	10.1
17	4.8	3.5	4.2	9.1	8.8	9.0	10.3	9.7	10.0	10.5	10.0	10.3
18	4.7	3.5	4.1	9.2	8.8	9.1	10.1	8.6	9.5	11.4	10.4	11.1
19	5.0	3.4	4.2	8.9	7.5	8.3	8.9	8.1	8.5	11.5	11.1	11.3
20	3.8	3.2	3.5	7.3	6.7	7.1	8.8	8.2	8.6	11.6	11.2	11.4
21	3.4	2.5	2.8	7.8	6.6	7.4	8.6	8.0	8.4	11.6	11.4	11.6
22	3.8	2.9	3.3	12.0	7.5	8.1	8.5	8.1	8.3	12.4	11.3	11.9
23	4.7	3.7	4.1	8.1	7.5	7.9	8.6	8.2	8.4	12.7	12.4	12.6
24	4.7	3.7	4.2	8.2	7.5	7.9	8.3	7.8	8.0	13.0	12.7	12.8
25	4.5	3.7	4.1	8.0	7.3	7.7	8.3	7.7	8.0	12.9	12.4	12.6
26	4.7	4.0	4.4	8.5	7.7	8.0	9.0	8.5	8.7	12.4	11.9	12.1
27	4.6	4.1	4.4	9.0	8.4	8.5	9.2	8.9	9.2	12.0	11.8	11.8
28	5.1	4.6	4.8	9.2	8.4	8.8	9.2	9.0	9.1	12.2	11.9	12.1
29	5.7	5.0	5.3	9.5	8.9	9.1	9.2	8.9	9.1	12.2	12.0	12.1
30	5.6	4.9	5.3	9.2	8.3	8.8	10.8	9.0	9.9	12.1	11.6	11.8
31	5.2	4.8	5.0	---	---	---	10.7	10.4	10.6	11.9	11.5	11.7
MONTH	5.7	.9	3.8	12.0	4.7	7.9	10.8	6.2	8.7	13.0	8.8	10.9

STREAMS TRIBUTARY TO LAKE ERIE

04212100 GRAND RIVER NEAR PAINESVILLE, OH

LOCATION.--Lat 41°43'08", long 81°13'41", Lake County, Hydrologic Unit 04110004, on downstream left abutment of bridge on State Highway 84 (Walnut Avenue), 0.9 mi downstream from Big Creek in Painesville.

DRAINAGE AREA.--685 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1974 to current year.

GAGE.--Water-stage recorder. Datum of gage is 596.37 ft above National Geodetic Vertical Datum of 1929. Previously published, in error, as 620.37 ft above National Geodetic Vertical Datum of 1929.

REMARKS.--Estimated daily discharges: Nov. 8-12, Dec. 20 to Jan. 2, Jan. 12-16, Jan. 29 to Feb. 1, Feb. 12 to Mar. 12. Records fair except periods of estimated record, which are poor.

AVERAGE DISCHARGE.--12 years, 1,058 ft³/s, 20.97 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 18,700 ft³/s June 11, 1986, gage height, 13.07 ft; maximum gage height, 13.16 ft Dec. 25, 1979; minimum, 11 ft³/s Sept. 14, 1978.

EXTREMES FOR CURRENT YEAR.--Peak discharge greater than base discharge of 6,500 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 6	0700	16,000	11.87	Feb. 21	---	7,000	---
Nov. 11	--	9,000	---	Mar. 14	0600	8,290	8.21
Nov. 27	0730	6,930	7.50	May 19	1300	12,400	10.24
Jan. 20	1100	12,900	10.47	June 6	2100	8,540	8.34
Feb. 5	0430	10,200	9.17	June 11	2230	*18,700	*13.07

Minimum daily discharge, 17 ft³/s Oct. 1, 5, Sept. 9-11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	63	1720	180	300	720	242	296	262	153	127	35
2	18	57	1530	180	1770	680	204	260	231	228	88	31
3	18	68	1080	242	2220	640	183	226	209	339	63	28
4	18	550	727	357	3440	760	199	202	173	405	50	25
5	17	12100	582	435	9690	740	216	190	472	329	46	29
6	227	15300	547	499	7410	780	297	333	5910	251	49	23
7	125	11000	693	488	4160	700	419	3580	6190	173	60	21
8	54	5000	808	402	3250	660	408	3080	3870	136	42	19
9	47	2300	875	309	2550	900	476	1860	2020	195	84	17
10	36	6000	940	233	1780	2800	627	1130	1200	211	106	17
11	33	8600	2480	183	1470	4000	829	691	6070	1130	88	17
12	30	7000	4900	170	1000	2100	1200	420	14400	1790	62	36
13	26	4550	3940	160	800	6180	1490	295	12300	2290	52	30
14	36	2590	2490	150	680	7580	1110	230	6990	1930	45	24
15	350	2720	1870	150	560	4810	763	190	4320	1150	45	23
16	211	3430	1380	140	500	3480	646	231	5390	529	52	31
17	150	5840	818	293	1300	2560	1240	185	3930	292	46	26
18	109	4320	356	2440	4000	1860	1340	170	2650	200	59	26
19	173	2510	273	6670	5000	1760	925	4720	1900	157	73	26
20	239	1840	260	11400	3500	1620	702	5030	1580	132	68	26
21	169	1270	240	8880	6600	1240	1120	5860	943	107	51	25
22	170	1030	230	5420	4000	969	1350	3630	588	88	40	52
23	153	757	220	3910	3000	778	1110	2240	1230	74	33	74
24	126	463	220	2900	2000	643	964	1640	889	65	29	82
25	115	307	210	2250	1600	561	741	1080	475	57	25	376
26	100	2940	200	1320	1300	487	543	607	438	54	29	407
27	90	6850	200	777	1100	433	424	422	338	53	70	898
28	119	5410	200	420	820	398	358	521	228	47	46	987
29	117	3520	190	380	---	375	338	630	181	44	36	1170
30	92	2400	190	340	---	357	322	515	162	44	36	1420
31	76	---	190	310	---	315	---	368	---	58	36	---
TOTAL	3261	120785	30559	51988	75800	51886	20786	40832	85539	12711	1736	6001
MEAN	105	4026	986	1677	2707	1674	693	1317	2851	410	56.0	200
MAX	350	15300	4900	11400	9690	7580	1490	5860	14400	2290	127	1420
MIN	17	57	190	140	300	315	183	170	162	44	25	17
CFSM	.15	5.88	1.44	2.45	3.95	2.44	1.01	1.92	4.16	.60	.08	.29
IN.	.18	6.56	1.66	2.82	4.12	2.82	1.13	2.22	4.65	.69	.09	.33
CAL YR 1985	TOTAL	397239	MEAN	1088	MAX	15300	MIN	16	CFSM	1.59	IN.	21.57
WTR YR 1986	TOTAL	501884	MEAN	1375	MAX	15300	MIN	17	CFSM	2.01	IN.	27.26

STREAMS TRIBUTARY TO LAKE ERIE

91

04212100 GRAND RIVER NEAR PAINESVILLE, OHIO--Continued

SEDIMENT ANALYSIS

PERIOD OF RECORD.--November 1978 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,350 mg/L Jan. 1, 1979; minimum daily mean, 1 mg/L Nov. 18, 1981, Oct. 26, 27, 1982.

SEDIMENT LOADS: Maximum daily, 38,800 tons Dec. 25, 1979; minimum daily, 0.09 ton Oct. 26, 27, 1982

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 477 mg/L Mar. 16; minimum daily mean, 2 mg/L Oct. 10, 21, 22, 31.

SEDIMENT LOADS: Maximum daily, 10,400 tons Feb. 14; minimum daily, 0.26 ton Oct. 22.

STREAMS TRIBUTARY TO LAKE ERIE

04212100 GRAND RIVER NEAR PAINESVILLE, OH

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	17	12	.55	63	8	1.4	1720	26	121
2	18	10	.49	57	9	1.4	1530	26	107
3	18	8	.39	68	7	1.3	1080	22	64
4	18	8	.39	550	77	217	727	18	35
5	17	12	.55	12100	724	22500	582	16	25
6	227	146	89	15300	235	9710	547	15	22
7	125	42	14	11000	110	3270	693	14	26
8	54	24	3.5	5000	85	1150	808	16	35
9	47	14	1.8	2300	65	404	875	15	35
10	36	15	1.5	6000	69	1120	940	21	53
11	33	8	.71	8600	52	1210	2480	135	904
12	30	8	.65	7000	40	756	4900	86	1140
13	26	8	.56	4550	62	762	3940	46	489
14	36	10	.97	2590	43	301	2490	32	215
15	350	190	180	2720	35	257	1870	26	131
16	211	32	18	3430	92	852	1380	22	82
17	150	14	5.7	5840	102	1610	818	17	38
18	109	12	3.5	4320	46	537	356	14	13
19	173	18	8.4	2510	36	244	273	13	9.6
20	239	28	18	1840	35	174	260	11	7.7
21	169	6	2.7	1270	32	110	240	10	6.5
22	170	10	4.6	1030	30	83	230	8	5.0
23	153	12	5.0	757	22	45	220	8	4.8
24	126	12	4.1	463	17	21	220	7	4.2
25	115	15	4.7	307	28	23	210	7	4.0
26	100	11	3.0	2940	260	2960	200	6	3.2
27	90	4	.97	6850	150	2770	200	6	3.2
28	119	7	2.2	5410	58	847	200	6	3.2
29	117	5	1.6	3520	40	380	190	6	3.1
30	92	5	1.2	2400	31	201	190	6	3.1
31	76	6	1.2	---	---	---	190	4	2.1
TOTAL	3261	---	379.93	120785	---	52518.1	30559	---	3594.7
JANUARY			FEBRUARY			MARCH			
1	180	5	2.4	300	7	5.7	720	40	78
2	180	5	2.4	1770	52	249	680	21	39
3	242	7	4.6	2220	63	378	640	19	33
4	357	9	8.7	3440	86	799	760	18	37
5	435	8	9.4	9690	420	11000	740	17	34
6	499	8	11	7410	235	4700	780	25	53
7	488	7	9.2	4160	80	899	700	26	49
8	402	7	7.6	3250	83	728	660	48	86
9	309	7	5.8	2550	52	358	900	23	56
10	233	6	3.8	1780	38	183	2800	340	2570
11	183	5	2.5	1470	32	127	4000	412	4450
12	170	5	2.3	1000	29	78	2100	154	873
13	160	5	2.2	800	29	63	6180	249	4550
14	150	5	2.0	680	26	48	7580	247	5060
15	150	8	3.2	560	22	33	4810	110	1430
16	140	6	2.3	500	21	28	3480	80	752
17	293	10	7.9	1300	43	151	2560	74	511
18	2440	168	1110	4000	202	2180	1860	52	261
19	6670	334	6020	5000	226	3050	1760	52	247
20	11400	399	12300	3500	118	1120	1620	43	188
21	8880	203	4870	6600	154	2740	1240	36	121
22	5420	112	1640	4000	98	1060	969	29	76
23	3910	66	697	3000	70	567	778	23	48
24	2900	55	431	2000	67	362	643	21	36
25	2250	43	261	1600	62	268	561	19	29
26	1320	31	110	1300	38	133	487	22	29
27	777	21	44	1100	37	110	433	18	21
28	420	16	18	820	30	66	398	14	15
29	380	12	12	---	---	---	375	13	13
30	340	10	9.2	---	---	---	357	11	11
31	310	9	7.5	---	---	---	315	10	8.5
TOTAL	51988	---	27617.0	75800	---	31483.7	51886	---	21764.5

STREAMS TRIBUTARY TO LAKE ERIE

93

04212100 GRAND RIVER NEAR PAINESVILLE, OH--CONTINUED

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	242	10	6.5	296	11	8.8	262	14	9.9
2	204	8	4.4	260	16	11	231	16	10
3	183	7	3.5	226	6	3.7	209	17	9.6
4	199	9	4.8	202	7	3.8	173	12	5.6
5	216	8	4.7	190	8	4.1	472	154	504
6	297	11	8.8	333	103	349	5910	613	10100
7	419	15	17	3580	800	8540	6190	255	4260
8	408	11	12	3080	220	1830	3870	94	982
9	476	13	17	1860	65	326	2020	70	382
10	627	13	22	1130	42	128	1200	60	194
11	829	13	29	691	21	39	6070	1430	41500
12	1200	22	71	420	15	17	14400	1050	43600
13	1490	19	76	295	14	11	12300	240	7970
14	1110	21	63	230	15	9.3	6990	112	2110
15	763	14	29	190	14	7.2	4320	82	956
16	646	13	23	231	28	17	5390	167	2430
17	1240	51	171	185	15	7.5	3930	141	1500
18	1340	37	134	170	20	9.2	2650	70	501
19	925	18	45	4720	1430	29700	1900	56	287
20	702	20	38	5030	400	5430	1580	48	205
21	1120	12	36	5860	185	2930	943	26	66
22	1350	26	95	3630	100	980	588	23	37
23	1110	17	51	2240	70	423	1230	39	130
24	964	10	26	1640	53	235	889	31	74
25	741	20	40	1080	40	117	475	24	31
26	543	14	21	607	26	43	438	20	24
27	424	14	16	422	24	27	338	39	36
28	358	12	12	521	24	34	228	28	17
29	338	15	14	630	24	41	181	22	11
30	322	12	10	515	24	33	162	22	9.6
31	---	---	---	368	14	14	---	---	---
TOTAL	20786	---	1100.7	40832	---	51328.6	85539	---	117951.7
JULY			AUGUST			SEPTEMBER			
1	153	15	6.2	127	17	5.8	35	9	.85
2	228	26	16	88	14	3.3	31	12	1.0
3	339	26	24	63	13	2.2	28	14	1.1
4	405	28	31	50	14	1.9	25	14	.95
5	329	23	20	46	17	2.1	29	19	1.5
6	251	20	14	49	24	3.2	23	14	.87
7	173	24	11	60	48	7.8	21	10	.57
8	136	24	8.8	42	19	2.2	19	10	.51
9	195	20	11	84	22	5.0	17	7	.32
10	211	34	19	106	15	4.3	17	9	.41
11	1130	112	342	88	20	4.8	17	8	.37
12	1790	130	628	62	16	2.7	36	31	3.0
13	2290	96	594	52	16	2.2	30	9	.73
14	1930	82	427	45	16	1.9	24	8	.52
15	1150	45	140	45	18	2.2	23	8	.50
16	529	50	71	52	18	2.5	31	27	2.3
17	292	34	27	46	16	2.0	26	8	.56
18	200	32	17	59	18	2.9	26	8	.56
19	157	11	4.7	73	25	4.9	26	9	.63
20	132	15	5.3	68	20	3.7	26	8	.56
21	107	15	4.3	51	15	2.1	25	11	.74
22	88	16	3.8	40	15	1.6	52	12	1.7
23	74	11	2.2	33	14	1.2	74	17	3.4
24	65	11	1.9	29	13	1.0	82	41	9.1
25	57	14	2.2	25	12	.81	376	210	261
26	54	12	1.7	29	12	.94	407	53	58
27	53	15	2.1	70	38	7.2	898	93	225
28	47	13	1.6	46	10	1.2	987	74	197
29	44	10	1.2	36	16	1.6	1170	72	227
30	44	9	1.1	36	10	.97	1420	76	291
31	58	9	1.4	36	10	.97	---	---	---
TOTAL	12711	---	2440.5	1736	---	87.19	6001	---	1291.75
YEAR	501884		311558.37						

STREAMS TRIBUTARY TO LAKE ERIE

04212200 GRAND RIVER AT PAINESVILLE, OH
(National stream-quality accounting network station)

LOCATION.--Lat 41,°5'59", in T.11 N., R.8 W., Lake County, Hydrologic Unit 04110004, at bridge on State Highway 535 in Painesville, 2.2 mi upstream from mouth, and 8.0 mi downstream from Kellogg Creek.

DRAINAGE AREA.--701 mi².

PERIOD OF RECORD.--March 1950 to February 1952, October 1962 to current year.

REMARKS.--Water temperatures available for Mar. 1950 to February 1952, October 1962 to December 1966. Four parameter (Specific Conductance, pH, Water Temperature, and Dissolved Oxygen) Water quality monitor at site from December 1966 to September 1981.

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE, AIR (DEG C)	TEMPER- ATURE (DEG C)	TUR- BID- ITY (NTU)	OXYGEN, DIS- SOLVED (MG/L)	OXYGEN, DIS- SOLVED (PER- CENT SATUR- ATION)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	CALCIUM DIS- SOLVED (MG/L AS CA)
NOV 20...	0915	2730	310	7.70	6.0	9.0	15	10.4	91	410	100	29
MAR 12...	1430	4040	280	7.20	3.5	4.5	70	11.0	87	1300	16000	21
JUN 05...	0830	152	1130	8.20	23.0	21.0	15	9.4	107	4000	270	110
SEP 04...	0830	29	1500	8.30	18.0	22.5	5.0	9.4	112	550	70	160

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	ALKA- LITY LAB (MG/L AS CAC03)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	GEN, AMMONIA DIS- SOLVED (MG/L AS N)	AM- MONIA + ORGANIC TOTAL (MG/L AS N)	PHOS- PHORUS, TOTAL (MG/L AS P)
NOV 20...	5.8	16	38	35	43	0.1	7.2	188	0.54	0.05	0.9	0.08
MAR 12...	4.8	19	34	19	42	0.1	4.4	163	0.66	0.09	1.0	0.13
JUN 05...	9.4	84	80	49	260	0.2	2.7	755	0.30	0.05	0.9	0.05
SEP 04...	11	130	101	64	410	0.4	1.2	1010	0.33	0.13	0.6	0.05

DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	ARSENIC DIS- SOLVED (UG/L AS AS)	BARIUM, DIS- SOLVED (UG/L AS BA)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE)	CADMIUM DIS- SOLVED (UG/L AS CD)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR)	COPPER, DIS- SOLVED (UG/L AS CU)	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)
NOV 20...	0.04	<0.01	60	<1	34	2	1	4	6	220	6
MAR 12...	0.02	<0.01	--	--	--	--	--	--	--	--	--
JUN 05...	0.02	<0.01	20	1	51	<0.5	1	10	9	26	2
SEP 04...	0.02	<0.01	20	<1	74	2	<1	3	5	12	5

DATE	LITHIUM DIS- SOLVED (UG/L AS LI)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	ZINC, DIS- SOLVED (UG/L AS ZN)	SED. SUSP. % FINER THAN .062 MM	SEDI- MENT, SUS- PENDED (MG/L)
NOV 20...	<4	35	<0.1	<10	5	<1	<1	83	12	0	33
MAR 12...	--	--	--	--	--	--	--	--	--	25	196
JUN 05...	14	25	<0.1	<10	<1	<1	<1	230	9	2	53
SEP 04...	26	19	<0.1	<10	<1	<1	<1	350	6	0	289

STREAMS TRIBUTARY TO LAKE ERIE

95

04212680 FIELDS BROOK AT ASHTABULA, OH

LOCATION.--Lat $41^{\circ}53'36''$, long $80^{\circ}47'44''$, Ashtabula County, Hydrologic Unit 04110003, on left upstream side of bridge at E. 15 th Street in Ashtabula, 1,750 ft upstream from mouth.

DRAINAGE AREA.--3.63 mi².

PERIOD OF RECORD.--April 1983 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: April 1983 to current year.

pH: April 1983 to current year.

WATER TEMPERATURES: April 1983 to current year.

DISSOLVED OXYGEN: April 1983 to current year.

INSTRUMENTATION.--Water-quality monitor.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 20,600 microsiemens May 4, 1986; minimum, 420 microsiemens Nov. 26, 1985.

pH: Maximum, 9.6 units Feb. 24, 1984; minimum, 2.7 units Oct. 28, 1984.

WATER TEMPERATURES: Maximum, 33.0°C July 18, 19, 1986; minimum, 1.5°C Dec. 24, 25, 1983, Jan. 20, 21, 1985.

DISSOLVED OXYGEN: Maximum, 13.3 mg/L Mar. 5, 1985; minimum, 1.4 mg/L Aug. 10, 1986.

EXTREMES FOR CURRENT YEAR. --

SPECIFIC CONDUCTANCE: Maximum, 20,600 microsiemens May 4; minimum, 420 microsiemens Nov. 26.

pH: Maximum recorded, 8.7 units Dec. 21, 1985; Jan. 10, Mar. 14, 18; minimum recorded, 3.1 units on Feb. 7.

WATER TEMPERATURES: Maximum, 33.0°C on July 18, 19; minimum, 3.5°C Feb. 4, 5, Mar. 7, 8.

DISSOLVED OXYGEN: Maximum recorded, 11.8 mg/L Jan. 6; minimum recorded, 1.4 mg/L Aug. 10.

STREAMS TRIBUTARY TO LAKE ERIE

04212680 FIELDS BROOK AT ASHTABULA, OH--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	4980	4200	4570	6200	4600	5120	1940	1320	1580	3600	2880	3410
2	5300	4200	4710	11300	4300	4980	1640	1220	1310	3580	3240	3370
3	5040	3720	4320	4540	4260	4450	1620	1320	1450	3240	2640	2990
4	5920	4120	4740	5220	1280	3570	1860	1340	1610	3080	2360	2540
5	6640	3800	4660	1120	680	784	1840	1500	1650	3020	2620	2790
6	4900	4320	4650	1640	560	1180	1600	1120	1350	3240	2880	2970
7	4620	3780	4230	2140	860	1450	1480	1200	1330	3100	2880	3010
8	4640	3560	4010	1620	940	1200	1700	1280	1450	3080	2840	2930
9	3460	3080	3230	1700	1380	1550	1480	1300	1360	3320	3000	3180
10	4220	3120	3610	1240	640	886	---	---	---	3820	3360	3610
11	4180	3440	3740	1440	680	929	---	---	---	4020	3500	3790
12	4500	4060	4320	1380	940	1190	2060	1760	1870	3600	3240	3420
13	4620	3600	3920	1700	1100	1350	2520	2120	2340	3800	3240	3430
14	5080	3320	3770	1760	1180	1400	3560	2540	3270	3900	3320	3510
15	3480	1820	2930	2160	1220	1400	3760	3220	3440	3360	2940	3180
16	3540	2860	3160	1620	480	868	3680	3340	3480	3520	3140	3310
17	4600	3100	3530	1080	540	755	3780	3340	3560	3420	2480	3040
18	4580	3440	3760	1820	940	1300	3660	2980	3400	2500	1200	1740
19	4280	3220	3670	1740	1540	1640	3940	3440	3670	1540	1040	1380
20	4340	3600	4000	2000	1560	1780	3720	3100	3420	1080	1040	1060
21	4400	4040	4200	4080	1520	1770	3580	2860	3100	---	---	---
22	4360	3840	4140	1920	760	1210	5680	3500	3850	2940	1920	2130
23	4060	3500	3840	1140	760	956	3640	3240	3520	2800	2260	2550
24	4100	1980	3320	1440	1140	1340	8940	3500	3950	3080	2780	2910
25	3840	3160	3380	1640	1260	1450	3760	3480	3600	10100	2900	3320
26	5180	3880	4330	1500	420	767	5640	3160	3600	3200	2760	2880
27	4080	3780	3950	840	440	631	3980	3280	3730	3240	2820	2950
28	4300	3940	4090	1020	840	932	4540	3200	3480	7880	2880	3210
29	4880	3520	4280	1320	960	1080	3280	3000	3140	4860	2660	2920
30	3460	2900	3180	1640	1320	1510	3480	3000	3200	4500	2980	3190
31	4440	2600	3100	---	---	---	3620	3140	3330	3220	3040	3130
MONTH	6640	1820	3910	11300	420	1650	8940	1120	2760	10100	1040	2930
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	3680	2580	3050	3920	3540	3700	4300	3360	3710	3740	3280	3530
2	2640	1780	2070	3660	3260	3470	3820	3160	3480	3800	3360	3530
3	2380	2000	2200	3720	2780	3180	3800	3380	3540	5080	3800	4620
4	2300	780	1720	2840	2160	2560	3560	3240	3400	20600	4860	6470
5	1560	720	1070	2660	2140	2290	3800	3440	3640	5080	4520	4850
6	1940	1440	1570	3000	2360	2580	4200	1920	3300	4800	3600	4370
7	2760	2000	2430	2920	2440	2660	3180	2760	2960	4280	3120	3440
8	3040	2420	2820	3560	3020	3270	3220	2620	3030	4320	3280	3750
9	3360	2720	2830	3480	3020	3260	4280	2960	3470	4740	3780	4170
10	5180	2760	2970	3440	1060	2360	4440	3680	3990	5620	4600	4940
11	2940	2720	2830	1840	1040	1450	5460	3480	3840	6040	4760	5320
12	3400	2780	3020	2200	1620	1880	4540	3520	3840	4940	4480	4730
13	3360	3080	3190	1980	1300	1510	4000	3540	3830	4720	3360	4260
14	4300	2600	3110	2300	1620	1970	3980	3520	3720	4940	3360	4340
15	3140	2520	2760	2700	2380	2570	4200	3580	3800	5720	4600	5050
16	3040	2580	2780	3120	2580	2810	3880	3380	3570	6540	4560	5050
17	3340	2720	3030	3360	2800	3010	3460	2800	3080	5560	4500	5000
18	2600	980	1460	3520	2920	3200	3580	2720	3080	5420	3220	4730
19	1720	1040	1340	5700	2500	3340	5760	3340	3820	3680	800	1770
20	1920	1440	1690	3160	2560	2800	4700	3000	4030	1300	620	978
21	1720	1200	1390	3580	2600	2940	3060	2660	2800	1920	1120	1630
22	2420	1700	2060	3900	2920	3480	3160	2520	2870	2720	1960	2320
23	2720	2420	2550	4140	3420	3710	3960	2680	3130	4700	2600	2940
24	3120	2540	2710	4540	3200	3490	4780	3400	3660	4120	3380	3710
25	2800	2360	2580	3720	3220	3470	---	---	---	7200	4100	4720
26	3720	2520	2960	4140	3120	3480	---	---	---	6220	4500	4750
27	3240	2940	3110	3860	3300	3580	---	---	---	4600	3420	4030
28	3740	3240	3480	4060	3680	3810	---	---	---	4060	3520	3670
29	---	---	---	4120	3600	3880	---	---	---	4080	3600	3820
30	---	---	---	3660	3380	3480	3780	3400	3570	3800	3340	3600
31	---	---	---	3740	3400	3590	---	---	---	4480	3420	4030
MONTH	5180	720	2460	5700	1040	2990	5760	1920	3490	20600	620	4000

STREAMS TRIBUTARY TO LAKE ERIE

97

04212680 FIELDS BROOK AT ASHTABULA, OH--Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM at 25 DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	4440	4120	4280	4980	3820	4660	6220	5120	5620	6060	5160	5520
2	4720	3940	4310	4340	3760	3970	5360	4580	4990	6580	4420	5410
3	5380	4020	4460	4620	4000	4320	6140	4900	5360	6540	4300	5740
4	4240	3520	3850	4620	4060	4320	5940	4760	5450	6340	5260	5670
5	4400	800	2510	5780	4200	4420	6180	5200	5630	6880	5280	5660
6	1400	740	1000	8180	4020	4560	5680	4900	5360	6820	5020	5700
7	1600	940	1310	7420	3560	4440	7400	3520	5850	8220	5740	6350
8	4620	1400	1910	4220	3380	3860	6340	4820	5320	7160	5320	6090
9	3620	2360	2770	4280	3400	3850	6180	3200	4970	7320	6200	6770
10	3740	1420	3240	5280	3800	4300	5660	2560	3850	10200	5940	6640
11	---	---	---	4900	4120	4400	3800	1900	2280	6280	4100	5460
12	---	---	---	5220	4100	4710	5700	1780	2530	5200	4320	4800
13	---	---	---	5500	4620	5170	3620	2180	2760	6020	4920	5370
14	---	---	---	5960	4680	5060	10200	2480	4460	6060	5040	5270
15	---	---	---	4920	3960	4460	6920	2840	3340	5840	4620	5310
16	---	---	---	4920	3960	4460	4200	3460	3840	6600	5020	5790
17	---	---	---	5000	4220	4680	4840	4180	4510	5620	4920	5280
18	5480	3780	4760	8160	4000	5000	4880	4160	4450	6040	4940	5540
19	5440	3300	4630	5300	4840	5070	5200	4520	4760	5800	4520	5300
20	5340	3320	3910	5420	5000	5170	5680	4800	5240	6180	4700	5550
21	4540	3620	3820	5600	4940	5220	7720	5600	6240	5820	5340	5470
22	4800	3680	4110	6160	5200	5430	9320	6220	6710	8500	3500	5150
23	4880	4220	4620	5800	5080	5440	7260	6360	6760	4800	3340	4020
24	4880	4080	4470	6340	5600	5880	7500	6380	7040	5400	3920	4330
25	5800	4220	5070	7000	6100	6590	10100	6840	7400	4480	3620	3990
26	5340	4760	5120	6960	6520	6690	7840	4100	6490	4760	2360	4070
27	6620	4280	4690	6920	6020	6480	9180	6560	7250	4520	1740	3980
28	4600	3800	4190	6760	5820	6270	7760	6140	6890	4860	3860	4260
29	4900	3900	4330	6920	5360	5950	7080	6200	6500	5020	4160	4440
30	7520	3940	4460	6540	5520	6000	6680	5700	6250	4720	3020	3930
31	---	---	---	6360	5500	5900	6200	5400	5620	---	---	---
MONTH	7520	740	3820	8180	3380	5060	10200	1780	5280	10200	1740	5230
YEAR	20600	420	3650									

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	7.70	7.60	7.70	7.80	7.60	7.70	---	---	---	8.00	7.90	8.00
2	7.80	7.70	7.70	8.40	7.30	7.60	---	---	---	8.10	8.00	8.00
3	8.00	7.70	7.80	7.50	7.40	7.50	---	---	---	8.10	7.90	8.00
4	8.00	7.80	7.80	7.80	7.40	7.50	---	---	---	8.00	7.90	8.00
5	7.90	7.60	7.80	7.50	7.30	7.40	---	---	---	8.10	7.90	8.00
6	7.80	7.60	7.70	7.30	7.10	7.20	---	---	---	8.10	7.60	8.00
7	7.70	7.30	7.50	7.20	7.00	7.10	---	---	---	8.20	7.90	8.00
8	7.50	7.40	7.40	7.20	7.00	7.10	---	---	---	8.20	8.00	8.10
9	7.50	7.30	7.40	7.30	7.10	7.20	---	---	---	8.30	7.80	8.10
10	7.40	7.20	7.30	7.50	7.20	7.40	---	---	---	8.70	8.00	8.30
11	7.40	7.30	7.30	7.60	7.50	7.50	---	---	---	8.20	8.00	8.10
12	7.40	7.30	7.30	7.50	7.30	7.40	7.60	7.50	7.60	8.20	8.00	8.00
13	7.30	7.10	7.20	7.70	7.20	7.40	7.80	7.60	7.70	8.10	7.90	8.00
14	7.30	7.20	7.20	8.00	7.70	7.80	7.90	7.70	7.80	8.10	7.90	8.00
15	7.50	7.20	7.30	7.80	7.50	7.70	7.90	7.80	7.90	8.10	7.90	8.00
16	7.30	7.20	7.20	7.90	7.60	7.80	8.00	7.60	7.90	8.20	7.70	8.00
17	7.80	7.30	7.60	7.80	7.60	7.70	8.00	7.70	7.90	8.00	7.60	7.80
18	7.80	7.60	7.70	7.60	7.50	7.50	8.00	7.80	7.90	7.70	7.50	7.60
19	7.70	7.50	7.60	7.40	7.20	7.30	8.00	7.80	7.90	7.50	7.50	7.50
20	8.00	7.70	7.90	7.60	7.30	7.40	8.00	7.80	7.90	7.80	7.50	7.70
21	8.00	6.70	7.70	7.80	7.50	7.60	8.70	7.60	7.90	---	---	---
22	8.10	7.90	8.00	7.80	7.50	7.60	7.90	7.50	7.70	7.80	7.50	7.70
23	8.00	7.80	8.00	7.60	7.40	7.50	7.90	7.60	7.80	8.00	7.70	7.80
24	8.10	7.60	7.90	7.40	7.30	7.40	8.30	7.90	7.90	8.00	7.70	7.90
25	7.90	7.60	7.80	7.40	7.30	7.30	8.10	7.90	8.00	8.50	7.70	7.80
26	8.00	7.80	7.90	---	---	---	8.30	8.00	8.10	8.00	7.80	7.90
27	7.90	7.80	7.90	---	---	---	8.00	7.20	7.70	8.00	7.70	7.90
28	7.80	7.60	7.70	---	---	---	7.30	7.20	7.20	8.10	8.00	8.00
29	7.80	7.70	7.70	---	---	---	7.30	7.20	7.30	8.20	7.90	8.00
30	7.80	7.70	7.70	---	---	---	8.00	7.10	7.50	8.20	7.30	8.00
31	8.00	7.70	7.80	---	---	---	8.00	7.70	8.00	8.20	8.00	8.00
MONTH	8.10	6.70	7.63	8.40	7.00	7.46	8.70	7.10	7.78	8.70	7.30	7.94

PH (STANDARD UNITS), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	8.10	7.80	8.00	8.40	8.10	8.30	8.30	7.70	8.00	8.50	7.70	8.00
2	7.70	7.50	7.60	8.40	7.90	8.20	8.50	7.70	8.00	8.50	7.70	8.00
3	7.80	7.50	7.70	8.30	8.00	8.10	8.40	7.60	8.00	8.50	7.70	8.00
4	8.20	7.50	7.70	8.20	8.00	8.00	8.30	7.70	7.90	8.40	7.60	7.90
5	7.70	7.40	7.50	8.50	7.90	8.10	8.00	7.70	7.80	8.40	7.60	7.90
6	7.80	7.50	7.70	8.00	7.90	8.00	7.70	7.40	7.60	7.90	7.50	7.60
7	7.90	3.10	7.50	8.20	8.00	8.10	8.10	7.60	7.80	7.90	7.50	7.70
8	8.00	7.80	7.90	8.40	8.10	8.20	8.20	7.70	7.90	8.10	7.60	7.80
9	8.10	7.90	8.00	8.30	7.90	8.10	8.10	7.80	7.90	8.10	7.60	7.80
10	8.00	7.70	8.00	8.00	7.50	7.80	8.10	7.80	7.90	8.10	7.60	7.80
11	8.20	8.00	8.10	7.80	7.50	7.70	8.00	7.80	7.90	8.20	7.60	7.80
12	8.40	8.10	8.20	8.50	7.80	7.90	8.20	7.70	7.90	8.20	7.70	7.90
13	8.50	8.30	8.40	7.80	7.70	7.70	8.20	7.70	7.90	8.20	7.70	7.90
14	8.50	7.50	8.30	8.70	7.70	7.80	8.20	7.70	7.90	8.20	7.70	7.80
15	8.50	8.20	8.30	8.30	7.80	8.00	8.10	7.60	7.80	8.20	7.70	7.90
16	8.30	8.20	8.20	8.20	8.00	8.10	8.10	7.70	7.80	8.20	7.60	7.90
17	8.20	7.40	7.90	8.30	8.00	8.10	8.00	7.60	7.80	8.40	7.80	8.00
18	7.80	7.50	7.60	8.70	8.10	8.20	8.00	7.60	7.70	8.40	7.40	7.90
19	7.70	7.50	7.60	8.20	8.00	8.10	8.10	7.40	7.70	7.70	7.50	7.50
20	7.80	7.70	7.70	8.50	8.00	8.10	7.80	7.50	7.60	7.60	7.50	7.50
21	8.00	7.60	7.70	8.40	8.20	8.20	7.90	7.60	7.70	7.80	7.50	7.70
22	7.90	7.70	7.80	8.40	8.10	8.30	8.20	7.60	7.80	7.90	7.80	7.80
23	8.00	7.90	8.00	8.60	8.10	8.20	8.50	7.70	8.00	8.00	7.90	7.90
24	8.10	7.90	8.00	8.50	8.00	8.20	8.40	7.80	8.00	8.00	7.90	7.90
25	8.20	8.00	8.10	8.30	8.00	8.10	---	---	---	8.00	7.90	7.90
26	8.20	8.10	8.10	8.40	7.90	8.10	---	---	---	7.90	7.80	7.90
27	8.20	8.10	8.10	8.40	7.90	8.10	---	---	---	7.90	7.80	7.90
28	8.20	7.70	8.10	8.30	7.90	8.10	---	---	---	8.00	7.80	7.90
29	---	---	---	8.30	7.90	8.10	---	---	---	7.90	7.80	7.80
30	---	---	---	8.50	7.80	8.10	8.40	7.80	8.20	8.00	7.70	7.90
31	---	---	---	8.30	7.70	8.00	---	---	---	8.00	7.80	7.90
MONTH	8.50	3.10	7.92	8.70	7.50	8.07	8.50	7.40	7.86	8.50	7.40	7.84
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.10	7.90	8.00	7.90	7.60	7.80	8.10	7.70	7.90	8.00	7.80	7.90
2	8.20	8.00	8.10	7.90	7.70	7.80	8.20	7.70	8.00	8.00	7.80	7.90
3	8.30	7.90	8.10	7.80	7.60	7.70	8.20	7.90	8.00	8.20	7.80	8.00
4	8.30	7.90	8.10	7.90	7.60	7.70	8.20	7.30	8.00	8.10	7.80	7.90
5	8.00	7.50	7.70	8.00	7.70	7.80	8.00	7.60	7.80	8.10	7.80	7.90
6	7.70	7.40	7.60	8.00	7.70	7.80	8.10	7.60	7.80	8.10	7.80	8.00
7	7.80	7.60	7.70	7.80	7.50	7.70	8.00	6.90	7.70	8.10	7.80	7.90
8	7.80	7.60	7.70	7.80	7.50	7.70	8.10	7.60	7.80	8.00	7.80	7.90
9	8.00	7.80	7.90	7.90	7.60	7.70	7.80	7.50	7.60	8.00	7.80	7.90
10	8.10	7.90	8.00	8.00	7.70	7.80	8.30	3.50	7.40	8.00	7.40	7.80
11	7.70	7.70	7.70	7.80	3.10	7.50	8.00	7.60	7.90	8.00	7.80	7.80
12	---	---	---	7.80	7.70	7.70	8.00	7.90	8.00	7.90	7.70	7.80
13	---	---	---	7.80	7.60	7.70	8.00	7.70	7.90	7.90	7.80	7.80
14	---	---	---	8.00	7.70	7.80	8.20	7.70	8.00	7.90	7.80	7.80
15	---	---	---	7.90	7.70	7.80	8.10	7.80	7.90	7.90	7.70	7.80
16	---	---	---	7.90	7.70	7.80	8.20	7.70	8.00	7.90	7.70	7.80
17	---	---	---	8.00	7.70	7.80	8.20	7.90	8.00	7.90	7.70	7.80
18	7.70	7.60	7.70	8.00	7.70	7.80	8.20	7.90	8.00	7.80	7.70	7.70
19	7.70	7.10	7.50	8.10	7.70	7.90	8.20	7.80	8.00	7.80	7.60	7.70
20	7.70	6.90	7.60	8.10	7.80	7.90	8.10	7.70	7.90	7.70	7.50	7.60
21	7.80	7.60	7.70	8.10	7.80	7.90	8.10	7.60	7.90	7.80	7.70	7.70
22	7.80	7.70	7.70	8.10	7.70	7.90	8.10	7.80	7.90	7.70	7.30	7.60
23	7.90	7.70	7.70	8.20	7.60	7.90	8.10	7.80	7.90	7.70	7.40	7.60
24	8.00	7.60	7.80	8.20	7.70	7.90	8.10	7.80	7.90	8.10	7.60	7.80
25	8.00	7.70	7.90	8.00	7.60	7.80	8.00	7.80	7.90	7.90	7.70	7.80
26	8.00	7.20	7.80	8.00	7.70	7.80	8.00	7.10	7.70	7.90	7.60	7.80
27	7.90	7.60	7.70	8.00	7.70	7.80	7.90	7.50	7.80	7.80	7.50	7.70
28	7.90	7.60	7.70	8.00	7.70	7.80	8.00	7.80	7.80	7.90	7.80	7.90
29	7.80	7.10	7.60	8.00	7.60	7.80	7.80	7.60	7.80	7.90	7.90	7.90
30	7.80	7.60	7.70	8.10	7.60	7.80	7.80	7.70	7.70	7.90	7.50	7.80
31	---	---	---	7.90	7.60	7.70	8.00	7.80	7.90	---	---	---
MONTH	8.30	6.90	7.78	8.20	3.10	7.78	8.30	3.50	7.86	8.20	7.30	7.81
YEAR	8.70	3.10	7.82									

STREAMS TRIBUTARY TO LAKE ERIE

99

04212680 FIELDS BROOK AT ASHTABULA, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	24.0	21.0	22.0	19.5	17.5	18.5	14.5	12.5	13.5	8.5	6.5	7.5
2	22.5	20.5	21.5	18.5	16.0	17.0	12.5	7.0	8.5	10.0	8.0	9.0
3	22.5	19.5	21.0	17.0	16.0	16.5	9.5	7.0	8.5	10.0	7.0	8.5
4	23.5	20.5	22.0	17.5	12.0	15.0	11.0	9.5	10.0	8.0	7.0	7.5
5	22.0	18.5	20.5	12.0	11.0	11.0	11.5	10.5	11.0	7.5	6.5	7.0
6	19.0	18.5	19.0	12.5	11.0	12.0	10.5	8.5	9.5	7.0	6.5	6.5
7	22.0	18.5	20.0	13.0	11.5	12.5	9.5	9.0	9.0	7.5	6.5	7.0
8	21.5	19.5	20.5	14.0	11.5	13.0	10.5	9.0	10.0	8.0	6.5	7.0
9	22.5	20.0	21.0	14.5	13.0	14.0	11.0	10.5	10.5	9.0	7.0	8.0
10	22.5	20.5	21.5	13.0	11.0	12.0	12.0	11.0	11.5	9.5	8.5	9.0
11	22.5	20.5	21.0	12.0	10.5	11.0	11.5	8.5	10.0	10.5	9.0	9.5
12	20.5	20.0	20.5	15.0	11.5	13.5	9.5	8.5	9.0	10.5	9.0	9.5
13	22.5	20.5	21.5	16.0	14.5	15.0	9.5	8.0	9.0	9.0	7.5	8.5
14	21.5	21.0	21.5	16.5	14.5	15.0	8.0	5.5	7.0	8.5	6.5	7.5
15	22.0	17.5	20.5	15.0	13.5	14.5	7.0	5.5	6.0	9.0	6.5	8.0
16	21.0	19.5	20.5	14.0	9.5	11.0	8.5	7.0	7.5	11.0	8.0	9.5
17	21.5	18.5	20.0	11.0	10.0	10.5	7.5	6.5	7.0	11.0	6.5	9.0
18	23.0	20.0	21.0	14.0	10.5	12.5	6.5	5.0	5.5	6.5	4.5	6.0
19	21.5	19.5	20.5	17.5	14.5	16.5	6.0	5.0	5.5	6.5	5.0	5.5
20	20.0	19.0	19.5	17.5	13.5	15.5	8.0	5.5	7.0	9.5	5.5	8.0
21	20.0	18.5	19.5	14.0	12.5	13.5	7.5	6.5	7.0	---	---	---
22	20.5	19.5	20.0	12.5	9.0	10.0	7.5	6.0	6.5	7.0	6.5	7.0
23	23.0	19.5	21.0	11.0	9.0	10.0	9.0	7.0	8.0	8.0	6.5	7.0
24	22.5	19.0	20.5	11.5	11.0	11.5	8.5	6.5	7.5	9.5	7.0	8.0
25	20.5	18.5	19.5	12.5	11.5	11.5	6.5	4.5	5.5	9.0	8.0	8.5
26	21.0	18.5	19.5	12.0	8.5	10.0	5.0	4.0	4.5	8.5	7.5	8.5
27	20.5	18.5	19.5	10.5	9.5	10.0	6.0	4.5	5.5	7.5	4.5	6.0
28	19.5	17.5	18.5	9.0	8.0	8.5	6.0	5.0	5.5	6.0	4.5	5.0
29	19.5	17.0	18.5	10.0	8.5	9.5	7.0	6.0	6.5	7.5	5.5	6.5
30	19.0	18.0	18.5	12.5	10.0	11.5	7.5	6.5	7.0	9.5	6.5	8.0
31	20.0	18.0	18.5	---	---	---	9.0	7.5	8.0	10.0	8.0	9.0
MONTH	24.0	17.0	20.5	19.5	8.0	13.0	14.5	4.0	8.0	11.0	4.5	7.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	10.0	6.0	8.5	9.5	6.0	7.0	19.5	15.0	16.5	20.5	16.5	18.5
2	5.5	4.5	5.0	10.0	7.0	8.5	19.0	14.5	16.0	18.0	14.5	16.0
3	8.5	5.5	7.0	10.5	7.5	8.5	18.5	14.0	16.0	19.5	14.0	16.5
4	8.0	3.5	6.0	9.0	7.0	8.0	16.5	15.0	15.5	21.0	14.5	17.5
5	6.0	3.5	4.5	9.5	7.0	8.0	16.5	15.0	15.5	22.0	16.5	19.0
6	6.5	5.5	6.0	8.0	5.0	6.5	17.0	14.0	16.0	22.5	19.5	20.5
7	7.0	4.5	6.5	6.0	3.5	4.5	18.0	14.5	16.0	23.0	18.5	20.5
8	8.0	6.5	7.5	8.0	3.5	6.0	18.0	14.0	15.5	23.5	18.5	20.5
9	9.0	7.5	8.0	8.5	6.0	7.5	14.5	12.0	13.5	21.5	19.0	20.0
10	9.5	7.5	8.0	8.5	6.5	7.5	12.0	10.5	11.5	24.0	19.0	21.0
11	9.5	7.5	8.0	7.5	5.5	6.5	10.5	10.0	10.0	24.0	18.5	21.0
12	9.5	7.5	8.0	7.0	5.5	6.0	15.0	9.5	12.0	23.0	18.5	20.5
13	9.5	7.5	8.0	8.0	4.5	6.5	16.5	11.0	13.5	21.5	18.5	20.0
14	9.0	8.0	8.5	10.5	8.0	9.0	17.5	12.0	14.5	21.5	19.0	20.0
15	9.0	7.5	8.0	9.5	8.5	9.0	17.0	14.5	15.0	23.5	19.0	21.0
16	9.5	7.5	8.5	10.0	8.5	9.0	14.5	12.5	13.5	25.0	21.0	22.5
17	10.5	7.0	9.0	11.0	8.5	10.0	16.0	10.5	13.5	25.5	21.0	23.0
18	6.5	4.0	4.5	12.5	9.0	10.5	19.5	13.0	16.0	25.5	22.0	23.5
19	6.5	4.5	5.5	13.0	10.0	11.5	21.0	14.5	17.5	22.0	16.5	18.5
20	8.5	6.5	8.0	10.0	7.0	8.5	18.0	15.5	17.5	17.0	14.5	15.5
21	8.0	4.0	4.5	11.0	7.0	8.5	15.5	14.0	14.5	17.0	15.5	16.0
22	7.0	4.5	6.0	13.0	8.0	10.0	14.0	12.5	13.0	18.5	16.5	17.5
23	8.0	6.5	7.0	13.0	9.5	11.0	17.5	11.5	14.0	20.5	17.5	19.0
24	9.5	7.0	8.0	13.5	9.5	11.0	17.0	13.5	14.5	23.0	19.5	21.0
25	9.0	6.5	7.0	16.5	11.0	13.5	---	---	---	24.5	19.5	21.5
26	8.5	6.5	7.5	17.5	14.0	15.0	---	---	---	25.5	20.5	22.5
27	8.5	6.0	7.0	15.5	12.5	14.0	---	---	---	22.5	21.5	22.0
28	8.5	6.5	7.0	17.0	11.5	14.0	---	---	---	25.5	21.0	23.0
29	---	---	---	17.5	13.0	15.0	---	---	---	27.0	22.0	24.5
30	---	---	---	18.5	14.0	15.5	18.5	17.5	18.0	28.0	23.5	25.5
31	---	---	---	18.0	12.5	15.0	---	---	---	28.5	24.5	26.0
MONTH	10.5	3.5	7.0	18.5	3.5	9.5	21.0	9.5	15.0	28.5	14.0	20.5

STREAMS TRIBUTARY TO LAKE ERIE

04212680 FIELDS BROOK AT ASHTABULA, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
OCTOBER			NOVEMBER			DECEMBER			JANUARY			
1	24.0	21.0	22.0	19.5	17.5	18.5	14.5	12.5	13.5	8.5	6.5	7.5
2	22.5	20.5	21.5	18.5	16.0	17.0	12.5	7.0	8.5	10.0	8.0	9.0
3	22.5	19.5	21.0	17.0	16.0	16.5	9.5	7.0	8.5	10.0	7.0	8.5
4	23.5	20.5	22.0	17.5	12.0	15.0	11.0	9.5	10.0	8.0	7.0	7.5
5	22.0	18.5	20.5	12.0	11.0	11.0	11.5	10.5	11.0	7.5	6.5	7.0
6	19.0	18.5	19.0	12.5	11.0	12.0	10.5	8.5	9.5	7.0	6.5	6.5
7	22.0	18.5	20.0	13.0	11.5	12.5	9.5	9.0	9.0	7.5	6.5	7.0
8	21.5	19.5	20.5	14.0	11.5	13.0	10.5	9.0	10.0	8.0	6.5	7.0
9	22.5	20.0	21.0	14.5	13.0	14.0	11.0	10.5	10.5	9.0	7.0	8.0
10	22.5	20.5	21.5	13.0	11.0	12.0	12.0	11.0	11.5	9.5	8.5	9.0
11	22.5	20.5	21.0	12.0	10.5	11.0	11.5	8.5	10.0	10.5	9.0	9.5
12	20.5	20.0	20.5	15.0	11.5	13.5	9.5	8.5	9.0	10.5	9.0	9.5
13	22.5	20.5	21.5	16.0	14.5	15.0	9.5	8.0	9.0	9.0	7.5	8.5
14	21.5	21.0	21.5	16.5	14.5	15.0	8.0	5.5	7.0	8.5	6.5	7.5
15	22.0	17.5	20.5	15.0	13.5	14.5	7.0	5.5	6.0	9.0	6.5	8.0
16	21.0	19.5	20.5	14.0	9.5	11.0	8.5	7.0	7.5	11.0	8.0	9.5
17	21.5	18.5	20.0	11.0	10.0	10.5	7.5	6.5	7.0	11.0	6.5	9.0
18	23.0	20.0	21.0	14.0	10.5	12.5	6.5	5.0	5.5	6.5	4.5	6.0
19	21.5	19.5	20.5	17.5	14.5	16.5	6.0	5.0	5.5	6.5	5.0	5.5
20	20.0	19.0	19.5	17.5	13.5	15.5	8.0	5.5	7.0	9.5	5.5	8.0
21	20.0	18.5	19.5	14.0	12.5	13.5	7.5	6.5	7.0	---	---	---
22	20.5	19.5	20.0	12.5	9.0	10.0	7.5	6.0	6.5	7.0	6.5	7.0
23	23.0	19.5	21.0	11.0	9.0	10.0	9.0	7.0	8.0	8.0	6.5	7.0
24	22.5	19.0	20.5	11.5	11.0	11.5	8.5	6.5	7.5	9.5	7.0	8.0
25	20.5	18.5	19.5	12.5	11.5	11.5	6.5	4.5	5.5	9.0	8.0	8.5
26	21.0	18.5	19.5	12.0	8.5	10.0	5.0	4.0	4.5	8.5	7.5	8.5
27	20.5	18.5	19.5	10.5	9.5	10.0	6.0	4.5	5.5	7.5	4.5	6.0
28	19.5	17.5	18.5	9.0	8.0	8.5	6.0	5.0	5.5	6.0	4.5	5.0
29	19.5	17.0	18.5	10.0	8.5	9.5	7.0	6.0	6.5	7.5	5.5	6.5
30	19.0	18.0	18.5	12.5	10.0	11.5	7.5	6.5	7.0	9.5	6.5	8.0
31	20.0	18.0	18.5	---	---	---	9.0	7.5	8.0	10.0	8.0	9.0
MONTH	24.0	17.0	20.5	19.5	8.0	13.0	14.5	4.0	8.0	11.0	4.5	7.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
FEBRUARY			MARCH			APRIL			MAY			
1	10.0	6.0	8.5	9.5	6.0	7.0	19.5	15.0	16.5	20.5	16.5	18.5
2	5.5	4.5	5.0	10.0	7.0	8.5	19.0	14.5	16.0	18.0	14.5	16.0
3	8.5	5.5	7.0	10.5	7.5	8.5	18.5	14.0	16.0	19.5	14.0	16.5
4	8.0	3.5	6.0	9.0	7.0	8.0	16.5	15.0	15.5	21.0	14.5	17.5
5	6.0	3.5	4.5	9.5	7.0	8.0	16.5	15.0	15.5	22.0	16.5	19.0
6	6.5	5.5	6.0	8.0	5.0	6.5	17.0	14.0	16.0	22.5	19.5	20.5
7	7.0	4.5	6.5	6.0	3.5	4.5	18.0	14.5	16.0	23.0	18.5	20.5
8	8.0	6.5	7.5	8.0	3.5	6.0	18.0	14.0	15.5	23.5	18.5	20.5
9	9.0	7.5	8.0	8.5	6.0	7.5	14.5	12.0	13.5	21.5	19.0	20.0
10	9.5	7.5	8.0	8.5	6.5	7.5	12.0	10.5	11.5	24.0	19.0	21.0
11	9.5	7.5	8.0	7.5	5.5	6.5	10.5	10.0	10.0	24.0	18.5	21.0
12	9.5	7.5	8.0	7.0	5.5	6.0	15.0	9.5	12.0	23.0	18.5	20.5
13	9.5	7.5	8.0	8.0	4.5	6.5	16.5	11.0	13.5	21.5	18.5	20.0
14	9.0	8.0	8.5	10.5	8.0	9.0	17.5	12.0	14.5	21.5	19.0	20.0
15	9.0	7.5	8.0	9.5	8.5	9.0	17.0	14.5	15.0	23.5	19.0	21.0
16	9.5	7.5	8.5	10.0	8.5	9.0	14.5	12.5	13.5	25.0	21.0	22.5
17	10.5	7.0	9.0	11.0	8.5	10.0	16.0	10.5	13.5	25.5	21.0	23.0
18	6.5	4.0	4.5	12.5	9.0	10.5	19.5	13.0	16.0	25.5	22.0	23.5
19	6.5	4.5	5.5	13.0	10.0	11.5	21.0	14.5	17.5	22.0	16.5	18.5
20	8.5	6.5	8.0	10.0	7.0	8.5	18.0	15.5	17.5	17.0	14.5	15.5
21	8.0	4.0	4.5	11.0	7.0	8.5	15.5	14.0	14.5	17.0	15.5	16.0
22	7.0	4.5	6.0	13.0	8.0	10.0	14.0	12.5	13.0	18.5	16.5	17.5
23	8.0	6.5	7.0	13.0	9.5	11.0	17.5	11.5	14.0	20.5	17.5	19.0
24	9.5	7.0	8.0	13.5	9.5	11.0	17.0	13.5	14.5	23.0	19.5	21.0
25	9.0	6.5	7.0	16.5	11.0	13.5	---	---	---	24.5	19.5	21.5
26	8.5	6.5	7.5	17.5	14.0	15.0	---	---	---	25.5	20.5	22.5
27	8.5	6.0	7.0	15.5	12.5	14.0	---	---	---	22.5	21.5	22.0
28	8.5	6.5	7.0	17.0	11.5	14.0	---	---	---	25.5	21.0	23.0
29	---	---	---	17.5	13.0	15.0	---	---	---	27.0	22.0	24.5
30	---	---	---	18.5	14.0	15.5	18.5	17.5	18.0	28.0	23.5	25.5
31	---	---	---	18.0	12.5	15.0	---	---	---	28.5	24.5	26.0
MONTH	10.5	3.5	7.0	18.5	3.5	9.5	21.0	9.5	15.0	28.5	14.0	20.5

STREAMS TRIBUTARY TO LAKE ERIE

101

04212680 FIELDS BROOK AT ASHTABULA, OH--Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	29.0	24.5	26.5	27.0	23.5	25.5	31.5	28.0	29.5	27.5	23.5	25.0
2	25.0	21.5	23.0	28.0	25.0	26.0	31.0	28.0	29.0	28.0	24.5	26.0
3	25.5	20.5	23.0	28.0	24.5	26.0	30.0	27.0	28.0	28.5	25.5	27.0
4	27.0	21.5	24.0	28.0	23.5	25.5	30.5	27.0	28.5	28.5	26.0	27.0
5	25.0	18.5	21.5	29.0	25.0	27.0	30.5	27.0	29.0	29.0	26.0	27.5
6	18.5	17.0	17.5	30.0	26.0	28.0	31.0	28.0	29.5	27.5	25.0	26.0
7	21.5	17.5	19.5	31.5	26.5	28.5	30.0	26.0	28.5	25.0	23.5	24.5
8	24.0	20.5	22.0	29.0	27.0	28.0	31.5	29.0	30.0	25.5	22.5	23.5
9	24.5	20.0	22.0	29.5	27.0	27.5	31.0	28.0	29.0	26.5	22.5	24.5
10	25.0	20.5	22.5	30.0	26.0	28.0	28.5	26.0	27.0	27.0	23.5	25.5
11	20.5	20.5	20.5	28.0	26.5	27.0	28.0	25.0	26.0	27.5	25.5	26.5
12	---	---	---	29.5	26.5	28.0	28.0	24.0	26.0	26.0	24.0	25.0
13	---	---	---	30.0	27.0	28.0	29.0	24.0	26.5	26.0	23.5	24.5
14	---	---	---	29.0	26.5	27.5	30.0	26.5	28.0	25.5	22.5	24.0
15	---	---	---	30.0	26.0	28.0	30.5	27.5	29.0	26.0	23.5	24.5
16	---	---	---	28.5	27.0	28.0	30.5	28.0	29.0	25.0	21.5	23.5
17	---	---	---	31.0	27.0	29.0	32.0	28.0	29.5	25.0	22.5	23.5
18	25.5	23.0	24.5	33.0	29.0	31.0	31.0	28.5	29.5	23.5	23.0	23.5
19	23.5	21.5	22.5	33.0	30.0	31.0	31.5	28.0	29.5	25.5	23.5	24.5
20	25.0	21.5	23.0	32.0	30.0	31.0	31.5	27.5	29.5	27.0	25.0	26.0
21	27.0	22.0	24.0	31.5	29.0	29.5	31.5	28.5	30.0	26.0	25.0	25.5
22	28.5	23.5	25.5	31.5	27.5	29.5	31.0	28.5	29.5	25.5	21.0	24.0
23	28.0	24.5	26.0	32.5	27.5	29.5	30.5	27.0	29.0	26.0	24.0	25.5
24	26.0	23.5	25.0	32.5	28.0	30.5	28.0	25.0	26.0	26.5	25.0	26.0
25	26.5	22.0	24.0	31.5	29.0	30.5	26.5	23.5	25.0	27.0	25.5	26.5
26	27.0	23.0	25.0	30.5	29.0	29.5	28.0	24.0	25.5	29.0	24.0	27.5
27	27.0	24.0	25.5	32.5	29.0	30.0	25.0	23.0	24.5	26.5	23.0	25.5
28	26.5	25.5	26.0	31.5	28.5	30.0	25.0	22.0	23.5	28.0	25.5	26.5
29	28.5	24.5	26.0	29.5	28.0	29.0	25.5	22.0	23.5	29.0	26.5	27.5
30	25.5	24.0	24.5	30.5	27.0	28.5	26.0	22.0	24.0	28.5	25.5	27.0
31	---	---	---	32.0	28.0	29.5	27.0	23.0	25.0	---	---	---
MONTH	29.0	17.0	23.5	33.0	23.5	28.5	32.0	22.0	27.5	29.0	21.0	25.5
YEAR	33.0	3.5	17.0									

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1							---	---	---	9.9	9.3	9.6
2							---	---	---	9.5	8.7	9.2
3							---	---	---	9.8	8.7	9.2
4							---	---	---	10.0	9.5	9.8
5							---	---	---	10.0	9.3	9.7
6							---	---	---	10.1	9.4	9.7
7							---	---	---	11.8	8.3	9.6
8							---	---	---	8.8	8.1	8.4
9							9.9	9.5	9.7	9.8	9.0	9.5
10							9.5	9.3	9.4	9.5	9.0	9.2
11							9.9	9.4	9.7	9.1	8.4	8.7
12							10.2	9.4	9.8	8.7	8.0	8.4
13							9.5	9.2	9.3	9.3	8.3	9.0
14							10.0	9.3	9.6	8.5	8.2	8.3
15							10.0	9.1	9.7	8.7	8.1	8.3
16							9.1	8.4	8.6	8.6	8.1	8.3
17							8.6	8.2	8.4	8.4	8.1	8.3
18							8.5	8.1	8.3	9.6	8.2	8.6
19							8.1	7.6	7.9	9.8	8.1	9.4
20							7.6	7.0	7.2	10.8	7.0	8.7
21							8.2	7.0	7.3	---	---	---
22							9.7	8.3	9.2	11.3	11.1	11.2
23							9.8	9.3	9.5	11.4	11.0	11.2
24							9.4	9.0	9.2	11.1	10.5	10.8
25							9.5	9.1	9.3	10.8	10.4	10.6
26							9.8	9.3	9.5	10.8	10.4	10.5
27							9.3	8.8	9.1	11.2	10.4	10.9
28							9.6	9.0	9.3	11.5	11.0	11.2
29							10.0	9.5	9.7	10.9	10.2	10.6
30							10.1	9.4	9.7	10.4	9.6	10.0
31							9.7	9.1	9.3	9.8	9.1	9.5
MONTH							10.2	7.0	9.1	11.8	7.0	9.6

STREAMS TRIBUTARY TO LAKE ERIE

04212680 FIELDS BROOK AT ASHTABULA, OH--Continued

OXYGEN, DISSOLVED (DO), MG/L, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	10.4	8.8	9.2	11.3	10.6	10.8	10.4	7.8	8.7	11.0	7.2	8.2
2	10.8	10.0	10.5	10.8	10.3	10.6	10.2	7.9	8.7	11.0	7.3	8.7
3	10.0	8.6	9.3	10.8	10.4	10.5	10.2	7.5	8.7	11.3	7.4	9.0
4	9.2	8.2	8.6	10.9	10.5	10.7	9.4	7.4	8.1	11.0	6.7	8.6
5	10.9	8.5	9.9	11.1	10.3	10.7	8.3	7.2	7.5	10.5	5.9	8.1
6	11.6	10.8	11.2	10.8	10.4	10.6	8.0	7.1	7.5	9.0	6.0	7.6
7	11.3	10.7	11.0	11.5	10.8	11.2	9.1	7.7	8.1	9.1	8.3	8.7
8	10.8	10.3	10.6	11.7	10.4	10.9	9.2	7.7	8.3	9.3	7.9	8.7
9	11.0	10.7	10.8	10.6	10.1	10.3	9.3	7.8	8.4	8.8	8.1	8.4
10	10.9	10.4	10.6	10.6	10.0	10.2	9.4	8.2	8.6	8.2	6.1	7.3
11	10.6	10.3	10.4	10.7	10.0	10.5	9.2	8.3	8.7	---	---	---
12	10.5	10.1	10.3	11.2	10.5	10.9	9.7	7.4	8.5	---	---	---
13	10.6	10.2	10.3	11.2	10.3	10.8	9.3	7.4	8.1	---	---	---
14	10.3	9.9	10.1	10.2	9.8	10.0	9.5	7.1	8.2	---	---	---
15	10.6	9.9	10.2	10.3	10.0	10.1	9.7	7.2	8.4	---	---	---
16	10.3	9.7	10.0	10.4	10.0	10.2	9.9	9.0	9.3	---	---	---
17	10.2	9.5	9.7	10.4	9.9	10.1	10.2	8.5	9.4	---	---	---
18	11.5	10.2	10.8	10.4	9.3	9.9	10.0	8.1	9.0	---	---	---
19	10.8	10.1	10.4	9.7	9.3	9.4	11.0	7.8	8.9	---	---	---
20	10.8	9.8	10.4	10.7	9.8	10.4	9.0	7.8	8.3	---	---	---
21	11.2	10.4	11.1	10.9	9.9	10.4	9.3	8.3	8.8	8.4	8.2	8.2
22	11.4	10.6	11.0	10.5	9.2	9.8	10.3	9.0	9.6	8.2	7.7	7.9
23	11.0	10.7	10.9	10.0	8.7	9.3	11.6	8.2	10.0	7.8	7.0	7.4
24	11.2	10.8	11.0	10.1	9.0	9.4	10.9	8.4	9.2	7.2	6.3	6.9
25	11.4	10.9	11.2	11.2	9.2	10.1	---	---	---	7.1	6.2	6.6
26	11.6	10.8	11.2	10.8	9.1	9.7	---	---	---	6.7	5.9	6.3
27	11.3	10.8	11.0	11.2	9.2	10.0	---	---	---	6.3	6.1	6.2
28	11.2	10.8	11.0	11.5	9.2	10.2	---	---	---	6.8	5.0	6.1
29	---	---	---	11.5	8.7	9.9	---	---	---	6.4	5.1	5.9
30	---	---	---	11.2	8.5	9.6	10.3	7.4	9.1	5.9	5.0	5.5
31	---	---	---	11.2	8.1	9.4	---	---	---	---	---	---
MONTH	11.6	8.2	10.5	11.7	8.1	10.2	11.6	7.1	8.6	11.3	5.0	7.5
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	7.1	5.8	6.4	3.7	2.5	3.1	9.6	8.2	8.9
2	---	---	---	7.1	5.7	6.2	3.5	2.5	2.9	9.7	8.2	8.9
3	---	---	---	6.8	5.6	6.1	3.2	2.2	2.7	9.4	7.9	8.5
4	---	---	---	6.7	5.5	6.1	3.1	2.2	2.6	9.5	7.6	8.5
5	---	---	---	6.7	5.2	5.9	3.0	2.1	2.6	9.1	7.6	8.2
6	---	---	---	6.3	4.9	5.5	3.0	2.2	2.5	9.4	8.0	8.5
7	---	---	---	6.1	4.9	5.4	2.9	2.1	2.4	9.7	8.5	8.9
8	---	---	---	5.7	4.8	5.1	2.8	2.0	2.3	9.7	7.8	8.8
9	---	---	---	7.2	5.2	6.2	2.5	1.8	2.1	9.7	7.7	8.7
10	---	---	---	7.3	6.2	6.8	6.6	1.4	4.0	8.3	5.3	7.0
11	---	---	---	6.8	6.3	6.6	6.8	4.6	5.8	6.4	5.4	5.9
12	---	---	---	7.0	6.2	6.6	7.3	6.4	6.8	6.3	5.5	6.0
13	---	---	---	6.8	6.2	6.5	7.8	6.3	6.7	7.1	6.1	6.5
14	---	---	---	7.0	6.0	6.5	7.9	5.9	7.1	7.5	6.4	6.9
15	---	---	---	6.4	5.4	6.0	7.7	6.2	6.9	7.4	5.7	6.6
16	---	---	---	---	---	---	7.3	5.8	6.5	7.2	5.7	6.5
17	---	---	---	---	---	---	7.0	5.6	6.1	6.6	5.2	6.0
18	6.4	6.2	6.3	---	---	---	6.8	5.4	5.9	5.8	5.2	5.4
19	6.3	5.6	6.0	---	---	---	7.0	5.4	6.0	5.6	4.9	5.3
20	6.0	5.3	5.8	---	---	---	6.8	5.4	5.9	5.6	4.5	4.9
21	7.1	5.5	6.3	---	---	---	6.5	4.8	5.6	6.5	5.6	6.0
22	6.1	4.5	5.5	7.8	6.2	6.8	6.0	4.6	5.2	7.0	5.3	6.1
23	5.5	4.6	5.1	7.8	5.9	6.7	5.7	4.5	5.0	5.6	4.1	4.9
24	8.0	5.7	6.9	7.5	5.5	6.4	5.8	4.8	5.3	5.9	4.3	5.1
25	8.2	6.4	7.2	7.5	5.2	6.1	9.1	5.9	7.6	5.9	5.5	5.7
26	8.4	5.8	7.0	6.2	4.7	5.5	10.1	6.8	8.8	6.9	4.3	5.5
27	7.4	5.5	6.3	6.1	4.3	5.0	9.7	8.6	9.0	6.5	5.5	5.9
28	7.2	5.6	6.1	5.5	3.4	4.6	9.8	8.5	9.2	6.2	5.8	6.0
29	6.8	5.7	6.1	4.2	3.1	3.6	9.3	8.1	8.8	6.6	6.1	6.2
30	7.2	6.1	6.5	4.0	3.1	3.4	8.8	7.8	8.3	6.4	5.9	6.3
31	---	---	---	4.4	2.8	3.5	9.4	8.0	8.7	---	---	---
MONTH	8.4	4.5	6.2	7.8	2.8	5.7	10.1	1.4	5.6	9.7	4.1	6.8
YEAR	11.8	1.4	8.1									

NOTE: NUMBER OF MISSING DAYS OF RECORD EXCEEDED 20% OF YEAR

STREAMS TRIBUTARY TO LAKE ERIE

103

04213000 CONNEAUT CREEK AT CONNEAUT, OH

LOCATION.--Lat 41°55'37", long 80°36'15", Ashtabula County, Hydrologic Unit 04120101, on right bank at downstream side of Keefus Road bridge at Conneaut, and 6.4 mi upstream from mouth.

DRAINAGE AREA.--175 mi².

PERIOD OF RECORD.--July 1922 to December 1935, March 1950 to September 1961 (published as "at Amboy"), October 1961 to current year.

REVISED RECORDS.--WSP 714: 1926. WSP 784: 1933. WSP 1437: 1923-25(M), 1926-30, 1931-32(M), 1933, 1935(M).
WSP 1912: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 610.30 ft above National Geodetic Vertical Datum of 1929. Prior to Aug. 17, 1924, nonrecording gage at same site and datum.

REMARKS.--Estimated daily discharges: Dec. 16 to Jan. 16, Jan. 26 to Feb. 1, Feb. 12-16, Mar. 2, 3, Sept. 3, 4, 7-21. Records good except for estimated daily discharges which are poor. Water-quality data collected at this site 1965 to 1977. Sediment data collected 1970 to 1974.

AVERAGE DISCHARGE.--49 years, 271 ft³/s, 21.04 in/yr.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 17,000 ft³/s Jan. 22, 1959, gage height, 11.70 ft; maximum gage height, 12.94 ft Mar. 4, 1934 (backwater from ice); minimum discharge, 0.2 ft³/s July 31, Aug. 1, 1933, Aug. 1, 2, 1934.

EXTREMES FOR CURRENT YEAR.--Peak discharges greater than base discharge of 2,900 ft³/s and maximum (*):

Date	Time	Discharge (ft ³ /s)	Gage height (ft)	Date	Time	Discharge (ft ³ /s)	Gage height (ft)
Nov. 6	0400	*13,600	*10.85	June 6	1800	3,440	6.58
Nov. 27	2000	3,710	6.78	June 9	0200	3,630	6.72
Jan. 19	1200	8,300	9.31	June 11	0700	5,270	7.79
Feb. 6	0700	3,710	6.78	June 12	1200	9,820	9.95

Minimum daily discharge, 6.5 ft³/s Sept. 11.

DISCHARGE, IN CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	18	32	379	48	50	85	67	66	62	53	18	12	
2	15	31	497	48	353	75	63	64	55	53	17	11	
3	14	36	558	70	759	70	58	61	52	338	14	9.8	
4	13	390	333	80	696	126	57	55	52	146	13	9.0	
5	14	6290	290	82	2530	150	59	51	271	74	12	12	
6	18	10000	299	82	2550	179	84	57	1680	56	12	12	
7	16	2530	342	80	577	162	128	328	2210	48	20	10	
8	18	855	330	76	341	106	153	652	2350	41	16	9.0	
9	22	597	306	70	278	164	120	541	2480	46	21	8.0	
10	19	973	314	62	235	313	111	163	387	41	39	7.0	
11	19	1960	505	56	188	1540	176	113	2240	47	30	6.5	
12	17	1030	1270	50	130	1240	268	81	7890	43	32	10	
13	20	867	942	45	110	1020	485	65	5630	50	37	9.0	
14	19	1110	472	42	100	1800	403	58	930	52	25	8.2	
15	39	1110	296	40	88	1120	237	53	341	65	20	7.6	
16	261	950	190	39	82	755	313	55	950	48	21	9.0	
17	155	2130	100	196	126	391	696	58	625	41	16	8.6	
18	79	1110	88	1620	633	281	660	62	343	40	28	8.0	
19	68	421	80	5930	1530	258	314	411	199	38	24	7.8	
20	226	311	75	4800	1260	273	214	1550	235	33	18	7.8	
21	212	268	70	2440	1070	200	262	1780	284	29	14	9.6	
22	111	300	65	798	1070	148	400	789	161	26	13	25	
23	69	349	60	614	483	137	336	306	130	23	12	47	
24	64	297	58	377	318	133	248	204	333	21	12	55	
25	224	214	56	263	241	119	180	143	143	20	11	62	
26	195	679	54	150	188	105	126	104	91	20	15	42	
27	108	2940	52	80	150	99	100	88	73	19	26	72	
28	69	1910	52	62	129	100	85	117	64	18	17	134	
29	51	943	50	58	---	95	77	255	59	19	20	79	
30	41	564	50	54	---	83	70	137	56	19	19	57	
31	35	---	49	52	---	74	---	83	---	17	14	---	
TOTAL	2249	41197	8282	18464	16265	11401	6550	8550	30376	1584	606	764.9	
MEAN	72.5	1373	267	596	581	368	218	276	1013	51.1	19.5	25.5	
MAX	261	10000	1270	5930	2550	1800	696	1780	7890	338	39	134	
MIN	13	31	49	39	50	70	57	51	52	17	11	6.5	
CFSM	.41	7.85	1.53	3.41	3.32	2.10	1.25	1.58	5.79	.29	.11	.15	
IN.	.48	8.76	1.76	3.92	3.46	2.42	1.39	1.82	6.46	.34	.13	.16	
CAL YR 1985	TOTAL	129151		MEAN	354	MAX	10000	MIN	13	CFSM	2.02	IN.	27.45
WTR YR 1986	TOTAL	146288.9		MEAN	401	MAX	10000	MIN	6.5	CFSM	2.29	IN.	31.10

PARTIAL-RECORD STATIONS AND MISCELLANEOUS SITES

CREST-STAGE PARTIAL-RECORD STATIONS

The following table contains annual maximum discharge for crest-stage stations. A crest-stage is a device which will register the peak stage occurring between inspections of the gage. A stage-discharge relation for each gage is developed from discharge measurements made by indirect measurements of peak flow or by current meter. The date of the maximum discharge is not always certain but is usually determined by comparison with nearby continuous-record stations, weather records, or local inquiry. Only the maximum discharge for each water year is given. Information on some lower floods may have been obtained, and discharge measurements may have been made for purposes of establishing the stage-discharge relation, but these are not published herein. The years given in the period of record represent water years for which the annual maximum has been determined.

Annual maximum discharge at crest-stage partial-record stations during water year 1986

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Date	Annual maximum	
						Gage height (feet)	Dis- charge (ft ³ /s)
Streams tributary to Lake Erie							
04180907 (d)	Carter Creek near New Bremen, OH	Lat 40°26'16", long 84°19'34", Shelby County, Hydrologic Unit 04100004, at culvert on State Route 274, 0.58 mi west of State Route 29, 0.82 mi up- stream of an unnamed tributary and 2.27 mi east of New Bremen	1.16	1982-86	7-16-86	12.59	79
04183750 (d)	Racetrack Run at Hicksville, OH	Lat 41°18'58", long 84°46'00", Defiance County, Hydrologic Unit 04100005, at culvert on Hicksville-Edgerton Road, 0.2 mi south of Middle Fork Gordon Creek, 0.9 mi north of Hicksville.	0.34	1978-86	7-16-86	12.94	37
04184750	Spring Creek at Fayette, OH	Lat 41°40'32", long 84°19'47", Fulton County, Hydrologic Unit 04100006, at culvert on Gorham Street, 800 ft north of U.S. Highway 20 in Fayette.	2.58	1978-86	3-18-86	97.06	265
04184760	Bean Creek tributary near Fayette, OH	Lat 41°39'08", long 84°17'34", Fulton County, Hydrologic Unit 04100006, at culvert on Fulton County Highway N, 1.5 mi south of U.S. Highway 20, and 2.3 mi southeast of Fayette.	0.56	1978-86	3-18-86	14.50	69
04185150	Beaver Creek tributary near Montpelier, OH	Lat 41°34'19", long 84°31'03", Williams County, Hydrologic Unit 04100006 on Williams County Road K, 2.0 mi east of State Highway 15, and 4.7 mi east of Montpelier.	0.40	1978-86	3-18-86	18.98	90
04185945	Auglaize River tributary near Spencerville, OH	Lat 40°42'27", long 84°19'06", Allen County, Hydrologic Unit 04100007, at culvert on State Highway 117, 1.8 mi east of Spencerville.	0.51	1978-86	6-27-86	101.20	180
04186800 (d)	King Run near Harrod, OH	Lat 40°43'57", long 83°53'47", Allen County, Hydrologic Unit 04100007, at culvert on State Route 309, 0.9 mi west of Allen-Hardin County line, 2.2 mi (3.5 km) northeast of Harrod.	0.53	1966-86	6-27-86	20.41	77
					Station discontinued 7-9-86		
04187945	Rattlesnake Creek near Cairo, OH	Lat 40°49'20", long 84°04'16", Allen County, Hydrologic Unit 04100007, at culvert on Stewart Road, 1.2 mi southeast of Cairo.	1.45	1978-86	9-25-86	23.06	130
04190350	Little Auglaize River tributary at Ottoville, OH	Lat 40°55'05", long 84°20'47", Putnam County, Hydrologic Unit 04100007, at culvert on State Highway 66, 1.0 mi south of Ottoville.	1.04	1978-84 1978-85 1978-86	4-22-84 2-22-85 3-19-86	11.80(e) 15.23 11.75	33* 71* 33
04191003 (d)	Stripe Creek near Van Wert, OH	Lat 40°54'29", long 84°33'43", Van Wert County, Hydrologic Unit 04100007, at culvert on State Route 224, 0.76 mi northeast of State Route 127, 700 ft upstream of Town Creek and 1.87 mi north of Van Wert.	1.26	1982-86	7-16-86	12.31	37
					Station discontinued 7-18-86		
04191480	Beetree Run near Junction, OH	Lat 41°13'26", long 84°24'33, Defiance County, Hydrologic Unit 04100007, at culvert on private drive from Bowman Road 12, near Sponseller Road 158, 3.2 mi northeast of Junction.	1.66	1978-86	7-16-86	100.00	79

CREST-STAGE PARTIAL-RECORD STATIONS--Continued

105

Station No.	Station name	Location	Drainage area (mi ²)	Period of record	Date	Gage height (feet)	Dis- charge (ft ³ /s)
Streams tributary to Lake Erie--Continued							
04192900	Reitz Run at Waterville, OH	Lat 41°29'50", long 83°42'35", Wood County, Hydrologic Unit 04100012, at culvert on State Highways 64 and 65, 0.1 mi upstream from mouth, 0.5 mi southeast of Waterville.	0.98	1966-86	7-12-86	18.12	24
04196825 (d)	Browns Run near Crawford, OH	Lat 40°53'13", long 83°20'15", Wyandot County, Hydrologic Unit 04100011, at culvert on U.S. Highway 23, 5.9 mi north of U.S. Highway 30N, 1.29 mi upstream of Little Tymochtee Creek and 2.3 mi south of Crawford.	2.00	1982-86	4-20-86	13.00	66
						Station discontinued 5-23-86	
04198019 (d)	Sandhill Creek near Monroeville, OH	Lat 41°12'13", long 82°42'56", Huron County, Hydrologic Unit 04100012, at culvert on State Route 99, 1,200 ft upstream of Slate Run, 1.1 mi north of Pontiac, and 2.4 mi south of Monroeville.	1.76	1982-86	4-20-86	13.70	159
						Station discontinued 6-26-86	
04201302 (d)	Delwood Run at Valley City, OH	Lat 41°14'15", long 81°55'18", Medina County, Hydrologic Unit 04110001, at culvert on State Route 303, 250 ft east of State Route 252, 400 ft up- stream of West Branch Rocky River, and about 0.5 mi east of Valley City.	0.45	1982-86	9-27-86	12.01	32
04201895 (d)	Fire Run at Auburn Corners, OH	Lat 41°23'36", long 81°12'56", Geauga County, Hydrologic Unit 04110002, at culvert on State Route 44, 0.6 mi up- stream of LaDue Reservoir, and 0.4 mi north of U.S. Highway 422 in Auburn Corners.	0.24	1982-86	6-15-86	12.23	40
						Station discontinued 6-26-86	
04210100	Hoskins Creek at Hartsgrove, OH	Lat 41°36'00", long 80°57'12", Ashtabula County, Hydrologic Unit 04110004, at culvert on State Route 534, 0.4 mi south of Hartsgrove.	5.42	1982-86	11-5-85	8.38	264
						Station discontinued 6-26-86	

* Revised

d Operated as a rural flood volume site where additional data may be available, data collection suspended from mid-November to mid-March.

e Estimated gage height

GROUND-WATER RECORDS

CRAWFORD COUNTY

404838082563100. Local number, CR-1.
 LOCATION.--Lat 40°48'38", long 82°56'31", Hydrologic Unit 04100011, Timken Roller Bearing Co., U.S. 30 in Bucyrus.
 Owner: Timken Roller Bearing Co.
 AQUIFER.--Sand and gravel of Pleistocene Age.
 WELL CHARACTERISTICS.--Drilled test water-table well, diameter 6 in., depth 54 ft, cased.
 INSTRUMENTATION.--Digital recorder -- 60-minute punch.
 DATUM.--Elevation of land-surface datum is 1039.13 ft above National Geodetic Vertical Datum of 1929. Measuring point: Floor of instrument shelter 3.50 ft above land-surface datum.
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of water.
 PERIOD OF RECORD.--April 1962 to current year.
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 37.64 ft below land-surface datum, Dec. 11, 1962; minimum daily low, 16.78 ft below land-surface datum, Apr. 24-25, 1984.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
 MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.52	21.28	18.26	19.48	19.02	17.65	17.31	17.90	18.50	18.57	17.88	19.16
2	21.21	20.83	18.50	18.92	18.85	17.58	17.38	17.99	18.64	18.37	17.94	19.18
3	20.70	20.73	18.61	18.61	18.71	17.68	17.36	17.92	18.63	18.44	18.05	19.20
4	20.43	20.55	18.56	18.60	18.49	18.44	17.42	17.95	18.56	18.41	18.09	19.13
5	20.28	20.29	18.48	18.62	18.00	18.32	17.46	18.73	18.54	18.46	18.65	19.20
6	20.28	20.27	18.63	19.55	17.92	17.76	17.45	18.18	18.52	19.15	18.28	19.25
7	21.58	20.48	18.62	19.90	17.69	18.03	17.46	18.03	18.47	18.61	18.18	19.31
8	22.00	20.58	18.58	19.79	17.68	18.02	17.41	18.14	18.64	18.29	18.23	19.35
9	21.34	20.45	18.71	19.52	17.67	17.75	17.50	18.18	18.71	18.02	18.28	19.57
10	20.76	20.12	19.34	19.83	17.68	18.36	17.49	18.19	18.65	18.02	18.28	19.90
11	21.03	20.15	18.87	19.28	17.71	18.11	17.57	18.14	18.57	17.96	18.42	20.00
12	20.81	20.07	17.93	19.08	17.80	17.73	17.69	18.15	18.71	17.61	18.46	20.33
13	20.47	19.90	17.83	19.74	17.89	17.40	17.78	18.18	18.82	17.27	18.44	20.48
14	20.37	19.84	17.96	19.78	17.70	17.01	18.39	18.28	18.82	17.17	18.40	20.57
15	20.34	19.80	17.95	18.65	17.88	16.86	17.87	18.32	18.67	17.21	18.43	20.60
16	20.43	19.60	17.98	19.50	17.86	16.96	17.77	18.25	18.72	17.26	18.46	20.53
17	20.43	19.46	18.01	19.35	17.72	16.99	17.93	18.25	18.83	17.34	18.55	20.37
18	21.29	19.41	18.20	19.22	17.61	17.24	18.00	18.22	18.81	17.37	19.25	20.11
19	21.03	19.32	18.25	18.84	17.60	16.96	17.94	18.19	18.80	17.39	19.62	20.00
20	20.52	19.46	18.70	18.73	17.61	17.09	17.85	18.20	18.80	17.46	19.28	19.93
21	21.19	19.28	18.45	18.74	17.61	17.11	17.56	18.23	18.82	17.51	19.06	19.96
22	21.33	19.25	17.99	18.85	17.52	17.05	17.66	18.24	18.75	17.56	19.46	19.87
23	20.98	19.30	17.67	18.86	17.44	17.05	17.73	18.31	18.75	17.61	19.21	19.76
24	20.76	19.40	17.74	18.80	17.45	17.20	17.72	18.36	18.87	17.59	19.16	19.80
25	21.03	19.55	18.39	18.56	17.49	17.06	17.57	18.38	18.93	17.62	19.14	19.81
26	21.29	19.25	18.13	18.48	17.31	17.03	17.64	18.37	18.91	17.63	19.08	19.82
27	20.96	18.71	18.38	18.56	17.54	17.16	17.67	18.38	18.83	17.66	19.07	19.75
28	21.56	18.41	18.18	18.64	17.61	17.17	17.84	18.43	18.67	17.68	19.18	19.72
29	21.91	18.39	18.05	18.79	---	17.11	17.87	18.43	18.56	17.77	19.23	19.67
30	21.65	18.29	18.12	19.36	---	17.23	17.88	18.39	18.62	17.82	19.22	19.63
31	21.49	---	18.97	19.14	---	17.29	---	18.40	---	17.84	19.19	---
MAX	22.00	21.28	19.34	19.90	19.02	18.44	18.39	18.73	18.93	19.15	19.62	20.60
WTR YR 1986 MEAN	18.70											
HIGH					16.86	MAR 15	LOW	22.00	OCT 8			

GROUND-WATER RECORDS

107

GEAUGA COUNTY

412518081221500. Local number, GE-3A.

LOCATION.--Lat 41°25'18", long 81°22'15", Hydrologic Unit 04110003, 1.2 mi southeast of Chagrin Falls.

Owner: City of Chagrin Falls.

AQUIFER.--Sandstone of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth drilled 120 ft, present depth 89 ft, cased.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 1130 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of instrument shelter 3.00 ft above land-surface datum.

PERIOD OF RECORD.--September 1951 to current year.

REMARKS.--Water level affected by pumping wells nearby for Chagrin Falls municipal supply.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 52.85 ft below land-surface datum, Oct. 2, 1965; minimum daily low, 8.70 ft below land-surface datum, May 17, 1973.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	49.06	49.76	50.09	50.26	45.69	40.27	37.44	41.82	45.04
2			---	49.04	49.76	50.08	50.28	45.58	40.36	37.13	41.97	45.14
3			---	49.18	49.74	50.13	50.28	45.47	40.34	37.25	42.16	45.17
4			---	49.18	49.63	50.14	50.28	45.18	40.13	37.24	42.25	45.23
5			---	49.17	49.75	50.14	50.28	44.84	39.97	37.08	42.29	45.36
6			---	49.26	49.77	50.14	50.28	44.65	39.88	37.08	42.39	45.46
7			---	49.37	49.78	50.31	50.27	44.44	39.68	36.98	42.45	45.56
8			---	49.38	49.79	50.32	50.23	44.29	39.61	36.89	42.57	45.65
9			---	49.29	49.79	50.16	50.28	44.12	39.68	36.61	42.74	45.71
10			---	49.34	49.80	50.14	50.28	43.93	39.57	36.60	42.79	45.71
11			---	49.34	49.83	50.26	50.29	43.66	39.23	36.51	42.99	45.71
12			---	49.29	49.87	50.24	50.33	43.45	39.00	36.25	43.11	45.99
13			---	49.42	49.91	50.10	50.35	43.27	39.08	36.24	43.13	46.07
14			---	49.53	49.85	50.08	50.35	43.10	---	36.27	43.19	46.15
15			---	49.55	49.95	50.16	50.33	42.94	---	36.27	43.32	46.19
16			---	49.55	49.95	50.22	50.33	42.74	---	36.13	43.46	46.31
17			---	49.52	49.93	50.22	50.34	42.62	38.77	37.19	43.59	46.33
18			---	49.51	49.93	50.22	50.16	42.37	38.65	38.15	43.73	46.36
19			---	49.32	49.95	50.11	49.67	42.24	38.47	38.69	43.78	46.43
20			48.36	49.49	49.95	50.22	49.18	42.01	38.34	39.19	43.87	46.57
21			48.42	49.53	50.03	50.22	48.60	41.84	38.34	39.62	43.99	46.62
22			48.42	49.59	50.01	50.21	48.42	41.65	38.19	39.95	44.05	46.62
23			48.43	49.59	49.97	50.15	48.16	41.51	37.94	40.16	44.18	45.63
24			48.65	49.59	49.99	50.26	47.85	41.39	37.95	40.35	44.32	45.17
25			48.70	49.44	50.02	50.20	47.44	41.29	37.96	40.59	44.38	44.91
26			48.71	49.41	49.94	50.12	47.12	41.14	37.92	40.78	44.44	44.61
27			48.80	49.54	50.04	50.21	46.84	40.95	37.74	40.99	44.61	44.23
28			48.84	49.59	50.07	50.21	46.50	40.82	37.57	41.16	44.78	44.00
29			48.88	49.68	---	50.15	46.24	40.73	37.51	41.42	44.85	43.72
30			48.94	49.75	---	50.24	46.09	40.55	37.45	41.56	44.94	43.41
31			49.00	49.76	---	50.26	---	40.37	---	41.68	44.98	---
MAX			---	49.76	50.07	50.32	50.35	45.69	---	41.68	44.98	46.62
WTR YR 1986	MEAN	45.48		HIGH	36.13	JUL 16	LOW	50.35	APR 13	AND OTHERS		

404648083412600. Local number, HN-2A.

LOCATION.--Lat 40°46'48", long 83°41'26", Hydrologic Unit 04100007, at southeast edge of Dola.

Owner: Ohio Power Company

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 51 ft cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 945 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of instrument shelter 2.88 ft above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--December 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 15.86 ft below land-surface datum, Jan. 20, 21, 1965; minimum daily low, 5.46 ft below land-surface datum, Mar. 21, 1984.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.78	10.43	9.17	7.34	7.06	6.37	6.21	6.25	6.35	6.36	6.32	7.13
2	9.90	10.62	9.08	7.26	6.90	6.32	6.32	6.42	6.65	6.19	6.35	7.15
3	9.86	10.70	9.25	7.30	6.89	6.32	6.28	6.52	6.69	6.36	6.48	7.15
4	9.71	10.70	9.21	7.30	6.68	6.32	6.26	6.43	6.56	6.33	6.54	7.08
5	9.73	10.74	8.90	7.18	6.46	6.32	6.27	6.15	6.46	6.32	6.50	7.05
6	9.90	10.75	8.68	7.41	6.53	6.16	6.22	6.21	6.46	6.35	6.41	7.15
7	10.04	10.91	8.71	7.81	6.39	6.65	6.22	6.27	6.43	6.36	6.33	7.25
8	10.15	11.02	8.53	7.90	6.45	6.66	6.09	6.30	6.54	6.35	6.37	7.34
9	10.22	11.00	8.45	7.72	6.45	6.25	6.21	6.42	6.74	6.18	6.48	7.34
10	10.22	11.08	8.46	7.36	6.45	6.07	6.21	6.42	6.69	6.26	6.47	7.25
11	10.21	11.18	8.31	7.35	6.39	6.39	6.14	6.35	6.45	6.19	6.64	7.03
12	10.21	11.15	7.93	7.12	6.43	6.39	6.32	6.28	6.49	6.07	6.73	7.27
13	10.13	10.93	7.83	7.30	6.54	6.12	6.43	6.29	6.71	6.16	6.69	7.40
14	10.14	11.08	7.79	7.37	6.37	5.98	6.44	6.33	6.72	6.28	6.60	7.53
15	10.21	11.12	7.79	7.51	6.41	6.12	6.32	6.48	6.64	6.26	6.48	7.45
16	10.60	10.80	7.60	7.48	6.42	6.24	6.36	6.41	6.53	6.25	6.49	7.59
17	10.73	10.83	7.52	7.38	6.13	6.26	6.49	6.41	6.83	6.17	6.58	7.58
18	10.62	10.80	7.68	7.29	6.14	6.21	6.61	6.30	6.81	6.14	6.69	7.38
19	10.54	10.60	7.68	6.96	6.26	6.12	6.54	6.34	6.69	6.09	6.73	7.43
20	10.54	10.75	7.62	7.05	6.30	6.43	6.39	6.37	6.70	6.02	6.75	7.41
21	10.54	10.75	7.42	7.09	6.48	6.44	6.22	6.38	6.76	6.18	6.85	7.56
22	10.56	10.33	7.39	7.32	6.48	6.36	6.40	6.38	6.69	6.29	6.91	7.49
23	10.56	10.33	6.88	7.38	6.30	6.22	6.50	6.38	6.59	6.33	6.83	7.27
24	10.49	10.31	7.07	7.33	6.26	6.46	6.43	6.46	6.66	6.28	6.93	7.27
25	10.79	10.28	7.20	6.97	6.31	6.22	6.20	6.46	6.85	6.18	6.92	7.34
26	10.78	9.74	7.21	6.75	6.20	6.09	6.15	6.46	6.80	6.16	6.86	7.43
27	10.70	9.73	7.18	6.63	6.25	6.22	6.19	6.40	6.75	6.17	6.90	7.42
28	10.92	9.48	7.25	6.73	6.37	6.21	6.11	6.49	6.58	6.16	7.10	7.32
29	10.92	9.54	7.18	6.87	---	6.07	6.29	6.48	6.36	6.22	7.22	7.27
30	10.81	9.32	7.26	7.11	---	6.12	6.30	6.40	6.43	6.31	7.22	7.09
31	10.67	---	7.15	7.10	---	6.25	---	6.37	---	6.30	7.19	---
MAX	10.92	11.18	9.25	7.90	7.06	6.66	6.61	6.52	6.85	6.36	7.22	7.59
WTR YR 1986 MEAN		7.37		HIGH	5.98	MAR 14	LOW	11.18	NOV 11			

GROUND-WATER RECORDS

109

HENRY COUNTY

412123083574000. Local number, HY-2.

LOCATION.--Lat 41°21'23", long 83°57'40", Hydrologic Unit 04100009, 1.4 Mi southwest of McClure.

Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in., depth drilled 300 ft, cased to 43 ft.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 680 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of instrument shelter 3.00 ft above land-surface datum.

PERIOD OF RECORD.--June 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 22.76 ft below land-surface datum, May 30, 1977; minimum daily low, 14.55 ft below land-surface datum, Mar. 22, 1978.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.27	19.34	19.76	19.38	19.04	18.37	18.59	18.56	19.29	20.28	18.92	19.26
2	21.26	19.58	19.78	19.37	19.05	18.33	18.62	18.66	19.61	20.06	18.97	19.21
3	21.19	19.61	19.87	19.42	19.02	18.39	18.60	18.74	19.70	19.81	18.99	19.17
4	20.99	19.65	19.87	19.40	18.92	18.45	18.58	18.67	19.77	19.56	19.00	19.06
5	20.84	19.69	19.79	19.25	18.87	18.45	18.56	18.51	19.76	19.36	18.93	19.01
6	20.89	19.72	19.96	19.46	18.88	18.79	18.50	18.49	19.70	19.26	18.72	19.06
7	20.94	19.79	19.91	19.66	18.76	19.33	18.50	18.60	19.39	19.15	18.62	19.07
8	20.95	19.89	19.77	19.66	18.84	19.44	18.40	18.74	19.05	19.39	18.58	19.09
9	20.83	19.89	19.86	19.60	19.04	19.42	18.44	18.84	18.95	19.61	18.45	19.08
10	20.51	19.97	19.84	19.39	19.05	19.42	18.44	18.87	18.86	19.74	18.39	19.00
11	20.26	20.02	19.71	19.41	19.09	19.69	18.34	18.85	18.79	19.82	18.31	18.89
12	20.10	20.03	19.49	19.15	19.18	19.71	18.44	18.85	19.03	19.70	18.34	18.96
13	19.86	19.88	19.47	19.21	19.25	19.48	18.53	18.82	19.27	19.37	18.30	19.06
14	19.79	19.94	19.39	19.25	19.13	19.03	18.53	19.17	19.33	19.24	18.21	19.12
15	19.62	19.99	19.38	19.29	19.14	18.69	18.44	19.44	19.33	19.15	18.11	19.17
16	19.71	19.91	19.35	19.21	19.07	18.56	18.46	19.72	19.47	18.98	18.08	19.23
17	19.74	19.85	19.32	19.11	18.69	18.48	18.57	19.80	19.63	18.83	18.07	19.18
18	19.63	19.85	19.43	19.09	18.55	18.39	18.61	19.83	19.71	18.77	18.15	19.00
19	19.38	19.74	19.49	18.91	18.41	18.38	18.58	19.94	19.72	18.70	18.27	19.06
20	19.38	19.91	19.48	18.72	18.41	18.68	18.50	19.99	19.73	18.62	18.47	19.09
21	19.32	19.92	19.49	18.71	18.51	18.68	18.44	19.96	19.74	18.66	18.79	19.13
22	19.28	19.88	19.44	18.69	18.51	18.68	18.59	19.76	19.66	18.71	19.12	19.12
23	19.23	19.86	19.22	18.70	18.25	18.67	18.65	19.36	19.71	18.85	19.43	19.04
24	19.12	19.99	19.38	18.70	18.11	18.78	18.66	19.05	19.77	19.12	19.70	19.04
25	19.21	19.99	19.38	18.51	18.05	18.70	18.55	18.87	19.89	19.14	19.87	18.95
26	19.18	19.82	19.36	18.53	17.95	18.57	18.56	18.70	20.05	19.12	19.92	19.02
27	19.19	19.78	19.26	18.57	18.14	18.67	18.60	18.54	20.04	19.14	19.96	19.04
28	19.20	19.78	19.28	18.58	18.27	18.61	18.50	18.43	20.08	19.11	19.88	19.10
29	19.20	19.79	19.27	18.64	---	18.52	18.62	18.38	20.17	19.13	19.61	19.09
30	19.32	19.79	19.29	18.81	---	18.53	18.58	18.61	20.27	19.08	19.48	19.07
31	19.34	---	19.32	19.04	---	18.59	---	19.00	---	18.98	19.36	---
MAX	21.27	20.03	19.96	19.66	19.25	19.71	18.66	19.99	20.27	20.28	19.96	19.26
WTR YR 1986 MEAN	19.19											
HIGH					17.95	FEB 26						
LOW							21.27	OCT 1				

413704083362200. Local number, LU-1.

LOCATION.--Lat 41° 37' 04", long 83° 36' 22", Hydrologic Unit 04100001, at Toledo State Hospital.

Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in., depth drilled 525 ft, present depth 523.0 ft, cased to 93 ft.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 624 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of instrument shelter 2.98 ft above land-surface datum (Revised from 1978 and 1979).

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water. Prior to Aug. 23, 1978, measuring point was 3.10 ft above land-surface datum. Reported in 1979 as 3.00 ft above land-surface datum.

measuring point was 3.10 ft above land-surface datum. Reported in 1979 as 3.00 ft above land-surface datum.

PERIOD OF RECORD.--March 1946 to September 1982 continuous, October 1983 to January 1985 periodic, continuous thereafter.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 117.25 ft below land-surface datum, Sept. 18, 1957; minimum daily low, 58.55 ft below land-surface datum, Apr. 11, 1986.

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62.17	60.39	60.20	59.97	59.90	59.33	59.08	59.56	60.56	60.40	60.66	61.06
2	62.20	60.42	60.32	59.85	59.79	59.21	59.17	59.91	60.82	60.40	60.70	61.02
3	62.05	60.46	60.57	59.95	59.77	59.24	59.13	60.10	60.82	60.57	60.87	61.02
4	61.75	60.47	60.51	59.95	59.51	59.22	59.10	60.01	60.57	60.55	60.92	60.96
5	61.50	60.43	60.33	59.73	59.59	59.20	59.05	59.75	60.32	60.61	60.88	61.01
6	61.57	60.44	60.37	60.04	59.62	59.02	58.89	59.81	60.18	60.66	60.78	61.07
7	61.65	60.48	60.37	60.48	59.60	59.61	58.83	60.20	59.96	60.70	60.63	61.17
8	61.64	60.64	60.14	60.54	59.59	59.63	58.64	60.38	59.84	60.65	60.60	61.23
9	61.68	60.62	60.34	60.28	59.64	59.15	58.71	60.46	59.98	60.52	60.70	61.18
10	61.48	60.74	60.35	59.96	59.68	58.93	58.68	60.45	59.82	60.57	60.68	60.97
11	61.51	60.85	60.26	59.93	59.59	59.30	58.55	60.33	59.43	60.44	60.92	60.58
12	61.44	60.79	60.06	59.57	59.67	59.30	58.74	60.24	59.56	60.33	61.00	60.61
13	61.20	60.62	60.02	59.87	59.78	59.00	58.86	60.21	59.87	60.51	60.93	60.66
14	61.15	60.74	60.13	59.97	59.47	58.92	58.85	60.23	59.93	60.65	60.77	60.75
15	61.07	60.85	60.04	60.05	59.57	59.06	58.65	60.30	59.90	60.69	60.61	60.51
16	61.44	60.63	60.04	59.99	59.54	59.26	58.71	60.31	60.03	60.74	60.62	60.60
17	61.50	60.62	60.07	59.78	59.15	59.30	58.90	60.31	60.27	60.82	60.73	60.51
18	61.30	60.62	60.29	59.76	59.08	59.26	58.99	60.20	60.28	60.84	60.85	60.13
19	61.20	60.45	60.36	59.44	59.23	59.10	58.88	60.30	60.17	60.76	60.87	60.13
20	61.23	60.73	60.25	59.63	59.26	59.53	58.70	60.32	60.34	60.73	60.96	60.03
21	61.12	60.82	60.14	59.68	59.55	59.58	58.59	60.48	60.36	60.88	61.07	60.11
22	61.09	60.60	60.01	60.04	59.53	59.50	58.85	60.52	60.23	60.94	61.11	59.93
23	61.00	60.52	59.53	60.11	59.38	59.42	58.99	60.56	60.21	60.97	60.91	59.57
24	60.93	60.63	59.78	60.10	59.42	59.69	58.96	60.65	60.39	60.89	61.03	59.51
25	61.11	60.64	59.87	59.67	59.44	59.38	58.72	60.67	60.45	60.72	61.00	59.54
26	61.02	60.23	59.89	59.50	59.19	59.16	58.93	60.65	60.32	60.71	60.89	59.61
27	61.02	60.34	59.81	59.44	59.21	59.34	59.02	60.58	60.27	60.68	60.92	59.54
28	61.15	60.26	59.87	59.51	59.29	59.27	59.09	60.64	60.30	60.63	61.10	59.60
29	61.09	60.40	59.81	59.72	---	59.03	59.41	60.62	60.40	60.68	61.21	59.52
30	60.80	60.25	59.88	59.93	---	59.11	59.45	60.48	60.48	60.72	61.22	59.39
31	60.69	---	59.79	59.94	---	59.1						

GROUND-WATER RECORDS

111

MEDINA COUNTY

410142082005900. Local number, MD-1.

LOCATION.--Lat 41°01'42", long 82°00'59", Hydrologic Unit 04110001. Waterworks plant at Lodi.

Owner: Lodi Water Dept.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water-table well, diameter 6 in., depth 65 ft, cased.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 910 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of instrument shelter 1.90 ft above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--September 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 39.33 ft below land-surface datum, July 21, 1983; minimum daily low, 7.60 ft below land-surface datum, July 6, 1969.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.24	24.11	20.39	21.64	23.25	22.37	27.34	22.47	21.75	25.28	35.82	26.86
2	31.91	23.62	21.85	22.91	21.91	20.65	22.83	22.63	25.88	25.65	---	28.24
3	29.40	27.44	---	---	22.68	22.04	22.89	22.40	29.47	29.27	27.85	27.72
4	25.21	25.00	22.64	22.69	21.62	28.22	22.17	21.72	27.37	24.13	31.47	34.21
5	24.63	30.52	22.56	21.23	28.59	22.30	21.99	25.88	26.51	23.85	32.41	30.90
6	23.94	24.89	---	22.88	22.63	22.37	20.42	31.99	22.91	23.67	31.93	29.38
7	28.06	24.98	21.71	29.28	22.54	22.01	22.55	29.39	22.31	28.12	37.48	27.50
8	27.45	23.92	21.58	24.21	21.71	22.35	28.34	26.27	21.85	30.17	30.09	27.24
9	31.72	23.87	22.52	23.82	20.47	21.80	23.57	23.59	24.83	27.26	27.89	28.87
10	29.45	23.48	---	23.81	21.51	22.21	22.57	26.45	29.04	33.50	26.64	28.65
11	27.30	24.78	22.15	23.61	22.09	28.01	22.38	22.35	28.58	29.36	29.83	34.75
12	31.30	29.13	22.31	22.84	27.84	22.61	24.75	27.20	26.60	29.43	28.58	28.15
13	32.99	24.07	21.88	25.70	22.67	20.89	20.70	29.83	27.69	23.66	31.80	28.18
14	34.39	23.48	21.53	---	21.68	20.95	23.16	23.41	26.42	30.44	37.68	26.76
15	30.12	---	21.72	29.60	21.91	21.08	28.49	25.87	22.21	30.73	31.25	29.02
16	31.20	22.17	---	24.61	20.63	20.08	21.83	24.90	25.90	30.71	28.85	27.92
17	26.12	21.77	---	24.27	22.15	21.44	21.78	26.64	29.93	33.18	27.72	28.19
18	25.50	23.86	22.67	---	27.09	27.49	21.88	22.19	26.88	31.82	27.77	31.97
19	24.74	22.57	22.60	21.88	21.82	21.48	21.64	22.17	26.99	31.70	31.29	27.54
20	24.15	27.17	22.27	---	22.42	22.03	20.29	29.48	25.59	---	---	28.97
21	24.63	---	22.49	22.83	21.54	21.59	21.03	22.87	25.29	28.86	38.08	24.64
22	24.61	24.56	22.22	28.97	21.83	21.93	28.08	22.64	24.26	36.28	31.90	27.28
23	31.88	22.46	27.89	23.38	19.74	20.15	21.77	25.22	27.29	34.13	28.81	26.58
24	24.97	22.54	22.40	23.40	21.60	21.90	21.88	22.00	26.84	29.72	28.31	25.47
25	24.62	22.62	20.55	22.80	26.82	27.76	27.93	21.42	26.94	30.66	30.60	31.11
26	24.20	---	22.01	21.30	21.91	23.39	21.94	21.33	31.38	27.47	29.61	28.72
27	23.62	---	21.74	23.09	21.97	22.06	21.33	28.73	27.59	26.87	27.18	26.88
28	24.20	21.69	21.83	22.01	22.59	22.96	25.43	25.23	27.52	25.94	35.45	25.55
29	24.18	21.87	20.66	27.61	---	22.68	29.29	23.89	24.95	33.01	30.26	25.70
30	30.77	21.28	26.89	23.67	---	20.24	22.54	26.24	27.02	31.50	26.42	29.27
31	24.48	---	22.65	23.65	---	23.83	---	25.96	---	32.21	27.31	---
MAX	34.39	---	---	---	28.59	28.22	29.29	31.99	31.38	---	---	34.75
WTR YR 1986 MEAN	25.59				19.74	FEB 23	LOW	38.08	AUG 21			

410540081213600. Local number, PQ-7.
LOCATION.--Lat 41°05'40", long 81°21'36", Hydrologic Unit 04110002, Sunnysbrook golf course near Brimfield.
Owner: City of Talmidge.
AQUIFER.--Sand and gravel of Pleistocene Age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in., depth 101 ft cased.
INSTRUMENTATION.--Type F continuous recorder.
DATUM.--Elevation of land-surface datum is 1065 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of instrument shelter 7.00 ft above land-surface datum.
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.
PERIOD OF RECORD.--March 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 2.28 ft above land-surface datum, Oct. 22, 1985; minimum daily low, 3.94 ft above land-surface datum, Mar. 15-16, 1986.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	-2.75	-2.73	---	-3.23	-3.12	-3.79	-3.65	-3.47	-3.20	---	-3.00	-2.78
2	-2.75	-2.70	---	-3.13	-2.85	-3.71	-3.59	-3.45	-3.13	-3.29	-3.06	-2.75
3	-2.75	-2.70	-3.41	-3.15	-3.20	-3.70	-3.70	-3.36	-2.98	-3.29	-3.01	-2.65
4	-2.76	-2.55	-3.41	-3.20	-3.46	-3.75	-3.57	-3.42	-2.96	-3.29	-2.93	-2.60
5	-2.77	-2.80	-3.31	-3.20	-3.65	-3.78	-3.56	-3.35	-3.05	-3.39	-3.01	-2.67
6	-2.75	-2.75	-3.40	-3.13	-3.60	-3.75	-3.60	-3.36	-3.12	-3.29	-3.01	-2.67
7	-2.74	-2.91	-3.41	-3.11	-3.65	-3.63	-3.68	-3.19	-3.04	-3.16	-2.86	-2.66
8	-2.74	-2.72	-3.45	-3.08	-3.72	-3.63	-3.64	-3.19	-3.08	-3.23	-2.92	-2.63
9	-2.74	-2.90	-3.36	-3.13	-3.72	-3.76	-3.50	-3.28	-3.00	-3.31	-2.92	-2.53
10	-2.73	-3.03	-3.37	-3.11	-3.46	-3.70	-3.58	-3.31	-3.00	-3.23	-2.92	-2.62
11	-2.74	-3.12	-3.56	-3.13	-3.64	-3.70	-3.50	-3.23	-3.07	-3.30	-2.93	-2.62
12	-2.73	-3.15	-3.65	-3.13	-3.51	-3.70	-3.47	-3.24	-3.00	-3.29	-2.92	-2.59
13	-2.75	-3.21	-3.66	-3.05	-3.52	-3.86	-3.44	-3.26	-3.05	-3.35	-2.91	-2.69
14	-2.73	-3.23	-3.66	-3.10	-3.66	-3.82	-3.43	-3.34	-3.06	-3.16	-2.91	-2.71
15	-2.75	-3.27	-3.66	-3.05	-3.58	-3.94	-3.29	-3.11	-3.11	-3.26	-2.78	-2.72
16	-2.74	-3.33	-3.56	-2.98	-3.67	-3.94	-3.37	-3.25	-3.17	-3.26	-2.88	-2.71
17	-2.73	-3.50	-3.45	-3.01	-3.64	-3.81	-3.43	-3.21	-3.21	-3.26	-2.91	-2.67
18	-2.73	-3.46	-3.38	-3.10	-3.69	-3.89	-3.39	-3.23	-3.26	-3.18	-2.88	-2.64
19	-2.75	-3.46	-3.29	-3.23	-3.74	-3.93	-3.45	-3.32	-3.28	-3.25	-2.77	-2.70
20	-2.76	-3.25	-3.37	-3.26	-3.73	-3.89	-3.54	-3.34	-3.28	-3.15	-2.83	-2.72
21	-2.76	-3.35	-3.39	-3.27	-3.76	-3.89	-3.57	-3.28	-3.28	-3.18	-2.70	-2.73
22	-2.28	-3.43	-3.44	-3.24	-3.78	-3.77	-3.54	-3.23	-3.18	-3.08	-2.65	-2.73
23	-2.66	-3.44	-3.36	-3.24	-3.89	-3.89	-3.53	-3.33	-3.16	-3.12	-2.75	-2.75
24	-2.46	-3.40	-3.34	-3.24	-3.78	-3.74	-3.53	-3.33	-3.19	-2.93	-2.79	-2.77
25	-2.72	-3.37	-3.34	-3.28	-3.75	-3.83	-3.42	-3.24	-3.02	-3.06	-2.79	-2.81
26	-2.73	-3.39	-3.34	-3.31	-3.79	-3.85	-3.51	-3.30	-3.07	-3.13	-2.71	-2.78
27	-2.74	-3.43	-3.29	-3.25	-3.68	-3.63	-3.51	-3.22	---	-3.12	-2.76	-2.83
28	-2.73	-3.47	-3.28	-3.23	-3.69	-3.76	-3.37	-3.15	---	-3.12	-2.76	---
29	-2.71	-3.50	-3.27	-3.21	---	-3.68	-3.36	-2.99	---	-3.10	-2.62	---
30	-2.72	-3.51	-3.25	-3.11	---	---	-3.45	-3.00	---	-3.02	-2.74	---
31	-2.72	---	-3.23	-3.19	---	-3.75	---	-3.19	---	-3.01	-2.77	---
MAX	-2.28	-2.55	---	-2.98	-2.85	---	-3.29	-2.99	---	---	-2.62	---
WTR YR 1986 MEAN	-3.21			HIGH	-3.94	MAR 15 AND OTHERS		LOW	-2.28	OCT 22		

113

410920081192000. Local number, PO-6.

LOCATION.--Lat 41° 09' 20", long 81° 19' 20", Hydrologic Unit 04110002, State Rt 59, east of Kent.

Owner: Testa Bros.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 72 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 1040 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of platform 4.50 ft below land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--April 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 25.37 ft below land-surface datum, Feb. 22, 1977; minimum daily low, 14.28 ft below-land surface datum, May 5, 1980.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	SEPT
1	23.49	24.58	23.18	---	19.36	18.76	18.41	19.18	20.18	20.89	---	---
2	23.52	24.63	23.06	20.10	19.32	18.74	18.42	19.22	20.23	20.93	---	---
3	23.55	24.64	23.05	20.01	19.32	18.70	18.41	19.25	20.25	20.94	---	---
4	23.60	24.66	22.97	19.99	19.29	18.70	18.41	19.27	20.26	20.94	---	---
5	23.64	24.70	22.88	19.89	19.34	18.69	18.41	19.30	20.27	20.94	---	---
6	23.67	24.70	22.76	19.84	19.34	18.65	18.40	19.36	20.30	20.94	---	---
7	23.71	24.71	22.70	19.81	19.28	18.78	18.40	19.38	20.31	20.94	---	---
8	23.76	24.71	22.58	19.78	19.28	18.80	18.40	19.43	20.32	20.93	---	---
9	---	24.70	22.50	19.74	19.24	18.69	18.44	19.48	20.39	20.91	---	---
10	---	24.69	22.43	19.66	19.20	18.67	18.44	19.50	20.43	20.92	---	---
11	---	24.68	22.33	19.66	19.16	18.77	18.51	19.53	20.43	20.91	---	---
12	---	24.65	---	19.60	19.12	18.77	18.56	19.57	20.45	20.91	---	---
13	---	24.60	---	19.55	19.08	18.73	18.61	19.62	20.50	20.91	---	22.70
14	---	24.56	---	19.54	19.06	18.70	18.61	19.65	20.54	20.93	---	22.76
15	---	24.53	---	19.53	19.03	18.69	18.65	19.68	20.54	20.94	---	22.79
16	---	24.40	---	19.52	19.03	18.70	18.67	19.73	20.56	20.93	---	22.86
17	---	24.33	---	19.51	19.00	18.68	18.75	19.75	20.60	20.94	---	22.91
18	---	24.23	---	19.50	18.99	18.63	18.78	19.79	20.62	20.94	---	22.95
19	---	24.14	---	19.47	18.98	18.64	18.78	19.81	20.63	20.94	---	22.97
20	---	24.03	---	19.47	18.98	18.68	18.78	19.86	20.65	20.97	---	23.01
21	---	23.99	---	19.49	18.99	18.68	18.81	19.90	20.68	20.99	---	23.06
22	---	23.87	---	19.49	18.98	18.65	18.91	19.91	20.69	21.03	---	23.10
23	---	23.82	---	19.49	18.94	18.56	18.93	19.95	20.69	21.04	---	23.13
24	---	23.75	---	19.46	18.86	18.60	18.96	20.00	20.71	21.05	---	23.16
25	---	23.66	---	19.42	18.85	18.57	18.98	20.02	20.75	21.06	---	23.23
26	---	23.57	---	19.36	18.78	18.55	18.99	20.03	20.76	21.08	---	23.28
27	---	23.50	---	19.33	18.79	18.53	19.00	20.05	20.78	21.10	---	23.33
28	---	23.43	---	19.33	18.78	18.51	19.08	20.13	20.79	21.12	22.08	23.40
29	---	23.37	---	19.35	---	18.49	19.11	20.14	20.80	21.16	---	23.48
30	---	23.27	---	19.38	---	18.47	19.12	20.15	20.85	21.18	---	23.56
31	24.56	---	---	19.37	---	18.44	---	20.16	---	21.20	---	---
MAX	---	24.71	---	---	19.36	18.80	19.12	20.16	20.85	21.20	---	---
WTR YR 1986	MEAN	20.60		HIGH	18.40	APR 6 AND OTHERS		LOW	24.71	NOV 7 AND OTHERS		

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.33	13.37	10.65	13.18	13.10	11.89	13.12	13.13	14.81	13.57	12.57	18.37
2	14.33	15.02	12.20	13.74	11.67	14.23	10.81	10.92	12.53	11.13	13.71	18.46
3	15.99	13.38	11.01	11.97	13.27	14.83	11.53	11.90	14.28	12.63	14.07	19.25
4	13.93	13.50	11.20	13.41	10.87	12.06	13.03	13.35	11.77	13.39	12.27	19.28
5	14.49	15.65	12.68	13.77	11.08	13.18	13.32	14.40	12.39	11.20	13.76	19.30
6	15.85	15.19	10.53	12.03	12.47	13.74	11.55	11.73	13.71	12.82	14.81	18.34
7	16.32	13.35	11.55	13.68	12.96	11.27	13.30	13.39	14.13	14.42	12.18	19.25
8	16.81	14.76	13.19	14.00	11.44	12.96	10.90	13.57	12.10	11.76	13.81	18.97
9	16.11	12.53	13.13	13.78	12.71	13.04	11.54	12.23	14.10	13.34	13.96	16.15
10	13.83	13.38	13.66	13.48	13.10	11.01	12.94	13.55	12.06	13.18	12.03	13.39
11	14.63	14.91	12.60	13.60	11.34	13.33	10.86	14.06	12.30	13.74	13.78	13.32
12	16.28	12.20	11.99	12.07	12.73	10.68	12.01	12.07	13.95	13.26	11.59	14.25
13	15.27	12.76	10.66	13.85	12.82	10.54	13.48	13.65	14.78	12.08	12.33	13.75
14	14.35	13.50	12.49	11.41	11.17	12.07	11.55	11.48	12.57	11.25	14.06	13.12
15	15.87	13.84	13.11	12.37	13.04	10.74	11.88	12.18	14.07	12.85	14.78	13.99
16	13.62	12.03	12.36	13.90	13.01	10.76	13.57	13.79	14.76	13.36	12.28	12.08
17	14.17	13.39	13.05	11.40	11.34	12.38	14.06	13.75	12.46	11.16	14.06	11.81
18	15.42	12.73	10.52	12.24	12.91	10.00	12.28	11.92	14.35	12.96	14.84	13.82
19	16.02	11.20	11.37	13.43	10.51	10.81	13.70	13.74	14.25	13.25	12.54	11.58
20	14.25	12.59	12.84	13.95	10.89	12.07	13.78	14.10	12.69	11.39	15.24	12.47
21	15.28	10.72	13.68	11.56	12.47	12.32	11.81	11.93	13.94	13.48	15.40	13.64
22	12.95	11.16	11.26	13.10	13.15	11.14	13.28	13.81	14.11	14.24	12.89	13.47
23	13.60	12.81	13.06	13.52	10.70	12.77	14.90	11.58	12.26	11.71	14.46	12.02
24	14.87	10.81	13.81	12.03	12.55	12.52	12.08	12.21	13.79	13.76	14.61	13.37
25	13.13	11.24	11.48	13.22	10.10	11.31	13.46	13.36	14.14	14.25	12.66	11.39
26	13.67	12.52	13.25	13.09	10.79	12.81	13.57	13.74	12.26	11.96	15.55	11.82
27	14.83	12.64	12.54	11.35	12.27	13.29	11.85	11.97	13.97	13.25	17.54	13.22
28	15.48	10.86	11.83	13.24	13.91	11.27	13.53	13.69	13.86	14.08	17.79	10.85
29	13.59	12.43	13.46	11.05	---	13.13	11.11	14.35	11.20	12.22	18.03	11.35
30	14.77	11.92	13.41	11.72	---	10.61	11.65	12.38	12.87	13.71	18.08	12.69
31	12.66	---	11.87	13.03	---	11.75	---	13.78	---	14.12	18.25	

GROUND-WATER RECORDS

115

RICHLAND COUNTY

405753082360800. Local number, R-3.

LOCATION.--Lat 40°57'53", long 82°36'08", Hydrologic Unit 04100012, Voisard plant in Shiloh.

Owner: Voisard Corp.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 150 ft, cased.

INSTRUMENTATION.--Digital recorder --60-minute punch.

DATUM.--Elevation of land-surface datum is 1080 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of instrument shelter 3.17 ft above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--April 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 35.90 ft below land-surface datum, Feb. 12, 1981; minimum daily low, 23.68 ft below land-surface datum, June 15, 23, 1947.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.28	33.00	32.81	32.33	32.29	31.50	30.53	30.62	31.16	31.58	32.16	32.72
2	33.33	33.11	32.97	32.20	32.19	31.34	30.59	30.74	31.50	31.57	32.15	32.79
3	33.22	33.11	33.24	32.30	32.16	31.38	30.51	30.90	31.51	31.77	32.27	32.78
4	33.04	33.11	33.11	32.25	31.85	31.36	30.47	30.72	31.35	31.75	32.38	32.67
5	33.05	33.13	32.86	32.08	31.93	31.33	30.48	30.50	31.24	31.88	32.32	32.69
6	33.15	33.16	32.93	32.37	31.94	31.11	30.36	30.58	31.16	31.91	32.33	32.81
7	33.35	33.27	32.87	32.74	31.91	31.66	30.34	30.62	31.12	31.98	32.20	32.88
8	33.40	33.44	32.67	32.82	31.98	31.70	30.22	30.84	31.28	31.97	32.72	33.00
9	33.38	33.38	32.84	32.57	31.95	31.27	30.25	30.83	31.52	31.80	32.35	33.02
10	33.26	33.41	32.78	32.36	31.98	31.15	30.18	31.00	31.40	31.84	32.24	32.91
11	33.35	33.56	32.65	32.30	31.87	31.45	30.21	31.03	31.20	31.74	32.38	32.67
12	33.26	33.45	32.57	31.96	31.99	31.40	30.43	30.91	31.25	31.68	32.46	32.91
13	33.12	33.36	32.47	32.29	32.08	31.11	30.50	30.91	31.44	31.73	32.44	33.08
14	33.10	33.47	32.61	32.38	31.72	30.98	30.52	30.93	31.47	31.91	32.14	33.11
15	33.20	33.56	32.45	32.47	31.81	31.00	30.41	31.08	31.44	31.92	32.22	33.06
16	33.51	33.29	32.46	32.43	31.75	31.10	30.41	30.95	31.46	31.91	32.20	33.29
17	33.57	33.37	32.52	32.31	31.43	31.14	30.66	30.96	31.69	31.92	32.30	33.26
18	33.40	33.37	32.61	32.27	31.38	31.00	30.70	30.82	31.61	31.90	32.44	33.02
19	33.34	33.21	32.63	31.84	31.53	30.80	30.63	30.94	31.48	31.84	32.46	33.03
20	33.34	33.45	32.40	32.11	31.52	31.23	30.46	31.02	31.52	31.84	32.46	33.06
21	33.30	33.53	32.38	32.16	31.84	31.20	30.37	30.93	31.55	32.09	32.56	33.11
22	33.32	33.18	32.18	32.51	31.74	31.10	30.67	30.99	31.51	32.16	32.64	33.03
23	33.25	33.19	31.86	32.55	31.63	30.84	30.75	31.00	31.49	32.17	32.49	32.88
24	33.30	33.31	32.11	32.44	31.59	31.19	30.75	31.15	31.63	32.15	32.60	32.95
25	33.53	33.28	32.22	31.97	31.59	30.90	30.50	31.04	31.71	32.11	32.61	33.12
26	33.42	32.88	32.17	31.81	31.35	30.71	30.61	31.12	31.73	32.16	32.60	33.26
27	33.41	33.03	32.24	31.88	31.39	30.77	30.56	31.16	31.66	32.08	32.56	33.32
28	33.58	32.94	32.30	31.87	31.52	30.67	30.55	31.19	31.54	32.04	32.74	33.25
29	33.37	33.09	32.20	32.18	---	30.48	30.75	31.26	31.57	32.17	32.81	33.25
30	33.33	32.92	32.26	32.37	---	30.48	30.71	31.07	31.69	32.19	32.80	33.24
31	33.22	---	32.20	32.42	---	30.65	---	31.13	---	32.17	32.74	---
MAX	33.58	33.56	33.24	32.82	32.29	31.70	30.75	31.26	31.73	32.19	32.81	33.32
WTR YR 1986 MEAN	32.05		HIGH	30.18	APR 10	LOW	33.58	OCT 28				

GROUND-WATER RECORDS

SANDUSKY COUNTY

411914083045300. Local number, S-3.

LOCATION.--Lat 41° 19' 14", long 83° 04' 53", Hydrologic Unit 04100011, 2.6 mi southeast of Fremont Post Office.

Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in., depth 121 ft, cased to 93 ft.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 627 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of instrument shelter 3.00 ft above land-surface datum.

PERIOD OF RECORD.--December 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 24.18 ft below land-surface datum, Aug. 2, 1975; minimum daily low, 14.02 ft below land-surface datum, Mar. 24, 1975.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.98	16.98	16.49	16.21	15.79	14.84	14.95	15.11	15.53	18.80	20.65	19.68
2	18.01	16.97	16.52	16.17	15.66	14.79	15.01	15.26	15.74	17.95	21.26	20.28
3	17.96	17.00	16.64	16.20	15.60	14.85	14.96	15.31	15.78	17.68	20.85	20.84
4	17.81	16.98	16.60	16.20	15.45	14.81	14.95	15.25	15.75	17.44	20.81	19.98
5	17.68	16.88	16.45	16.10	15.36	14.78	14.91	16.23	15.67	17.31	21.56	19.38
6	17.78	16.92	16.46	16.35	15.37	14.71	14.86	16.90	15.61	17.29	21.63	19.05
7	17.92	16.88	16.44	16.55	15.25	15.03	14.93	16.09	15.56	18.51	20.41	18.89
8	17.93	16.99	16.34	16.55	15.30	15.05	14.84	15.86	15.64	19.36	19.65	18.81
9	17.98	16.97	16.48	16.42	15.31	14.86	14.89	15.64	15.85	18.97	19.22	18.94
10	17.85	17.01	16.48	16.17	15.34	14.72	14.85	15.53	15.73	18.09	18.99	19.84
11	17.86	17.05	16.38	16.19	15.25	14.89	14.77	15.42	15.58	17.68	18.74	19.18
12	17.78	17.04	16.13	16.01	15.26	14.90	14.96	16.65	15.60	17.31	18.67	18.78
13	17.66	16.87	16.13	16.20	15.27	14.73	15.05	17.53	15.79	17.16	18.47	18.84
14	17.65	16.93	16.15	16.24	15.06	14.63	15.04	17.25	15.83	17.17	19.09	18.80
15	17.58	16.98	16.13	16.38	15.13	14.80	14.95	16.70	15.79	17.14	18.88	18.61
16	17.71	16.86	16.09	16.32	15.12	14.90	14.98	16.05	15.77	17.01	19.13	18.59
17	17.77	16.80	16.08	16.17	14.90	14.91	15.07	15.83	15.94	17.01	19.33	18.44
18	17.65	16.81	16.18	16.16	14.87	14.88	15.12	15.58	15.91	16.95	19.48	18.23
19	17.49	16.73	16.20	15.98	14.87	14.72	15.06	15.52	15.82	16.97	20.63	18.18
20	17.51	16.87	16.13	16.11	14.88	14.99	15.01	15.48	15.92	16.90	21.09	18.01
21	17.47	16.89	16.13	16.12	14.99	14.99	14.88	15.44	15.97	17.03	20.62	18.02
22	17.45	16.74	16.08	16.29	14.98	14.97	15.04	15.40	15.94	18.17	21.50	17.92
23	17.37	16.72	15.86	16.30	14.90	14.91	15.20	15.39	15.97	19.40	21.65	17.71
24	17.31	16.77	16.07	16.29	14.91	15.13	15.17	15.47	16.09	20.09	20.56	17.62
25	17.45	16.77	16.14	16.02	14.93	14.98	15.01	15.48	17.67	20.58	19.90	17.58
26	17.35	16.55	16.14	15.90	14.79	14.91	15.11	15.43	18.68	20.57	19.48	17.64
27	17.36	16.53	16.08	15.81	14.73	15.00	15.10	15.39	19.21	21.15	19.58	17.68
28	17.44	16.55	16.11	15.88	14.83	14.93	15.02	15.44	19.15	21.31	20.84	17.73
29	17.41	16.59	16.08	15.88	---	14.87	15.17	15.42	19.88	21.00	20.40	17.76
30	17.23	16.54	16.16	16.01	---	14.91	15.15	15.35	20.06	20.52	19.60	17.73
31	17.16	---	16.10	16.03	---	15.00	---	15.40	---	20.78	19.84	---
MAX	18.01	17.05	16.64	16.55	15.79	15.13	15.20	17.53	20.06	21.31	21.65	20.84
WTR YR 1986 MEAN	16.79			HIGH	14.63	MAR 14	LOW	21.65	AUG 23			

GROUND-WATER RECORDS

117

SANDUSKY COUNTY--Continued

412703083213600. Local number, S-2.

LOCATION.--Lat 41°27'03", long 83°21'36", Hydrologic Unit 04100010, at water works in Woodville.

Owner: Woodville Water department.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 198 ft cased.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 635 ft above National Geodetic Vertical Datum of 1929 from topographic map. Measuring point: Top of casing at land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--June 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 100.97 ft below land-surface datum, Jan. 29, 1982; minimum daily low, 18.60 ft below land-surface datum, May 6, 1977.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	26.75	---	---	28.99	28.88	25.22			---	---
2	57.97	---	28.03	---	---	28.89	29.13	26.14			---	---
3	---	---	28.60	30.31	---	29.49	26.10	26.31			---	---
4	---	---	29.09	---	29.51	29.00	28.15	25.99			---	---
5	---	---	29.81	---	29.15	28.57	28.81	26.02			---	---
6	---	---	28.99	---	27.26	28.70	28.69	25.88			---	---
7	---	---	---	---	26.52	29.25	28.68	---			---	---
8	---	---	---	---	27.36	28.90	28.61	---			---	---
9	---	---	---	33.72	28.23	28.29	28.76	---			---	---
10	---	---	29.84	---	28.54	28.78	28.85	---			---	---
11	---	---	---	---	29.07	29.36	28.90	---			---	---
12	55.91	---	28.05	33.63	28.96	28.40	29.02	---			---	---
13	---	---	25.69	---	29.50	27.51	29.33	---			---	---
14	---	29.17	25.07	---	29.20	26.28	29.23	---			44.07	---
15	---	29.12	25.47	---	29.78	25.78	29.42	---			47.71	---
16	---	29.14	28.09	---	---	26.48	29.43	---			45.77	---
17	---	28.82	28.04	---	29.73	27.12	29.56	---			45.91	---
18	---	26.57	28.49	---	29.31	27.56	29.56	---			---	---
19	---	27.39	28.63	---	28.94	27.40	29.50	---			---	---
20	57.64	27.71	28.26	---	27.60	27.03	29.27	---			---	---
21	---	27.91	28.43	29.70	26.21	26.51	29.35	---			---	---
22	---	27.05	29.80	29.79	25.26	26.59	28.69	---			---	---
23	41.75	29.60	---	29.29	26.02	27.16	28.36	---			---	---
24	---	30.20	30.30	29.32	26.39	30.66	28.47	---			---	---
25	---	---	---	29.74	27.36	29.72	28.63	---			---	---
26	---	---	---	29.59	27.39	29.26	29.05	---			55.75	---
27	---	---	---	29.77	27.74	28.80	27.08	---			---	40.91
28	---	28.41	---	29.58	28.53	28.49	26.76	---			---	---
29	---	27.78	---	---	---	28.60	26.60	---			---	---
30	---	26.98	---	---	---	28.68	25.84	---			---	---
31	---	---	---	---	---	28.90	---	---			---	---
MAX	---	---	---	---	---	30.66	29.56	---			---	---
WTR YR 1986	MEAN	29.79		HIGH	25.07	DEC 14	LOW	57.97	OCT 2			

410802083093900. Local number, SE-2.

LOCATION.--Lat 41°08'02", long 83°09'39", Hydrologic Unit 04100011, Tiffin State Hospital, Tiffin.

Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in., depth 250 ft, cased.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 740 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of instrument shelter 0.50 ft above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--July 1962 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 23.76 ft below land-surface datum, Nov. 22, 1964; minimum daily low, 14.48 ft below land-surface datum, Mar. 22, 1984.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.16	20.21	16.79	18.71	18.67	17.14	17.73	18.07	18.92	19.33	19.16	20.02
2	21.20	20.40	17.14	18.64	18.48	17.08	17.90	18.38	19.20	19.22	19.26	20.05
3	21.14	20.45	17.44	18.87	18.38	17.34	17.88	18.52	19.22	19.43	19.46	20.05
4	21.00	20.20	17.42	18.85	18.04	17.41	18.00	18.41	19.06	19.34	19.59	19.94
5	21.05	19.74	17.28	18.74	17.31	17.36	17.97	18.16	19.02	19.42	19.54	20.08
6	21.19	19.57	17.62	19.11	17.19	17.29	17.96	18.27	19.04	19.52	19.47	20.17
7	21.31	19.45	17.64	19.47	16.67	17.88	18.01	18.47	18.93	19.59	19.45	20.28
8	21.38	19.57	17.66	19.47	16.72	17.86	17.98	18.66	18.96	19.51	19.50	20.33
9	21.43	19.52	17.99	19.31	16.78	17.33	18.13	18.77	19.15	19.32	19.64	20.35
10	21.27	19.39	17.98	19.04	16.84	17.26	18.13	18.77	19.00	19.29	19.60	20.22
11	21.42	19.37	17.74	19.03	16.98	17.53	18.22	18.68	18.80	19.09	19.66	20.06
12	21.36	19.12	16.77	18.84	17.21	17.43	18.48	18.73	18.99	18.62	19.76	20.26
13	21.27	18.67	16.28	19.14	17.35	16.91	18.63	18.75	19.21	18.38	19.67	20.38
14	21.27	18.61	16.19	19.29	17.10	16.56	18.62	18.86	19.22	18.48	19.54	20.45
15	21.21	18.66	16.28	19.40	17.50	16.44	18.54	18.99	19.16	18.48	19.52	20.23
16	21.41	18.34	16.48	19.32	17.49	16.64	18.59	18.88	19.08	18.36	19.57	20.44
17	21.44	17.71	16.59	19.15	17.25	16.74	18.81	18.81	19.32	18.14	19.64	20.36
18	21.18	17.60	17.16	19.05	17.15	16.70	18.90	18.67	19.29	18.10	19.79	20.13
19	21.00	17.38	17.31	18.53	16.73	16.55	18.77	18.68	19.18	18.10	19.83	20.16
20	21.00	17.86	17.27	18.29	16.68	16.91	18.60	18.69	19.31	18.20	19.82	20.11
21	20.80	17.96	17.39	18.27	16.74	16.89	17.89	18.70	19.35	18.45	19.95	20.17
22	20.73	17.75	17.34	18.60	16.65	16.82	17.85	18.70	19.19	18.62	19.97	20.06
23	20.62	17.87	17.14	18.59	16.47	16.94	17.90	18.77	19.25	18.70	19.87	19.83
24	20.54	18.14	17.76	18.57	16.66	17.25	17.78	18.90	19.42	18.60	19.99	19.93
25	20.72	18.15	17.98	18.14	16.71	16.99	17.54	18.92	19.56	18.58	20.00	20.01
26	20.63	17.82	17.99	18.02	16.51	17.02	17.65	18.85	19.51	18.69	19.93	20.08
27	20.62	17.59	18.19	18.16	16.86	17.30	17.72	18.79	19.39	18.74	19.94	19.93
28	20.71	17.23	18.27	18.25	17.05	17.28	17.69	18.91	19.34	18.77	20.10	19.38
29	20.68	17.04	18.34	18.53	---	17.16	17.95	18.86	19.34	18.95	20.20	19.03
30	20.42	16.85	18.42	18.70	---	17.50	17.99	18.75	19.42	19.05	20.17	18.85
31	20.40	---	18.52	18.73	---	17.63	---	18.73	---	19.11	20.11	

WTR YR 1986	MEAN	18.74	HIGH	16.19	DEC 14	LOW	21.44	OCT 17
-------------	------	-------	------	-------	--------	-----	-------	--------

GROUND-WATER RECORDS

119

SUMMIT COUNTY

410330081282000. Local number, SU-6.

LOCATION.--Lat 41°03'30", long 81°28'20", Hydrologic Unit 04110002, Seiberling St, Akron.

Owner: Goodyear Tire and Rubber Co.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 24 in., depth 89 ft, cased.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 1000 ft above National Geodetic Vertical Datum of 1929 from topographic map. Measuring point: Floor of instrument shelter 2.63 ft above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--March 1944 to current year. Records for May 14-Sept. 30, 1980, published in USGS-WRD-OH-80-1, are unreliable and should not be used.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 59.47 ft below land-surface datum, Oct. 18, 1947; minimum daily low, 11.95 ft below land-surface datum, April 9, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.84	22.16	14.73	12.79	12.69	12.43	12.42	12.49	12.58	12.70	15.68	13.09
2	20.93	22.17	14.51	12.75	12.57	12.39	12.47	12.56	12.65	12.31	14.64	13.15
3	20.97	22.17	14.49	12.78	12.54	12.38	12.46	12.58	12.70	12.48	14.17	13.18
4	21.02	22.13	14.40	12.77	12.52	12.41	12.48	12.53	12.72	12.48	13.88	13.21
5	21.03	22.02	14.26	12.71	12.36	12.41	12.46	12.51	12.72	12.46	13.74	13.27
6	21.04	21.41	14.11	12.79	12.37	12.41	12.39	12.55	12.74	12.45	13.61	13.24
7	21.10	21.47	14.05	12.88	12.41	12.50	12.32	12.58	12.73	12.53	13.49	13.17
8	21.17	21.53	13.94	12.87	12.41	12.50	12.39	12.63	12.67	12.57	13.41	13.18
9	21.22	21.54	13.82	12.85	12.33	12.35	12.41	12.66	12.72	12.59	13.36	14.78
10	21.22	21.52	13.79	12.81	12.36	12.28	12.40	12.66	12.75	12.61	13.30	17.11
11	21.26	21.46	13.71	12.78	12.42	12.34	12.48	12.56	12.76	12.61	13.24	17.80
12	21.27	21.46	13.35	12.66	12.48	12.34	12.50	12.56	12.57	12.60	13.24	18.34
13	21.28	21.48	13.32	12.70	12.49	12.30	12.46	12.57	12.63	12.56	13.24	18.65
14	21.35	21.48	13.30	12.77	12.47	12.22	12.38	12.59	12.64	12.60	13.21	18.92
15	21.44	21.30	13.23	12.85	12.50	12.25	12.45	12.64	12.60	12.65	13.19	19.21
16	21.47	21.24	13.17	12.91	12.47	12.22	12.48	12.66	12.57	12.66	13.19	19.51
17	21.49	21.03	13.16	12.90	12.38	12.28	12.55	12.65	12.63	12.66	13.11	19.72
18	21.55	20.94	13.13	12.89	12.37	12.28	12.56	12.55	12.65	12.68	13.14	19.86
19	21.56	20.96	13.10	12.71	12.40	12.34	12.53	12.57	12.65	12.67	13.12	20.01
20	21.56	18.48	13.07	12.57	12.41	12.40	12.43	12.64	12.69	12.62	13.14	20.09
21	21.63	17.49	13.07	12.60	12.35	12.41	12.34	12.67	12.69	12.66	13.18	20.18
22	21.72	17.01	13.00	12.67	12.32	12.40	12.45	12.67	12.63	12.69	13.19	20.33
23	21.79	16.66	12.89	12.67	12.29	12.33	12.50	12.67	12.65	14.95	13.14	20.46
24	21.87	16.37	12.92	12.67	12.28	12.37	12.52	12.66	12.68	16.58	13.10	20.60
25	21.91	16.09	12.89	12.60	12.33	12.38	12.53	12.60	12.71	17.35	13.10	20.73
26	21.91	15.85	12.86	12.55	12.32	12.41	12.53	12.55	12.70	17.79	13.12	20.84
27	21.89	15.65	12.93	12.60	12.39	12.40	12.46	12.58	12.69	18.03	13.14	20.86
28	21.94	15.43	12.93	12.63	12.43	12.37	12.44	12.63	12.61	18.39	13.18	20.79
29	21.96	15.17	12.87	12.67	---	12.35	12.48	12.66	12.60	18.63	13.20	20.93
30	22.03	14.93	12.84	12.71	---	12.31	12.48	12.65	12.68	18.88	13.20	21.03
31	22.09	---	12.81	12.71	---	12.33	---	12.63	---	18.95	13.11	---
MAX	22.09	22.17	14.73	12.91	12.69	12.50	12.56	12.67	12.76	18.95	15.68	21.03
WTR YR 1986 MEAN	14.60		HIGH		12.22	MAR 14 AND OTHERS			LOW	22.17	NOV 2 AND OTHERS	

GROUND-WATER RECORDS

SUMMIT COUNTY--Continued

410846081271600. Local number, Sg-7.

LOCATION.--Lat 41°08'46", long 81°27'16", Hydrologic Unit 04110002, Monroe Falls Road, Cuyahoga Falls.

Owner: Cuyahoga Falls Water Department.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water-table, diameter 6 in., depth 100 ft, cased.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 994 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of instrument shelter 5.00 ft above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--August 1968 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 44.19 ft below land-surface datum, Sept. 7, 1971; minimum daily low, 0.45 ft above land-surface datum, Feb. 27, 1985.

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.05	30.42		---	12.72	8.07	11.47	18.58	17.57	14.64	21.33	27.36
2	26.89	30.54		---	13.10	9.08	11.78	18.97	17.98	14.83	21.66	27.86
3	27.24	30.62		---	12.82	9.66	12.29	19.22	18.40	14.37	22.18	28.33
4	27.36	30.73		---	13.04	10.03	13.05	19.37	18.91	14.09	22.74	28.66
5	27.36	30.70		---	12.39	10.24	12.87	19.55	19.00	14.14	23.20	28.99
6	27.57	29.06		---	8.95	10.71	13.22	19.96	19.05	14.43	23.09	29.34
7	27.61	24.37		---	5.91	11.00	13.65	20.16	19.34	15.16	23.75	29.55
8	27.65	---		---	3.70	11.43	13.87	20.20	19.44	15.71	23.87	30.18
9	27.89	---		---	3.19	12.12	14.11	20.16	19.64	16.33	24.18	30.73
10	28.16	---		---	4.09	12.33	14.33	20.07	19.76	16.61	24.21	31.05
11	28.17	---		---	6.06	12.12	14.34	20.22	19.98	16.20	24.04	31.31
12	27.96	---		---	6.82	10.99	14.44	20.26	19.92	16.61	24.39	31.46
13	28.25	---		---	7.89	10.54	14.74	20.39	19.52	16.36	24.44	31.88
14	28.23	---		---	8.82	8.50	15.18	20.54	18.84	16.11	24.56	32.14
15	28.43	---		19.56	9.36	5.27	15.50	20.61	16.92	15.73	24.74	32.49
16	28.72	---		19.87	9.76	4.22	15.58	20.51	12.16	16.36	24.82	32.68
17	28.88	---		20.06	10.10	3.45	15.50	20.67	8.28	16.27	24.97	32.89
18	29.05	---		20.17	10.68	3.92	15.96	20.68	7.33	16.39	25.32	33.30
19	29.18	---		20.16	10.52	5.07	15.96	20.72	7.71	16.83	25.53	33.61
20	29.35	---		19.78	9.38	5.75	16.10	20.89	7.95	16.60	25.32	33.92
21	29.40	---		18.22	8.48	6.41	16.25	20.83	8.58	16.92	26.10	34.14
22	29.36	---		16.01	6.44	6.98	16.20	20.41	9.40	17.53	26.25	34.37
23	29.35	---		13.04	4.98	7.84	16.21	19.72	10.34	18.05	26.41	34.60
24	29.62	---		10.20	4.54	8.19	16.19	18.80	11.18	18.79	26.51	34.58
25	29.73	---		9.33	4.71	8.71	16.24	17.29	11.79	19.31	26.54	34.97
26	29.79	---		9.93	5.26	9.28	16.49	16.88	12.90	19.39	26.56	35.19
27	29.81	---		10.51	6.47	9.75	16.80	16.71	12.93	19.75	26.46	35.33
28	30.04	---		10.65	7.59	10.45	17.08	16.80	13.95	20.14	26.21	35.33
29	29.99	---		11.56	---	10.49	17.24	16.94	14.24	20.24	26.36	35.31
30	30.29	---		12.06	---	11.14	18.27	16.98	14.53	20.73	26.26	35.28
31	30.36	---		12.20	---	11.39	---	17.19	---	21.05	27.01	---
MAX	30.36	---		---	13.10	12.33	18.27	20.89	19.98	21.05	27.01	35.33
WTR YR 1986	MEAN	18.89		HIGH	3.19	FEB 9	LOW	35.33	SEP 27	AND OTHERS		

GROUND-WATER RECORDS

121

VAN WERT COUNTY

405215084335400. Local number, VW-1.

LOCATION.--Lat 40°52'15", long 84°33'54", Hydrologic Unit 04100007, Ridge Road near Van Wert.

Owner: Marsh Foundation.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 340 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 790.37 ft above National Geodetic Vertical Datum of 1929. Measuring point: Floor of instrument shelter 6.15 ft above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--August 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low 32.81 ft below land-surface datum, Mar. 2, 1977; minimum daily low, 18.85 ft below land-surface datum, Mar. 6, 1959.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.35	29.30	29.75	29.75	29.75	29.25	28.90	28.75	28.65	28.55	28.45	28.35
2	29.45	29.45	30.00	29.65	29.65	29.15	28.95	28.90	28.95	28.55	28.45	28.30
3	29.35	29.55	30.10	29.70	29.65	29.15	28.90	29.05	28.95	28.65	28.55	28.25
4	29.25	29.55	30.00	29.65	29.45	29.15	28.85	28.95	28.80	28.60	28.60	28.15
5	29.20	29.55	29.90	29.55	29.40	29.15	28.85	28.65	28.70	28.65	28.55	28.15
6	29.30	29.60	30.00	29.80	29.45	29.00	28.75	28.60	28.70	28.70	28.45	28.25
7	29.40	29.70	29.95	30.15	29.35	29.45	28.75	28.65	28.60	28.75	28.35	28.30
8	29.55	29.80	29.90	30.20	29.45	29.45	28.60	28.75	28.65	28.65	28.30	28.35
9	29.65	29.80	29.95	30.00	29.50	29.10	28.65	28.80	28.85	28.55	28.45	28.35
10	29.55	29.90	29.95	29.70	29.55	28.90	28.65	28.80	28.75	28.60	28.35	28.20
11	29.55	30.05	29.85	29.70	29.45	29.15	28.55	28.70	28.60	28.50	28.45	28.00
12	29.50	30.05	29.65	29.40	29.50	29.20	28.70	28.65	28.60	28.45	28.55	28.20
13	29.40	29.85	29.65	29.60	29.65	28.90	28.80	28.60	28.80	28.50	28.50	28.35
14	29.35	30.00	29.75	29.70	29.45	28.90	28.75	28.55	28.85	28.60	28.40	28.45
15	29.35	30.05	29.70	29.75	29.50	---	28.70	28.65	28.75	28.65	28.30	28.30
16	29.65	29.90	29.70	29.70	29.45	---	28.75	28.65	28.70	28.60	28.30	28.50
17	29.70	29.90	29.75	29.55	29.15	29.15	28.90	28.70	28.95	28.50	28.35	28.45
18	29.65	29.90	30.00	29.55	29.10	29.10	29.00	28.60	28.90	28.50	28.45	28.20
19	29.55	29.85	30.00	29.25	29.20	28.95	28.90	28.70	28.75	28.50	28.45	28.25
20	29.55	30.05	29.85	29.45	29.20	29.30	28.75	28.80	28.80	28.40	28.45	28.25
21	29.55	30.10	29.85	29.40	29.40	29.35	28.70	28.80	28.85	28.55	28.50	28.35
22	29.60	29.90	29.65	29.85	29.40	29.35	28.90	28.75	28.70	28.65	28.55	28.25
23	29.55	29.95	29.35	29.85	29.30	29.20	29.00	28.80	28.70	28.70	28.50	28.05
24	29.60	30.05	29.60	29.85	29.35	29.45	29.00	28.90	28.80	28.70	28.50	28.00
25	29.75	30.05	29.70	29.55	29.35	29.20	28.80	28.90	28.85	28.60	28.50	28.00
26	29.70	29.75	29.65	29.40	29.10	29.05	28.80	28.85	28.80	28.60	28.30	28.05
27	29.75	29.80	29.65	29.35	29.15	29.15	28.80	28.75	28.70	28.60	28.25	28.00
28	29.85	29.80	29.70	29.40	29.20	---	28.65	28.85	28.60	28.50	28.45	28.10
29	29.80	29.85	29.65	29.55	---	---	28.85	28.80	28.60	28.50	28.50	28.05
30	29.60	29.80	29.70	29.80	---	---	28.80	28.70	28.65	28.55	28.50	28.05
31	29.55	---	29.65	29.80	---	28.95	---	28.65	---	28.50	28.45	---
MAX	29.85	30.10	30.10	30.20	29.75	---	29.00	29.05	28.95	28.75	28.60	28.50

WTR YR 1986 MEAN 29.07 HIGH 28.00 SEP 11 AND OTHERS LOW 30.20 JAN 8

WILLIAMS COUNTY

412821084313600. Local number, WM-1.

LOCATION.--Lat 41°28'21", long 84°31'36", Hydrologic Unit 04100006, Bryan Water Treatment Plant, Bryan.

Owner: City of Bryan.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused production well, diameter 8 in., depth 118 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 747 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of instrument shelter 3.30 ft above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--May 1951 to May 1957, discontinued June 1957 to September 1984, reactivated October 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 33.65 ft below land-surface datum, Aug. 23, 1986; minimum daily low, 1.45 ft below land-surface datum, Jan. 27, 1952.

REVISIONS.--Revised daily lows for water year 1985 are given below. These figures supercede those published in the report for 1985.

Sept 5	....	31.15	Sept 12	....	32.55	Sept 19	....	32.95	Sept 26	....	32.45
6	....	32.05	13	....	33.10	20	....	33.15	27	....	32.70
7	....	32.15	14	....	33.05	21	....	32.60	28	....	32.05
8	....	31.70	15	....	31.15	22	....	31.05	29	....	31.30
9	....	31.30	16	....	31.15	23	....	31.20	30	....	31.20
10	....	32.05	17	....	31.40	24	....	32.00			
11	....	32.30	18	....	32.30	25	....	32.10			

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.80	28.90	24.35	23.25	26.10	24.95	24.00	26.95	26.10	28.20	30.95	28.75
2	32.00	28.30	24.70	23.30	24.05	23.30	24.25	28.10	27.10	28.65	30.85	29.80
3	32.10	27.40	25.55	23.70	24.40	24.20	24.45	28.45	28.05	29.20	30.00	30.90
4	31.85	27.45	25.95	23.25	24.55	24.90	24.65	26.25	28.15	29.55	28.65	30.85
5	30.70	27.90	27.35	22.65	24.65	24.95	25.20	24.75	28.05	27.55	29.50	30.90
6	29.70	28.00	27.55	24.10	25.15	24.75	23.40	26.70	28.20	26.95	30.00	30.60
7	30.15	28.20	28.30	24.40	25.40	25.30	23.60	27.45	27.25	27.70	30.35	29.20
8	30.40	28.75	27.25	25.45	25.55	25.90	24.00	27.85	26.35	28.90	29.90	29.55
9	30.85	28.20	27.30	25.90	24.15	24.20	24.00	28.55	27.95	29.20	29.60	30.00
10	30.90	26.90	27.35	25.55	23.00	23.50	24.55	28.05	27.90	30.45	---	30.65
11	30.75	27.25	27.85	26.60	24.60	24.75	24.75	26.65	28.50	30.60	---	30.60
12	30.25	27.25	27.90	24.35	24.90	25.20	25.00	26.55	27.75	29.60	---	31.20
13	28.40	27.80	28.10	23.75	25.15	25.65	23.75	27.45	28.05	27.95	28.75	30.25
14	28.45	27.75	27.85	24.80	25.50	25.80	24.35	28.30	27.80	---	29.25	29.30
15	29.00	28.25	27.40	25.30	24.60	25.90	24.65	28.20	26.15	---	29.20	28.45
16	29.55	27.90	26.30	26.10	24.10	23.65	25.25	28.20	26.95	---	29.35	29.60
17	29.70	27.00	26.75	26.45	24.05	24.60	25.80	27.40	27.45	---	29.05	30.30
18	29.70	26.00	27.20	26.00	24.50	24.90	26.55	25.35	28.20	---	31.25	30.85
19	29.25	26.95	27.85	23.45	24.85	25.10	26.60	26.80	28.05	---	32.10	31.60
20	28.50	27.65	28.25	23.85	25.15	25.75	24.00	27.05	28.75	---	32.45	31.70
21	28.30	27.95	28.00	24.40	25.60	25.85	25.40	27.65	28.35	30.40	33.10	28.50
22	28.50	28.00	27.00	25.30	25.35	25.30	26.35	27.70	26.95	29.90	33.60	29.65
23	28.70	28.10	26.55	25.80	23.90	23.60	26.95	28.05	27.20	29.15	33.65	29.95
24	28.95	27.40	26.55	25.75	24.70	24.65	26.70	27.60	28.15	30.95	32.00	30.10
25	29.25	27.15	25.40	25.30	25.00	24.85	27.20	25.60	28.40	31.10	31.40	30.45
26	28.75	27.50	24.05	23.05	24.80	25.00	28.00	24.80	28.90	30.45	32.40	30.60
27	26.90	28.15	24.45	24.40	25.20	25.10	26.75	25.30	29.30	29.05	32.50	29.05
28	27.35	26.75	23.70	24.50	25.65	24.95	25.60	26.95	29.55	29.60	32.25	28.35
29	27.65	25.75	22.65	25.15	---	23.55	26.50	26.70	28.45	29.75	32.25	29.60
30	28.25	25.10	24.25	25.75	---	22.35	27.35	27.25	27.40	29.80	32.05	30.30
31	28.95	---	23.75	25.90	---	23.00	---	27.80	---	30.25	30.70	---
MAX	32.10	28.90	28.30	26.60	26.10	25.90	28.00	28.55	29.55	---	---	31.70
WTR YR 1986	MEAN	27.31		HIGH	22.35	MAR 30	LOW	33.65	AUG 23			

GROUND-WATER RECORDS

123

WILLIAMS COUNTY

412930084320900. Local number, WM-3.

LOCATION.--Lat 41°29'30", long 84°32'09", Hydrologic Unit 04100006, Union Street, Bryan.

Owner: City of Bryan.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused test well, diameter 8 in., depth 174 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 760 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of instrument shelter 2.00 ft above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--October 1984 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 25.00 ft below land-surface datum, July 31, 1985; minimum daily low, 15.74 ft below land-surface datum, Jan. 1, 1985.

REVISIONS.--Revised daily lows for water year 1985 are given below. These figures supercede those published in the report for 1985:

Nov 1 ... 22.51	Nov 11 ... 21.85	Nov 21 ... 20.63	Dec 1 ... 19.89	Dec 11 ... 19.17	Dec 21 ... 19.00
2 ... 22.37	12 ... 20.48	22 ... 20.68	2 ... 19.39	12 ... 19.25	22 ... 18.78
3 ... 22.33	13 ... 20.55	23 ... 20.03	3 ... 19.12	13 ... 19.60	23 ... 18.35
4 ... 21.52	14 ... 20.49	24 ... 19.45	4 ... 19.64	14 ... 19.70	24 ... 17.71
5 ... 20.92	15 ... 19.95	25 ... 18.99	5 ... 19.67	15 ... 19.60	25 ... 17.38
6 ... 21.20	16 ... 19.95	26 ... 18.59	6 ... 19.77	16 ... 19.12	26 ... 16.99
7 ... 21.31	17 ... 20.13	27 ... ---	7 ... 19.64	17 ... 18.77	27 ... 17.05
8 ... 21.40	18 ... 20.14	28 ... ---	8 ... 19.46	18 ... 18.98	28 ... 17.11
9 ... 21.40	19 ... 20.12	29 ... ---	9 ... 19.04	19 ... 18.98	29 ... 16.64
10 ... 21.21	20 ... 20.58	30 ... 19.89	10 ... 18.99	20 ... 19.02	30 ... 16.64
					31 ... 16.32

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.85	21.45	---	17.35	18.90	18.05	17.25	20.10	18.45	19.45	---	21.30
2	23.90	21.30	18.40	17.45	18.20	17.35	17.50	20.45	19.15	19.25	---	21.60
3	23.95	20.70	19.05	17.40	17.80	17.25	17.65	20.35	19.80	19.60	---	22.25
4	23.90	20.35	19.35	17.35	18.10	18.00	17.75	19.20	19.80	19.55	---	22.45
5	23.70	20.60	19.90	16.75	18.25	18.10	17.70	18.75	19.75	18.95	---	22.40
6	23.00	20.70	20.30	17.40	18.35	18.10	16.70	19.25	19.50	18.65	---	22.25
7	22.70	20.90	20.55	18.00	18.35	18.40	17.05	19.50	19.25	19.55	22.30	21.50
8	23.00	21.15	20.30	18.70	18.35	18.35	17.25	19.75	18.35	20.05	22.30	21.05
9	23.30	21.10	20.00	18.75	17.70	17.55	17.40	19.90	19.10	---	22.10	21.50
10	23.40	20.50	20.15	19.20	17.35	17.25	17.55	19.85	19.40	---	21.20	21.95
11	23.40	20.35	20.30	19.20	18.00	17.65	17.65	18.95	19.90	21.25	20.95	22.15
12	23.30	20.25	20.70	18.40	18.15	17.80	17.60	18.80	19.95	---	21.45	22.45
13	22.35	20.55	20.70	18.15	18.30	17.95	17.05	19.20	19.90	---	21.30	22.40
14	21.90	20.50	20.55	18.55	18.25	18.15	17.25	19.60	19.85	---	20.95	21.85
15	22.15	20.70	20.20	19.15	17.95	18.00	17.50	20.00	19.00	---	20.80	21.45
16	22.50	20.65	19.65	19.45	17.55	17.35	17.75	20.05	18.85	---	20.65	22.15
17	22.65	20.15	19.60	19.75	17.20	17.20	18.05	19.85	19.05	---	20.35	22.75
18	22.65	19.90	19.65	19.80	17.55	17.40	18.40	18.85	19.25	---	21.35	22.95
19	22.60	20.05	19.60	18.85	17.75	17.55	18.40	18.60	19.25	---	22.30	22.30
20	22.30	20.40	19.55	17.80	17.85	17.95	17.60	18.80	19.60	---	22.55	21.05
21	21.70	20.40	19.35	17.95	18.05	18.10	17.70	19.10	19.60	---	23.50	---
22	21.85	20.45	18.75	18.35	18.05	18.05	18.25	19.15	18.95	---	23.95	---
23	22.00	20.40	18.10	18.60	17.55	17.30	18.60	19.35	19.20	---	24.00	---
24	22.15	20.25	18.10	18.65	17.65	17.40	18.80	19.10	19.75	---	23.50	---
25	22.30	19.95	17.85	18.60	17.80	17.80	19.30	18.40	20.00	---	23.45	---
26	22.25	20.05	17.30	17.70	17.80	17.80	19.25	17.40	20.15	---	23.50	---
27	21.60	20.05	17.25	17.50	17.95	18.05	19.05	17.95	20.25	---	23.65	---
28	21.20	---	17.25	17.95	18.10	17.90	19.15	18.75	20.15	---	23.75	---
29	21.35	---	16.95	18.40	---	16.95	19.65	18.95	19.65	---	23.75	21.45
30	21.55	---	17.10	18.85	---	16.25	19.60	19.25	19.40	---	23.40	22.00
31	21.50	---	17.35	18.95	---	16.90	---	19.00	---	---	22.30	---
MAX	23.95	---	---	19.80	18.90	18.40	19.65	20.45	20.25	---	---	---
WTR YR 1986 MEAN	19.65			HIGH	16.25	MAR 30	LOW	24.00	AUG 23			

WILLIAMS COUNTY

LOCATION.--Lat 41° 31' 08", long 84° 41' 53", Hydrologic Unit 04100003, 1.7 mi east of Blakeslee.

Owner: State of Ohio.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 10 in., depth 115 ft, cased to 115 ft, screened 85 ft to 115 ft.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 830 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of instrument shelter 1.50 ft above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.
PERIOD OF RECORD.--1974 to September 1982 continuous, periodic October 1983 to December 1984, continuous thereafter.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 10.56 ft below land-surface datum, Feb. 6-7, 1977; minimum daily low, 3.83 ft below land-surface datum, Mar. 17, 1982.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.09	9.35	6.19	8.56	7.71	7.50	7.61	8.48	8.75	8.70	9.05	9.57
2	10.13	9.53	6.54	8.65	---	7.55	7.70	8.52	8.88	8.71	9.11	9.61
3	10.10	9.57	6.72	8.67	---	7.77	7.72	8.57	8.89	8.78	9.23	9.64
4	10.03	9.58	6.79	8.64	---	7.85	7.78	8.51	8.87	8.78	9.29	9.64
5	10.07	9.61	6.87	8.79	---	7.84	7.77	8.44	8.85	8.87	9.28	9.66
6	10.12	9.61	7.25	8.95	7.61	7.59	7.69	8.50	8.63	8.96	9.27	9.72
7	10.15	9.66	7.34	8.98	7.50	7.59	7.72	8.52	7.81	9.03	9.29	9.77
8	10.17	9.73	7.48	8.91	7.54	7.61	7.73	8.60	7.19	9.01	9.32	9.79
9	10.19	9.70	7.64	8.80	7.68	7.50	7.84	8.66	7.43	8.98	9.37	9.80
10	10.16	9.57	7.64	8.81	7.77	7.34	7.84	8.67	7.49	9.03	9.37	9.75
11	10.19	9.31	7.57	8.71	7.93	6.66	7.90	8.67	7.55	8.98	9.48	9.69
12	10.15	9.00	6.86	8.91	8.06	6.50	8.04	8.72	7.60	8.98	9.53	9.78
13	10.04	8.70	6.71	8.99	8.14	5.84	8.18	8.74	7.64	9.08	9.53	9.82
14	10.02	8.52	6.82	9.00	8.11	5.34	8.20	8.78	7.64	9.15	9.50	9.85
15	9.95	8.38	7.02	8.97	8.27	5.45	8.14	8.82	7.56	9.17	9.50	9.81
16	10.03	8.13	7.29	8.89	8.27	5.67	8.15	8.86	7.68	9.14	9.53	9.89
17	10.03	7.65	7.50	8.63	8.25	5.85	8.21	8.85	7.91	7.76	9.59	9.86
18	9.96	7.61	7.72	8.22	8.25	5.90	8.26	8.78	7.99	7.49	9.67	9.81
19	9.63	7.24	7.77	8.04	8.08	5.58	8.24	8.62	8.05	7.73	9.69	9.84
20	9.23	6.84	7.79	7.95	7.48	5.75	8.18	8.50	8.12	8.04	9.70	9.87
21	9.07	6.84	7.86	7.97	6.98	5.73	8.23	8.47	8.12	8.28	9.77	9.91
22	9.14	6.70	7.76	8.00	6.64	5.72	8.31	8.48	8.15	8.44	9.79	9.84
23	9.16	6.72	7.79	7.96	6.04	6.12	8.38	8.54	8.27	8.55	9.77	9.77
24	9.27	7.00	8.08	8.09	6.29	6.45	8.36	8.62	8.40	8.61	9.83	9.79
25	9.37	7.08	8.19	8.30	6.47	6.61	8.32	8.65	8.47	8.64	9.82	9.79
26	9.35	7.00	8.19	8.59	6.63	6.84	8.38	8.66	8.52	8.70	9.81	9.71
27	9.41	6.52	8.34	8.58	7.11	7.04	8.39	8.71	8.55	8.77	9.39	9.61
28	9.48	6.38	8.37	8.48	7.35	7.10	8.42	8.73	8.61	8.78	9.44	9.54
29	9.46	6.33	8.45	8.47	---	7.19	8.58	8.62	8.68	8.89	9.50	9.52
30	9.42	6.19	8.42	8.40	---	7.40	8.58	8.54	8.74	8.97	9.54	9.51
31	9.41	---	8.59	7.93	---	7.51	---	8.59	---	8.99	9.56	---
MAX	10.19	9.73	8.59	9.00	---	7.85	8.58	8.86	8.89	9.17	9.83	9.91

WTR YR 1986	MEAN	8.44	HIGH	5.34	MAR 14	LOW	10.19	OCT 9 AND OTHERS
-------------	------	------	------	------	--------	-----	-------	------------------

GROUND-WATER RECORDS

125

WYANDOT COUNTY

405009083172600. Local number, WY-1.

LOCATION.--Lat 40°50'09", long 83°17'26", Hydrologic Unit 04100011, State Rt 199, Upper Sandusky.

Owner: Karg Supply Co.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 5 in, depth 90 ft, cased.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 850 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of instrument shelter 3.00 ft above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--September 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 40.90 ft below land-surface datum, July 12, 15, 17, 21, Aug. 26, 1961; minimum daily low, 25.75 ft below land-surface datum, Apr. 16, 1980.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.52	30.63	29.91	29.00	28.94	28.42	29.14	29.42	29.58	30.15	30.24	30.21
2	30.24	30.67	30.22	28.67	28.02	27.83	28.49	29.33	30.61	30.29	30.06	30.45
3	30.17	30.64	30.84	29.25	28.15	28.29	28.23	29.07	30.63	30.28	30.05	30.44
4	30.28	30.40	30.97	29.28	28.04	28.15	29.06	28.60	30.80	30.01	30.18	30.68
5	30.10	30.36	30.97	28.94	27.71	28.29	29.06	29.08	30.80	29.64	30.57	30.64
6	29.67	30.38	30.95	29.29	27.65	28.04	28.76	29.75	30.73	29.60	30.41	30.43
7	29.80	30.38	30.96	29.60	27.78	28.28	29.42	30.31	30.68	30.10	30.44	30.41
8	29.89	30.70	30.06	29.81	27.74	28.28	29.45	30.44	29.73	30.04	30.29	30.44
9	30.47	30.65	30.65	29.82	27.48	27.84	28.85	30.13	30.07	30.31	30.18	30.71
10	30.73	30.23	30.67	29.39	28.34	27.58	28.67	29.28	30.05	30.26	30.10	30.67
11	30.63	30.60	30.73	29.36	28.24	27.75	28.63	28.38	30.08	30.15	30.09	30.73
12	30.67	30.62	30.73	28.20	28.43	28.23	28.55	29.12	30.02	29.93	30.49	30.62
13	30.52	30.58	30.24	28.31	28.37	28.10	28.68	29.67	30.17	29.62	30.36	30.62
14	30.54	30.71	30.24	28.21	28.45	27.57	28.89	30.21	30.09	29.80	30.59	30.57
15	30.49	30.68	29.48	29.01	28.28	27.51	28.92	30.26	29.78	29.76	30.78	30.41
16	30.53	30.56	30.10	29.01	27.69	27.23	28.76	30.28	29.82	29.95	31.04	30.84
17	30.75	29.96	30.11	28.99	27.66	27.96	28.79	30.12	29.95	30.23	31.07	30.78
18	31.11	30.12	30.35	28.89	27.61	28.01	29.34	29.86	30.03	30.36	31.07	30.60
19	31.21	30.52	30.31	28.32	27.74	27.93	29.34	30.24	30.18	30.14	30.78	30.53
20	31.00	31.42	30.30	28.72	27.69	28.05	29.09	30.11	30.07	29.70	30.67	30.47
21	30.93	31.56	30.23	28.73	28.10	28.49	28.40	29.95	29.95	30.01	30.88	30.46
22	30.67	31.55	29.97	28.74	28.09	28.45	28.28	29.88	29.76	30.11	30.78	30.34
23	30.90	31.51	30.30	28.74	27.64	27.22	28.58	29.66	30.32	30.67	30.64	30.44
24	30.89	31.15	30.39	29.44	28.26	27.38	29.17	29.93	30.25	30.42	30.43	30.54
25	31.03	31.01	29.85	29.43	28.24	27.45	29.96	29.72	29.96	30.45	30.36	30.55
26	30.73	31.08	30.02	28.52	28.29	27.79	29.85	29.29	30.64	30.27	30.68	30.72
27	30.18	31.20	30.09	28.77	28.22	27.79	29.29	29.80	30.56	29.85	30.58	30.70
28	30.39	31.20	29.93	28.74	28.54	28.05	29.59	30.00	30.24	29.66	30.58	30.50
29	30.30	30.26	29.61	28.95	---	27.99	29.69	30.28	29.85	30.34	30.52	30.61
30	30.21	30.19	30.10	28.94	---	28.20	29.65	30.32	30.25	30.20	30.42	30.58
31	30.38	---	29.98	29.06	---	29.12	---	30.06	---	30.40	30.36	---
MAX	31.52	31.56	30.97	29.82	28.94	29.12	29.96	30.44	30.80	30.67	31.07	30.84
WTR YR 1986 MEAN	29.73		HIGH		27.22	MAR 23	LOW		31.56	NOV 21		

SURFACE-WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT

The following tables contain chemical and biological data for seventeen synoptic sites within the Raccoon Creek basin located in parts of Athens, Hocking, Jackson, Meigs, Vinton, and Gallia counties. The data was collected as part of a three year study to evaluate the surface-water quality within the basin before reclamation of abandoned surface-mine lands.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	ACIDITY (MG/L AS CACO3)	ALKA- LILITY WH WAT TOTAL FIELD MG/L AS CACO3)
392348082220200 E B RACCOON C NR NEW PLYMOUTH OH (LAT 39 23 48N LONG 082 22 02W)							
DEC 1985							
19...	1345	10	990	3.80	0.5	141	--
APR 1986							
09...	1115	6.1	1000	3.70	9.0	110	--
JUN							
26...	1130	0.08	1400	3.60	19.5	165	--
AUG							
28...	1600	0.4	1600	3.50	18.5	216	--
392249082234500 W B RACCOON C NR NEW PLYMOUTH OH (LAT 39 22 49N LONG 082 23 45W)							
DEC 1985							
19...	1430	12	440	5.95	0.5	24	3
APR 1986							
09...	1230	7.2	425	5.60	11.5	9.1	3
JUN							
26...	1240	0.05	845	6.70	23.0	--	7.8
03201555 RACCOON C NR NEW PLYMOUTH OH (LAT 39 22 08N LONG 082 23 28W)							
NOV 1985							
20...	1515	32	610	4.70	12.0	35	2
APR 1986							
09...	1320	17	690	4.50	11.5	46	--
JUN							
26...	1315	0.10	950	4.00	23.5	71	--
391830082262300 BRUSHY C NR CREOLA OH (LAT 39 18 30N LONG 082 26 23W)							
DEC 1985							
19...	1530	17	370	5.10	0.5	60	4
APR 1986							
09...	1400	8.4	430	3.90	12.5	47	--
JUN 1986							
26...	1430	0.4	720	3.40	23.5	102	--
AUG							
28...	1500	0.3	870	3.50	23.0	111	--
391901082210400 RACCOON C NR ZALESKI OH (LAT 39 19 01N LONG 082 21 04W)							
DEC 1985							
19...	1120	62	400	5.10	1.0	26	4
APR 1986							
09...	1000	41	450	4.80	14.0	22	1
JUN							
26...	1015	3.4	520	5.30	19.5	7	3
AUG							
29...	1030	0.3	640	4.60	17.5	13	1
391903082164200 HEWETT F NR ALBANY OH (LAT 39 19 03N LONG 082 16 42W)							
DEC 1985							
19...	1230	19	385	4.10	1.0	33	--
APR 1986							
09...	0830	12	540	3.80	13.0	32	--
JUN							
26...	0850	0.80	970	3.40	17.5	79	--
AUG							
29...	0930	0.9	1150	3.10	15.0	138	--
03201902 RACCOON C NR BOLIN MILLS OH (LAT 39 13 22N LONG 082 17 53W)							
OCT 1985							
16...	1130	0.08	370	6.60	16.5	--	26
NOV							
20...	1245	235	345	7.30	11.5	--	5
APR 1986							
09...	1530	100	410	5.10	13.5	12	2
JUN							
26...	1600	16	405	6.50	23.5	--	12
AUG							
28...	1330	0.5	440	7.00	21.0	--	26

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, TOTAL DIS- SOLVED (UG/L AS AL)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
392348082220200 E B RACCOON C NR NEW PLYMOUTH OH (LAT 39 23 48N LONG 082 22 02W)							
DEC 1985							
19...	540	16000	16000	2300	2000	8200	8300
APR 1986							
09...	540	16000	16000	1800	1800	9100	9300
JUN							
26...	720	21000	21000	3100	1400	15000	15000
AUG							
28...	1000	30000	20	4400	4100	15000	15000
392249082234500 W B RACCOON C NR NEW PLYMOUTH OH (LAT 39 22 49N LONG 082 23 45W)							
DEC 1985							
19...	150	2100	500	1300	1000	2900	2900
APR 1986							
09...	150	1400	850	770	670	2800	3100
JUN							
26...	220	330	60	1800	1100	7600	7700
AUG							
28...	--	--	--	--	--	--	--
03201555 RACCOON C NR NEW PLYMOUTH OH (LAT 39 22 08N LONG 082 23 28W)							
NOV 1985							
20...	250	3800	3600	1200	900	4400	4700
APR 1986							
09...	290	6800	6800	940	860	5200	5500
JUN							
26...	410	8200	8100	1800	360	9100	9100
AUG							
28...	--	--	--	--	--	--	--
391830082262300 BRUSHY C NR CREOLA OH (LAT 39 18 30N LONG 082 26 23W)							
DEC 1985							
19...	140	3400	3200	9900	9500	2300	2300
APR 1986							
09...	170	5500	4800	7700	4300	2800	3000
JUN 1986							
26...	270	12000	12000	2500	2200	6000	6200
AUG							
28...	97	30	20	60	70	1100	1100
391901082210400 RACCOON C NR ZALESKI OH (LAT 39 19 01N LONG 082 21 04W)							
DEC 1985							
19...	150	1900	1700	2500	2400	2600	260
APR 1986							
09...	200	3500	3300	620	500	3600	3900
JUN							
26...	170	590	500	690	100	4600	4800
AUG							
29...	270	490	500	670	100	6700	7000
391903082164200 HEWETT F NR ALBANY OH (LAT 39 19 03N LONG 082 16 42W)							
DEC 1985							
19...	190	2300	1800	5000	4300	1500	1400
APR 1986							
09...	220	3400	3500	1300	1000	1800	1900
JUN							
26...	370	7500	7800	2100	1800	3900	4000
AUG							
29...	410	13000	12000	5500	1800	5900	8800
03201902 RACCOON C NR BOLIN MILLS OH (LAT 39 13 22N LONG 082 17 53W)							
OCT 1985							
16...	120	200	<100	2900	1200	1800	1800
NOV							
20...	120	300	100	760	480	1700	1700
APR 1986							
09...	170	1700	1500	650	530	2600	2600
JUN							
26...	120	70	10	860	80	2600	2500
AUG							
28...	150	170	30	1000	180	720	560

SURFACE-WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT--Continued
WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	ACIDITY (MG/L AS H)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3
390941082212200	ELK F NR RADCLIFF OH	(LAT 39 09 41N LONG 082 21 22W)					
DEC 1985							
18...	1630	48	285	6.55	2.0	--	12
APR 1986							
08...	1700	10	350	7.10	16.5	--	23
JUN							
25...	1800	4.3	345	7.60	20.5	--	38
AUG							
27...	1630	0.5	575	7.10	21.0	--	44
390828082224900	PIERCE RN NR RADCLIFF OH	(LAT 39 08 28N LONG 082 22 49W)					
DEC 1985							
17...	1530	10	360	6.00	3.0	10	12
APR 1986							
08...	1600	3.4	520	6.30	19.0	6	6
JUN							
25...	1700	0.85	490	6.50	22.5	5	8
AUG							
27...	1530	0.2	720	6.20	22.0	6	5
385826082201800	RACCOON C AT VINTON OH	(LAT 38 58 26N LONG 082 20 18W)					
DEC 1985							
18...	1200	393	290	6.95	2.5	--	8
APR 1986							
08...	1500	156	350	6.70	17.0	--	10
JUN							
25...	1000	28	390	6.70	23.0	--	6
AUG							
27...	1430	6.2	475	7.00	23.5	--	38
3905090822281900	L RACCOON C NR ROADS OH	(LAT 39 05 09N LONG 082 28 19W)					
DEC 1985							
18...	1315	79	350	6.00	2.0	22	14
APR 1986							
10...	1330	34	560	6.80	10.5	--	42
JUN							
25...	1315	9.4	500	7.40	21.0	--	75
AUG							
28...	1000	12	640	6.70	20.0	--	48
3904210822282300	FLINT RUN NR ROADS OH	(LAT 39 04 21N LONG 082 28 23W)					
JUN 1986							
25...	1430	0.50	2900	2.50	23.5	997	--
AUG							
28...	1130	0.71	2900	2.50	21.0	1310	--
390342082271900	L RACCOON C NR BUCKEYE FURNACE ST MEMORIAL OH	(LAT 39 03 42N LONG 082 27 19W)					
DEC 1985							
18...	1410	95	350	5.40	2.0	20	6
JUN 1986							
25...	1545	12	540	7.00	21.0	--	38
AUG							
28...	1200	14	680	5.10	21.0	21	4
03201980	L RACCOON C NR EWINGTON OH	(LAT 39 00 38N LONG 082 27 08W)					
OCT 1985							
16...	1330	3.8	890	3.80	17.0	33	--
NOV							
20...	1130	169	370	5.10	12.0	27	2
APR 1986							
10...	1145	40	570	5.60	11.5	13	4
JUN							
25...	1140	8.0	570	5.70	23.0	5	3
AUG							
28...	0900	14	870	3.60	19.0	51	--

SURFACE-WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT--Continued

129

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
390941082212200	ELK F NR RADCLIFF OH			(LAT 39 09 41N LONG 082 21 22W)			
DEC 1985							
18...	93	300	<100	830	500	970	950
APR 1986							
08...	130	140	100	690	270	1000	1000
JUN							
25...	89	70	60	1000	850	730	750
AUG							
27...	1.7	20	20	750	330	730	760
390828082224900	PIERCE RN NR RADCLIFF OH			(LAT 39 08 28N LONG 082 22 49W)			
DEC 1985							
17...	130	200	<100	2000	1800	1600	1600
APR 1986							
08...	200	170	60	1300	950	2800	2800
JUN							
25...	200	<10	50	680	530	3700	3700
AUG							
27...	350	60	20	590	120	5000	5000
385826082201800	RACCOON C AT VINTON OH			(LAT 38 58 26N LONG 082 20 18W)			
DEC 1985							
18...	100	200	<100	840	780	1000	1000
APR 1986							
08...	130	140	20	540	100	1500	1700
JUN							
25...	110	110	20	790	70	1300	1300
AUG							
27...	170	200	20	370	130	830	810
390509082281900	L RACCOON C NR ROADS OH			(LAT 39 05 09N LONG 082 28 19W)			
DEC 1985							
18...	120	2000	100	1900	580	1700	1300
APR 1986							
10...	200	2100	60	2000	450	2300	2500
JUN							
25...	110	510	100	1000	90	870	870
AUG							
28...	240	1200	50	910	170	3000	3100
390421082282300	FLINT RUN NR ROADS OH			(LAT 39 04 21N LONG 082 28 23W)			
JUN 1986							
25...	1500	58000	62000	150000	140000	16000	16000
AUG							
28...	2100	75000	72000	260000	240000	17000	17000
390342082271900	L RACCOON C NR BUCKEYE FURNACE ST MEMORIAL OH			(LAT 39 03 42N LONG 082 27 19W)			
DEC 1985							
18...	160	2100	300	4500	3600	1600	1800
JUN 1986							
25...	160	40	200	430	520	1400	1500
AUG							
28...	290	760	760	670	460	3300	3400
03201980	L RACCOON C NR EWINGTON OH			(LAT 39 00 38N LONG 082 27 08W)			
OCT 1985							
16...	--	2200	2200	1100	820	3000	3100
NOV							
20...	140	1900	400	4800	1800	1700	1600
APR 1986							
10...	220	1800	360	4400	1200	2700	2600
JUN							
25...	200	60	70	690	500	2000	2100
AUG							
28...	390	4400	4500	1000	890	4500	4600

SURFACE-WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT--Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	ACIDITY (MG/L AS H)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3
03201988	L RACCOON C NR VINTON OH	(LAT 38 57 11N LONG 082 21 56W)					
OCT 17...	1330	12	750	5.00	14.0	18	2
NOV 1985 19...	1430	488	295	5.40	12.5	17	3
APR 1986 08...	1400	87	390	6.60	16.0	--	6
JUN 25...	0900	4.9	455	6.80	20.0	--	19
AUG 27...	1330	9.4	680	6.70	23.0	--	17
03202000	RACCOON C AT ADAMSVILLE OH	(LAT 38 52 25N LONG 082 21 22W)					
OCT 1985 17...	1200	13	580	6.85	15.5	--	30
NOV 1985 19...	1130	2380	245	6.80	11.0	--	10
APR 1986 10...	0930	242	420	6.70	12.0	--	18
JUN 24...	1745	55	440	7.00	25.0	--	21
AUG 27...	1100	16	680	6.90	23.0	--	21
384651082162800	CLEAR F AT NORTHUP OH	(LAT 38 46 51N LONG 082 16 28W)					
DEC 1985 17...	1330	3.7	380	7.70	4.0	--	164
APR 1986 08...	1130	4.9	420	8.30	15.0	--	88
JUN 24...	1600	0.11	670	7.90	23.5	--	170
AUG 27...	1230	0.1	580	7.60	22.5	--	163
DATE	SULFATE DIS- SOLVED (MG/L AS SO4)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
03201988	L RACCOON C NR VINTON OH	(LAT 38 57 11N LONG 082 21 56W)					
OCT 17...	320	1500	1400	240	20	2800	2900
NOV 1985 19...	110	1300	100	4800	1100	1000	1000
APR 1986 08...	160	400	30	1000	160	1600	1600
JUN 25...	160	290	20	1000	150	2000	2000
AUG 27...	280	310	30	450	40	3400	3500
03202000	RACCOON C AT ADAMSVILLE OH	(LAT 38 52 25N LONG 082 21 22W)					
OCT 1985 17...	170	<100	<100	750	160	600	620
NOV 1985 19...	82	2100	<100	4300	270	880	870
APR 1986 10...	130	150	40	680	220	1400	1400
JUN 24...	120	150	20	780	90	1100	1100
AUG 27...	230	170	20	1100	120	960	780
384651082162800	CLEAR F AT NORTHUP OH	(LAT 38 46 51N LONG 082 16 28W)					
DEC 1985 17...	68	300	100	480	10	110	120
APR 1986 08...	110	510	50	770	80	60	50
JUN 24...	130	60	20	250	30	580	570
AUG 27...	23	40	10	50	30	990	<10

SURFACE-WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT--Continued

131

WATER YEARS, OCTOBER 1984 TO SEPTEMBER 1986--Continued

(Multiplate Method)

392348082220200

Drainage Area 14.46 square miles

East Branch Raccoon C nr New Plymouth OH

Latitude 392348 longitude 08222202

Date collected - June 18, 1985

Insecta

Megaloptera

Sialidae

Sialis _____ 4

Corydalidae

Nigronia _____ 1

Trichoptera

Hydropsychidae

Cheumatopsyche _____ 1

Diptera

Chironomidae

Corynoneura _____ 22

Polypedilum _____ 16

Rheotanytarsus _____ 1

Parametriocnemus _____ 1

Total No. in Sample _____ 46

Shannon Diversity Index: _____ 1.83

Pielou Equitability Index: _____ 0.65

Total Taxa _____ 7

Simpson Diversity Index: _____ 2.90

Date collected - June 26, 1986

Insecta

Megaloptera

Corydalidae

Nigronia _____ 1

Sialidae

Sialis _____ 11

Diptera

Chironomidae

Polypedilum _____ 7

Corynoneura _____ 1

Total No. in Sample _____ 20

Shannon Diversity Index: _____ 1.44

Pielou Equitability Index: _____ 0.72

Total Taxa _____ 4

Simpson Diversity Index: _____ 2.50

392249082234500

Drainage Area 22.70 square miles

West Branch Raccoon C nr New Plymouth OH

Latitude 392249 longitude 0822345

Date collected - December 19, 1984

Insecta

Megaloptera

Sialidae

Sialis _____ 4

Diptera

Chironomidae

Chironomus _____ 12

Polypedilum _____ 2

Total No. in Sample _____ 18

Shannon Diversity Index: _____ 1.23

Pielou Equitability Index: _____ 0.77

Total Taxa _____ 3

Simpson Diversity Index: _____ 2.10

Date collected - June 18, 1985

Arthropoda

Crustacea

Decapoda

Astacidae _____ 1

Insecta

Megaloptera

Sialidae

Sialis _____ 2

Diptera

Chironomidae

Chironomus _____ 4

Phaenopsectra _____ 1

Rheotanytarsus _____ 1

Total No. in Sample _____ 9

Shannon Diversity Index: _____ 2.06

Pielou Equitability Index: _____ 0.89

Total Taxa _____ 5

Simpson Diversity Index: _____ 5.14

SURFACE-WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT--Continued

WATER YEARS, OCTOBER 1984 TO SEPTEMBER 1986--Continued

Date collected - June 26, 1986

Insecta
 Coleoptera
 Gyrinidae
 Dineutus_____1
 Megaloptera
 Sialidae
 Sialis_____8
 Diptera
 Chironomidae
 Phaenopsectra_____1
 Rheotanytarsus_____1
 Tribelos_____1
 pupae_____1

Total No. in Sample_____13
 Shannon Diversity Index:_____1.86
 Pielou Equitability Index:_____0.72

Total Taxa (incl.pupae)_____6
 Simpson Diversity Index:_____2.79

03201555
 Drainage Area 43.10 square miles

Raccoon C nr New Plymouth OH
 Latitude 392208 longitude 0822328

Date collected - December 19, 1984

Insecta
 Megaloptera
 Corydalidae
 Nigronia_____1
 Trichoptera
 Polycentropodidae
 Polycentropus_____1
 Diptera
 Chironomidae
 Chironomus_____2
 Polypedilum_____2
 Tanytarsus_____2
 Ceratopogonidae_____17

Total No. in Sample_____25
 Shannon Diversity Index:_____1.63
 Pielou Equitability Index:_____0.63

Total Taxa_____6
 Simpson Diversity Index:_____2.16

Date collected - June 26, 1986

Insecta
 Megaloptera
 Corydalidae
 Nigronia_____2
 Sialidae
 Sialis_____1
 Anisoptera
 Aeshnidae
 Aeshna_____2
 Diptera
 Chironomidae
 Polypedilum_____4

Total No. in Sample_____9
 Shannon Diversity Index:_____1.84
 Pielou Equitability Index:_____0.92

Total Taxa_____4
 Simpson Diversity Index:_____4.50

391830082262300
 Drainage Area 33.70 square miles

Brushy C nr Creola OH
 Latitude 391830 longitude 0822623

Date collected - December 19, 1984

Insecta
 Trichoptera
 Phryganeidae
 Oligostomis_____1
 Diptera
 Chironomidae
 Chironomus_____3
 Polypedilum_____17

Total No. in Sample_____21
 Shannon Diversity Index_____0.86
 Pielou Equitability Index_____0.54

Total Taxa_____3
 Simpson Diversity Index:_____1.51

WATER YEARS, OCTOBER 1984 TO SEPTEMBER 1986--Continued

Date collected - June 18, 1985

Insecta

Coleoptera

Gyrinidae

Dineutus _____ 2

Dytiscidae

Laccophilus _____ 1

Megaloptera

Sialidae

Sialis _____ 1

Diptera

Chironomidae

Chironomus _____ 80

Rheotanytarsus _____ 80

Polypedilum _____ 880

Total No. in Sample _____ 1044

Shannon Diversity Index: _____ 0.81

Pielou Equitability Index: _____ 0.31

Total Taxa _____ 6

Simpson Diversity Index: _____ 1.39

Date collected - June 26, 1986

Insecta

Megaloptera

Sialidae

Sialis _____ 5

Ephemeroptera

Heptageniidae

Stenacron _____ 1

Diptera

Chironomidae

Polypedilum _____ 4

pupae _____ 1

Total No. in Sample _____ 11

Shannon Diversity Index: _____ 1.68

Pielou Equitability Index: _____ 0.84

Total Taxa (incl. pupae) _____ 4

Simpson Diversity Index: _____ 3.44

391901082210400

Drainage Area 122.0 square miles

Raccoon C nr Zaleski OH

Latitude 391901 longitude 0822104

Date collected - December 19, 1984

Insecta

Megaloptera

Sialidae

Sialis _____ 1

Diptera

Chironomidae

Diplocladius _____ 1

Polypedilum _____ 3

Total No. in Sample _____ 5

Shannon Diversity Index: _____ 1.37

Pielou Equitability Index: _____ 0.86

Total Taxa _____ 3

Simpson Diversity Index: _____ 3.33

Date collected - June 26, 1986

Insecta

Coleoptera

Gyrinidae

Dineutus _____ 2

Total No. in Sample _____ 2

Shannon Diversity Index: _____ 0

Pielou Equitability Index: _____ 0

Total Taxa _____ 1

Simpson Diversity Index: _____ 0

SURFACE-WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT--Continued

WATER YEARS, OCTOBER 1984 TO SEPTEMBER 1986--Continued

391903082164200

Drainage Area 27.79 square miles

Hewett F nr Albany OH

Latitude 391903 longitude 0821642

Date collected - December 19, 1984

Insecta

Plecoptera _____ 1
 Megaloptera
 Corydalidae
 Nigronia _____ 3
 Diptera
 Chironomidae
 Polypedilum _____ 12
 Chironomus _____ 2
 Diplocladius _____ 1
 Tanytarsini _____ 1
 Eukiefferiella _____ 1

Total No. in Sample _____ 21
 Shannon Diversity Index: _____ 2.03
 Pielou Equitability Index: _____ 0.72

Total Taxa _____ 7
 Simpson Diversity Index: _____ 3.00

Date collected - June 18, 1985

Insecta

Megaloptera
 Sialidae
 Sialis _____ 1
 Corydalidae
 Nigronia _____ 1
 Trichoptera
 Polycentropodidae
 Polycentropus _____ 1
 Diptera
 Chironomidae
 Corynoneura _____ 1
 Polypedilum _____ 9
 Rheotanytarsus _____ 24

Total No. in Sample _____ 37
 Shannon Diversity Index: _____ 1.47
 Pielou Equitability Index: _____ 0.57

Total Taxa _____ 6
 Simpson Diversity Index: _____ 2.13

Date collected - June 26, 1986

Insecta

Megaloptera
 Corydalidae
 Nigronia _____ 6
 Sialidae
 Sialis _____ 1
 Trichoptera
 Polycentropodidae
 Polycentropus _____ 1
 Diptera
 Chironomidae
 Polypedilum _____ 5
 Unidentified _____ 1
 Ceratopogonidae
 Bezzia _____ 1

Total No. in Sample _____ 15
 Shannon Diversity Index: _____ 1.84
 Pielou Equitability Index: _____ 0.79

Total Taxa _____ 5
 Simpson Diversity Index: _____ 3.50

03201902

Drainage Area 204.59 square miles

Raccoon C nr Bolins Mills OH

Latitude 391322 longitude 0821753

Date collected - December 19, 1984

Insecta

Diptera
 Chironomidae
 Chironomus _____ 1
 Phaenopsectra _____ 1
 Polypedilum _____ 1
 Tripulidae
 Diplocladius _____ 2

Total No. in Sample _____ 5
 Shannon Diversity Index: _____ 1.93
 Pielou Equitability Index: _____ 0.96

Total Taxa _____ 4
 Simpson Diversity Index: _____ 10

WATER YEARS, OCTOBER 1984 TO SEPTEMBER 1986--Continued

Date collected - June 18, 1985

Insecta
 Plecoptera
 Perlidae
 Acroneuria _____ 1
 Trichoptera
 Hydropsychidae
 Cheumatopsyche _____ 3
 Polycentropodidae
 Polycentropus _____ 1
 Diptera
 Chironomidae
 Polypedilum _____ 35
 Rheotanytarsus _____ 2
 Thienemanniella _____ 5

Total No. in Sample _____ 47
 Shannon Diversity Index: _____ 1.35
 Pielou Equitability Index: _____ 0.52

Total Taxa _____ 6
 Simpson Diversity Index: _____ 1.78

Date collected - June 26, 1986

Insecta
 Coleoptera
 Gyrinidae
 Dineutus _____ 4
 Megaloptera
 Sialidae
 Sialis _____ 4
 Ephemeroptera
 Heptageniidae
 Stenonema _____ 3
 Trichoptera
 Polycentropodidae
 Polycentropus _____ 3
 Diptera
 Chironomidae
 Rheotanytarsus _____ 9
 Tribelos _____ 6
 Polypedilum _____ 3
 Thienemannimyia _____ 2
 Ablabesmyia _____ 1
 Thienemanniella _____ 1
 pupae _____ 4

Total No. in Sample _____ 40
 Shannon Diversity Index: _____ 3.22
 Pielou Equitability Index: _____ 0.93

Total Taxa (incl. pupae) _____ 11
 Simpson Diversity Index: _____ 9.87

390941082212200

Drainage Area 59.50 square miles

Elk F nr Radcliff OH

Latitude 390941 longitude 0822122

Date collected - December 19, 1984

Insecta
 Plecoptera
 Capniidae
 Allocapnia _____ 2
 Ephemeroptera
 Heptageniidae
 Stenacron _____ 2
 Stenonema _____ 1
 Leptophlebiidae _____ 1
 Trichoptera
 Polycentropodidae
 Polycentropus _____ 1
 Diptera
 Chironomidae
 Orthocladius _____ 1
 Diplocladius _____ 6
 Polypedilum _____ 1
 Nanocladius _____ 1
 Cricotopus _____ 5
 Phaenopsectra _____ 4
 Pentaneura _____ 5
 Tanytarsus _____ 2
 Cladotanytarsus _____ 1

Total No. in Sample _____ 33
 Shannon Diversity Index: _____ 3.45
 Pielou Equitability Index: _____ 0.91

Total Taxa _____ 14
 Simpson Diversity Index: _____ 12.00

SURFACE-WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT--Continued

WATER YEARS, OCTOBER 1984 TO SEPTEMBER 1986--Continued

Date collected - June 18, 1985

Insecta

Ephemeroptera	
Heptageniidae	
Stenacron	27
Stenonema	2
Trichoptera	
Hydropsychidae	
Cheumatopsyche	1
Polycentropedidae	
Polycentropus	5
Odonata	
Calopterygidae	
Calopteryx	1
Diptera	
Chironomidae	
Ablabesmyia	2
Gorynoneura	13
Phaenopsectra	1
Polypedilum	4
Rheotanytarsus	4
Stenochironomus	1
Thienemannimyia	10
Unidentified	2

Total No. in Sample 73
 Shannon Diversity Index: 2.76
 Pielou Equitability Index: 0.77

Total Taxa 12
 Simpson Diversity Index: 4.99

Date collected - June 25, 1986

Vertebrata

Cyclostomi	
Petromyzontidae	
Lampetra	
Acipyttera	1
Arthropoda	
Crustacea	
Decapoda	
Astacidae	1
Insecta	
Megaloptera	
Sialidae	
Sialis	5
Ephemeroptera	
Heptageniidae	
Stenacron	15
Odonata	
Anisoptera	
Gonphidae	
Goraphus	1
Aeshnidae	
Boyeria	1
Diptera	
Chironomidae	
Phaenopsectra	1
Thienemannimyia	3
Tribelos	15

Total No. in Sample 43
 Shannon Diversity Index: 2.32
 Pielou Equitability Index: 0.73

Total Taxa 9
 Simpson Diversity Index: 4.05

390828082224900

Drainage Area 9.70 square miles

Pierce Rn nr Radcliff OH

Latitude 390828 longitude 0822249

Date collected - December 19, 1984

Insecta

Plecoptera	
Perlodidae	
Isoperla	1
Capniidae	
Allocapnia	5
Diptera	
Chironomidae	
Diplocladius	8
Polypedilum	2
Rheotanytarsus	2
Tipulidae	
Tipula	1

Total No. in Sample 19
 Shannon Diversity Index: 2.17
 Pielou Equitability Index: 0.84

Total Taxa 6
 Simpson Diversity Index: 4.27

WATER YEARS, OCTOBER 1984 TO SEPTEMBER 1986--Continued

Date collected - June 18, 1985

Insecta

Megaloptera

Sialidae

Sialis

5

Zygoptera

Coenagrionidae

1

Diptera

Chironomidae

Ablabesmyia

3

Corynoneura

3

Nilothauma

5

Polypedilum

14

Rheotanytarsus

8

Thienemannimyia

3

Tribelos

3

Total No. in Sample 45

Shannon Diversity Index: 2.84

Pielou Equitability Index: 0.90

Total Taxa 9

Simpson Diversity Index: 6.63

Date collected - June 25, 1986

Insecta

Megaloptera

Sialidae

Sialis

5

Corydalidae

Nigronia

1

Diptera

Chironomidae

Thienemannimyia

2

Psectrocladius

1

Rheotanytarsus

1

Total No. in Sample 10

Shannon Diversity Index: 1.96

Pielou Equitability Index: 0.84

Total Taxa 5

Simpson Diversity Index: 4.09

385826082201800

Drainage Area 381.50 square miles

Raccoon C at Vinton OH

Latitude 385826 longitude 0822018

Date collected - December 18, 1984

Insecta

Megaloptera

Corydalidae

Corydalus

2

Trichoptera

Hydropsychidae

Cheumatopsyche

4

Diptera

Chironomidae

Phaenopsectra

1

Polypedilum

2

Total No. in Sample 9

Shannon Diversity Index: 1.84

Pielou Equitability Index: 0.92

Total Taxa 4

Simpson Diversity Index: 4.50

Date collected - June 18, 1985

Mollusca

Bivalvia

Sphaeviidae

Pisidium

1

Insecta

Coleoptera

Gyrinidae

Dineutus

1

Ephemeroptera

Heptageniidae

Stenacron

1

Baetidae

Callibaetis

2

Diptera

Chironomidae

Ablabesmyia

8

Polypedilum

124

Rheotanytarsus

8

Tribelos

40

Total No. in Sample 185

Shannon Diversity Index: 1.45

Pielou Equitability Index: 0.48

Total Taxa 8

Simpson Diversity Index: 2.01

WATER YEARS, OCTOBER 1984 TO SEPTEMBER 1986--Continued

Date collected - June 25, 1986

Insecta

Ephemeroptera
 Oligoneuriidae
 Isonychia _____ 1
 Trichoptera
 pupae in case _____ 1
 Diptera
 Chironomidae
 Polypedilum _____ 1
 Rheotanytarsus _____ 1
 pupae _____ 1
 Ceratopogonidae
 Bezzia _____ 1

Total No. in Sample _____ 6
 Shannon Diversity Index: _____ 2.59
 Pielou Equitability Index: _____ 1.00

Total Taxa (incl. pupae) _____ 6
 Simpson Diversity Index: _____ --

390509082281900

Drainage Area 67.50 square miles

L Raccoon C nr Roads OH
 Latitude 390509 longitude 0822819

Date collected - December 18, 1984

Insecta

Trichoptera
 Hydropsychidae
 Symphitopsyche _____ 2
 Cheumatopsyche _____ 3
 Diptera
 Chironomidae
 Einfeldia _____ 1
 Phaenopsectra _____ 1
 Diplocladius _____ 1
 Tipulidae
 Tipula _____ 1

Total No. in Sample _____ 9
 Shannon Diversity Index: _____ 2.42
 Pielou Equitability Index: _____ 0.94

Total Taxa _____ 6
 Simpson Diversity Index: _____ 9.00

Date collected - June 18, 1985

Insecta

Trichoptera
 Hydropsychidae
 Cheumatopsyche _____ 17
 Hydropsyche _____ 7
 pupae _____ 6
 Diptera
 Chironomidae
 Polypedilum _____ 7
 Thienemannimyia _____ 3
 Empididae _____ 3

Total No. in Sample _____ 43
 Shannon Diversity Index: _____ 2.32
 Pielou Equitability Index: _____ 0.90

Total Taxa (incl. pupae) _____ 6
 Simpson Diversity Index: _____ 4.54

Date collected - June 25, 1986

Arthropoda

Crustacea
 Amphipoda
 Talitridae
 Hyalella azteca _____ 1

Insecta

Megaloptera
 Corydalidae
 Nigronia _____ 2
 Trichoptera
 Hydropsychidae
 Cheumatopsyche _____ 18
 pupae _____ 1
 Zygoptera
 Coenagrionidae _____ 1
 Diptera
 Chironomidae
 Thienemannimyia _____ 1
 Polypedilum _____ 1
 pupae _____ 2

Total No. in Sample _____ 27
 Shannon Diversity Index: _____ 1.83
 Pielou Equitability Index: _____ 0.61

Total Taxa (incl. pupae) _____ 8
 Simpson Diversity Index: _____ 2.26

SURFACE-WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT--Continued

139

WATER YEARS, OCTOBER 1984 TO SEPTEMBER 1986--Continued

390421082282300
Drainage Area square milesFlint Rn nr Roads OH
Latitude 390421 longitude 0822823

Date collected - June 25, 1986

Insecta

Diptera

Chironomidae

Chironomus 20

Total No. in Sample 20

Shannon Diversity Index: 0

Pielou Equitability Index: 0

Total Taxa 0

Simpson Diversity Index: 0

Comments: No organisms other than
chironomids.

03201980

Drainage Area 99.70 square miles

L Raccoon C nr Ewington OH
Latitude 390038 longitude 0822708

Date collected - December 19, 1984

Insecta

Megaloptera

Sialidae

Sialis 1

Trichoptera

Polycentropodidae

Polycentropus 7

Diptera

Chironomidae

Polypedilum 155

Chironomus 21

Total No. in Sample 184

Shannon Diversity Index: 0.79

Pielou Equitability Index: 0.39

Total Taxa 4

Simpson Diversity Index: 1.38

Date collected June 18, 1985

Arthropoda

Copepoda

Harpacticoida 1

Insecta

Megaloptera

Sialidae

Sialis 2

Corydalidae

Nigronia 1

Trichoptera

Polycentropodidae

Polycentropus 15

Diptera

Chironomidae

Polypedilum 46

Psectrocladius 2

Rheotanytarsus 19

Ceratopogonidae

Bezzia 5

Total No. in Sample 91

Shannon Diversity Index: 2.02

Pielou Equitability Index: 0.67

Total Taxa 8

Simpson Diversity Index: 3.10

03201988

Drainage Area 154.00 square miles

L Raccoon C nr Vinton OH
Latitude 385711 longitude 0822156

Date collected - December 18, 1984

Insecta

Trichoptera

Polycentropodidae

Polycentropus 2

Neureclipsis 1

Diptera

Chironomidae

Polypedilum 136

Total No. in Sample 139

Shannon Diversity Index: 0.17

Pielou Equitability Index: 0.11

Total Taxa 3

Simpson Diversity Index: 1.04

SURFACE-WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT--Continued

WATER YEARS, OCTOBER 1984 TO SEPTEMBER 1986--Continued

Date collected - June 18, 1985

Insecta

Megaloptera	
Sialidae	
Sialis	7
Trichoptera	
Polycentropodidae	
Polycentropus	14
Nyctiophylax	5
Diptera	
Chironomidae	
Corynoneura	3
Phaenopsectra	1
Polypedilum	3
Rheotanytarsus	32
Ceratopogonidae	
Bezzia	1

Total No. in Sample 66
 Shannon Diversity Index: 2.20
 Pielou Equitability Index: 0.73

Total Taxa 8
 Simpson Diversity Index: 3.44

Date collected - June 25, 1986

Insecta

Megaloptera	
Sialidae	
Sialis	2
Trichoptera	
Polycentropodidae	
Polycentropus	1
Diptera	
Chironomidae	
Polypedilum	1
Tribelos	2
Unidentified	1

Total No. in Sample 7
 Shannon Diversity Index: 1.95
 Pielou Equitability Index: 0.98

Total Taxa 4
 Simpson Diversity Index: 7.00

03202000
 Drainage area 585.00 square miles

Raccoon C nr Adamsville OH
 Latitude 385225 longitude 0822122

Date collected June 18, 1985

Insecta

Megaloptera	
Sialidae	
Sialis	3
Ephemeroptera	
Heptageniidae	3
Trichoptera	
Polycentropodidae	
Polycentropus	5
Zygoptera	
Coenagrionidae	1
Diptera	
Chironomidae	
Ablabesmyia	21
Phaenopsectra	12
Procladius	5
Polypedilum	2
Rheotanytarsus	7
Thienemannimyia	2
Tribelos	80
Ceratopogonidae	2

Total No. in Sample 143
 Shannon Diversity Index: 2.27
 Pielou Equitability Index: 0.63

Total Taxa 12
 Simpson Diversity Index: 2.91

SURFACE-WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT--Continued
WATER YEARS, OCTOBER 1984 TO SEPTEMBER 1986--Continued

141

Date collected - June 24, 1986

Insecta

Coleoptera
Gyrinidae
Dineutus _____ 1
Trichoptera
Polycentropodidae
Nyctiophylax _____ 1
Diptera
Chironomidae
Phaenopsectra _____ 3
Polypedilum _____ 3

Total No. in Sample _____ 8
Shannon Diversity Index: _____ 1.81
Pielou Equitability Index: _____ 0.91

Total Taxa _____ 4
Simpson Diversity Index: _____ 4.67

384651082162800
Drainage Area 7.19 square miles

Clear F nr Northup OH
Latitude 384651 longitude 082162800

Date collected - December 18, 1984

Oligochaeta
Tubificidae _____ 26
Naididae _____ 2
Insecta
Chironomidae
Chironomus _____ 2
Diplocladius _____ 1

Total No. in Sample _____ 31
Shannon Diversity Index: _____ 0.88
Pielou Equitability Index: _____ 0.44

Total Taxa _____ 4
Simpson Diversity Index: _____ 1.42

Date collected - June 24, 1986

Insecta

Megaloptera
Sialidae
Sialis _____ 1
Ephemeroptera
Heptageniidae
Stenonem _____ 23
Stenacron _____ 18
Caenidae
Caenis _____ 7
Zygoptera
Coenagrionidae
Coenagrion _____ 1
Anisoptera
Gomphidae _____ 1
Diptera
Chironomidae
Chironomus _____ 2
Corynoneura _____ 1
Microtendipes _____ 1
Rheotanytarsus _____ 1
Thienemannimyia _____ 2

Total No. in Sample _____ 58
Shannon Diversity Index: _____ 2.37
Pielou Equitability Index: _____ 0.68

Total Taxa _____ 11
Simpson Diversity Index: _____ 3.85

¹A diversity index is the quantitative expression of the distribution of organisms in a sample.

²An equitability index is the expression of the degree of uniformity of the distribution of individuals among the taxa in the sample.

SURFACE-WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT--Continued

SUSPENDED SEDIMENT

REVISIONS.--Revised figures of Suspended Sediment Discharge for the water years 1984 and 1985, superseding those published in WRD-OH-2-1985.

03201902 RACCOON CREEK NEAR BOLINS MILLS OH

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	---	---	---	4.7	6	.08	.14	4	.00
2	---	---	---	5.0	8	.11	.14	4	.00
3	---	---	---	7.2	8	.16	.42	5	.00
4	---	---	---	7.3	19	.37	.56	5	.00
5	---	---	---	16	22	.95	.28	5	.00
6	---	---	---	38	20	2.1	.42	7	.00
7	---	---	---	32	12	1.0	.28	7	.00
8	---	---	---	21	12	.68	.28	7	.00
9	---	---	---	17	10	.46	3.4	9	.08
10	---	---	---	13	9	.32	.42	8	.00
11	---	---	---	11	7	.21	.28	5	.00
12	---	---	---	9.9	10	.27	.14	5	.00
13	---	---	---	8.0	9	.19	1.0	0	.00
14	---	---	---	9.5	11	.28	.28	5	.00
15	---	---	---	11	7	.21	3.4	8	.07
16	---	---	---	9.3	6	.15	2.7	7	.05
17	---	---	---	6.7	6	.11	2.5	6	.04
18	3.8	---	---	5.5	6	.09	2.2	6	.04
19	3.3	14	.12	5.0	6	.08	2.0	5	.03
20	2.6	13	.09	4.0	5	.05	2.0	5	.03
21	2.6	13	.09	3.5	5	.05	1.7	4	.02
22	2.3	15	.09	3.4	6	.06	1.5	4	.02
23	4.8	10	.13	3.9	7	.07	1.3	3	.01
24	1.7	9	.04	2.8	6	.05	1.1	4	.01
25	1.4	8	.03	1.7	5	.02	1.4	6	.02
26	1.8	7	.03	1.1	5	.01	1.1	7	.02
27	4.0	10	.11	.72	5	.00	.70	6	.01
28	6.4	16	.28	.52	5	.00	.42	5	.00
29	14	10	.38	.31	4	.00	.70	0	.00
30	11	9	.27	.14	4	.00	.70	0	.00
31	7.0	6	.11	.28	4	.00	---	---	---
TOTAL	66.7	---	1.77	259.47	---	8.13	33.46	---	0.45

03201988 LITTLE RACCOON CREEK NEAR VINTON, OH

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

JULY			AUGUST			SEPTEMBER			
1	---	---	15	---	---	6.0	5	.08	
2	---	---	14	---	---	5.8	3	.05	
3	---	---	15	---	---	5.6	5	.08	
4	---	---	22	---	---	6.0	5	.08	
5	---	---	72	---	---	6.4	19	.33	
6	---	---	93	---	---	4.5	24	.29	
7	---	---	61	---	---	5.2	7	.10	
8	---	---	28	---	---	5.2	6	.08	
9	---	---	26	---	---	4.5	5	.06	
10	---	---	24	---	---	4.1	4	.04	
11	---	---	49	---	---	4.5	5	.06	
12	---	---	30	---	---	3.1	4	.03	
13	---	---	22	---	---	2.4	3	.02	
14	---	---	18	---	---	3.1	3	.03	
15	---	---	16	---	---	3.4	3	.03	
16	---	---	15	---	---	6.2	6	.10	
17	---	---	14	---	---	5.2	5	.07	
18	---	---	13	---	---	3.8	3	.03	
19	17	---	12	---	---	3.1	3	.03	
20	17	---	11	---	---	2.1	2	.01	
21	19	---	10	---	---	2.2	2	.01	
22	21	---	12	---	---	2.8	2	.02	
23	19	---	11	---	---	4.0	3	.03	
24	17	---	10	---	---	5.0	4	.05	
25	13	---	8.8	6	.14	7.0	5	.09	
26	11	---	7.8	6	.13	6.8	7	.13	
27	13	---	7.0	6	.11	5.6	7	.11	
28	19	---	6.6	6	.11	4.6	5	.06	
29	23	---	7.4	8	.16	3.7	4	.04	
30	21	---	6.8	7	.13	3.0	3	.02	
31	18	---	6.2	6	.10	---	---	---	
TOTAL	228	---	663.6	---	0.88	134.9	---	2.16	

SURFACE-WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT--Continued

143

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

03201988 LITTLE RACCOON CREEK NEAR VINTON, OH

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
OCTOBER			NOVEMBER			DECEMBER			
1	2.8	3	.02	30	3	.24	99	8	2.1
2	4.1	4	.04	23	3	.19	109	9	2.6
3	3.1	4	.03	17	3	.14	90	8	1.9
4	1.7	3	.01	17	3	.14	77	8	1.7
5	.34	1	.00	29	5	.39	66	7	1.2
6	.20	1	.00	43	5	.58	61	7	1.2
7	3.1	3	.03	34	3	.28	58	6	.94
8	.69	1	.00	28	3	.23	67	6	1.1
9	1.0	1	.00	48	5	.65	56	6	.91
10	2.8	3	.02	233	22	14	108	24	7.0
11	1.2	1	.00	292	11	8.7	324	40	35
12	1.3	1	.00	197	10	5.3	281	12	9.1
13	.92	1	.00	111	8	2.4	193	11	5.7
14	.99	1	.00	72	7	1.4	160	10	4.3
15	1.2	1	.00	57	7	1.1	164	10	4.4
16	1.8	2	.00	51	6	.83	150	10	4.1
17	3.5	4	.04	44	5	.59	129	10	3.5
18	8.5	5	.11	52	7	.98	103	9	2.5
19	17	7	.32	227	30	18	104	12	3.4
20	22	8	.48	263	20	14	127	14	4.8
21	29	9	.70	161	17	7.4	294	87	112
22	44	9	1.1	96	13	3.4	787	154	323
23	50	9	1.2	72	11	2.1	805	61	135
24	60	7	1.1	62	10	1.7	498	48	65
25	55	6	.89	54	10	1.5	309	42	35
26	53	5	.72	47	10	1.3	224	30	18
27	56	4	.60	41	9	1.0	177	17	8.1
28	63	7	1.2	50	9	1.2	156	14	5.9
29	96	7	1.8	97	9	2.4	138	13	4.8
30	81	5	1.1	106	9	2.6	152	20	8.2
31	45	4	.49	---	---	---	221	33	20
TOTAL	710.24	---	12.00	2654	---	94.74	6287	---	832.45
JANUARY			FEBRUARY			MARCH			
1	226	24	15	120	25	8.1	252	23	16
2	210	17	9.6	200	20	11	199	23	12
3	174	16	7.5	175	15	7.1	169	23	10
4	159	16	6.9	155	13	5.4	150	22	8.9
5	162	16	7.0	145	11	4.3	146	22	8.7
6	148	16	6.4	138	11	4.1	135	21	7.7
7	133	15	5.4	120	10	3.2	120	21	6.8
8	126	15	5.1	105	10	2.8	117	21	6.6
9	113	14	4.3	90	9	2.2	123	20	6.6
10	99	14	3.7	78	8	1.7	115	20	6.2
11	94	14	3.6	90	7	1.7	168	32	15
12	88	13	3.1	232	45	28	629	146	227
13	84	13	2.9	543	114	168	791	54	111
14	78	12	2.5	724	65	127	727	30	59
15	72	12	2.3	781	37	78	483	22	29
16	70	11	2.1	410	20	22	285	20	15
17	68	11	2.0	343	16	15	221	18	11
18	66	10	1.8	310	15	13	185	17	8.5
19	63	10	1.7	309	15	13	158	16	6.8
20	60	9	1.5	339	17	16	139	15	5.6
21	58	9	1.4	454	45	55	122	14	4.6
22	56	8	1.2	736	125	266	116	13	4.1
23	54	8	1.2	1070	92	259	134	12	4.3
24	52	8	1.1	1310	40	141	150	35	14
25	51	7	.96	1380	30	112	304	55	45
26	49	7	.93	1190	25	80	266	30	22
27	48	7	.91	859	25	58	206	22	12
28	47	6	.76	523	24	34	181	17	8.3
29	46	6	.75	---	---	---	166	15	6.7
30	45	5	.61	---	---	---	483	81	144
31	66	5	.89	---	---	---	1220	159	500
TOTAL	2865	---	105.11	12929	---	1536.6	8660	---	1342.4

SURFACE-WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

03201988 LITTLE RACCOON CREEK NEAR VINTON, OH

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
APRIL			MAY			JUNE			
1	1610	60	261	49	5	.66	52	6	.84
2	1410	40	152	221	73	121	46	6	.75
3	1020	37	102	752	98	194	42	6	.68
4	509	35	48	753	43	87	41	6	.66
5	288	32	25	558	25	38	43	6	.70
6	312	50	42	262	16	11	42	5	.57
7	395	50	53	161	12	5.2	40	5	.54
8	399	40	43	123	8	2.7	54	5	.73
9	370	35	35	99	7	1.9	55	5	.74
10	305	30	25	83	6	1.3	55	5	.74
11	251	27	18	72	5	.97	52	5	.70
12	218	23	14	67	4	.72	110	11	3.3
13	189	20	10	82	5	1.1	84	5	1.1
14	171	17	7.8	87	4	.94	66	5	.89
15	155	15	6.3	190	50	26	58	5	.78
16	151	15	6.1	560	150	227	50	5	.68
17	150	14	5.7	780	125	263	45	5	.61
18	133	14	5.0	845	80	183	42	5	.57
19	117	13	4.1	840	65	147	36	5	.49
20	108	13	3.8	520	25	35	31	5	.42
21	101	12	3.3	300	25	20	33	5	.45
22	92	11	2.7	200	24	13	28	5	.38
23	86	10	2.3	167	21	9.5	29	5	.39
24	79	9	1.9	150	19	7.7	29	5	.39
25	75	8	1.6	135	16	5.8	25	5	.34
26	68	7	1.3	103	13	3.6	24	4	.26
27	62	7	1.2	90	10	2.4	23	4	.25
28	60	6	.97	80	8	1.7	22	4	.24
29	56	5	.76	71	7	1.3	21	4	.23
30	51	5	.69	65	6	1.1	20	4	.22
31	---	---	---	57	---	---	---	---	---
TOTAL	8991	---	883.52	8522	---	1413.59	1298	---	19.64
JULY			AUGUST			SEPTEMBER			
1	42	10	1.1	34	16	1.5	10	7	.19
2	31	7	.59	50	10	1.4	10	7	.19
3	31	7	.59	19	6	.31	10	6	.16
4	53	7	1.0	10	5	.14	13	5	.18
5	35	6	.57	6.9	5	.09	15	5	.20
6	27	5	.36	7.6	5	.10	14	4	.15
7	24	4	.26	12	5	.16	14	4	.15
8	45	9	1.1	15	4	.16	16	6	.26
9	41	12	1.3	16	4	.17	20	7	.38
10	70	17	3.2	17	4	.18	23	13	.81
11	145	30	12	16	3	.13	24	15	.97
12	100	18	4.9	19	3	.15	24	10	.65
13	54	10	1.5	19	4	.21	19	6	.31
14	53	8	1.1	19	5	.26	18	6	.29
15	44	7	.83	18	5	.24	16	6	.26
16	31	5	.42	30	9	.73	15	6	.24
17	29	5	.39	27	7	.51	16	6	.26
18	42	9	1.0	22	6	.36	14	6	.23
19	33	9	.80	19	6	.31	13	6	.21
20	25	10	.68	22	6	.36	11	6	.18
21	21	11	.62	24	7	.45	8.5	7	.16
22	30	11	.89	28	7	.53	5.8	7	.11
23	59	13	2.1	29	7	.55	5.3	7	.10
24	35	8	.76	31	7	.59	5.2	7	.10
25	18	4	.19	100	112	63	4.3	7	.08
26	20	4	.22	99	21	5.6	6.1	7	.12
27	56	12	1.8	36	10	.97	8.1	7	.15
28	59	11	1.8	16	9	.39	8.6	7	.16
29	26	7	.49	11	9	.27	11	7	.21
30	14	5	.19	8.6	8	.19	10	7	.19
31	13	5	.18	9.5	8	.21	---	---	---
TOTAL	1306	---	42.93	790.6	---	80.22	387.9	---	7.65
YEAR	55400.74		6370.85						

03202000 RACCOON CREEK AT ADAMSVILLE OH

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1983 TO SEPTEMBER 1984

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	89	---	---	59	20	3.2	15	7	.28
2	123	---	---	59	18	2.9	12	7	.23
3	130	---	---	60	17	2.8	10	7	.19
4	118	---	---	59	15	2.4	9.0	7	.17
5	115	---	---	75	20	4.1	8.6	6	.14
6	184	---	---	192	25	13	7.4	6	.12
7	400	---	---	194	23	12	6.8	6	.11
8	294	---	---	115	15	4.7	6.2	6	.10
9	213	---	---	99	10	2.7	6.0	6	.10
10	141	---	---	93	10	2.5	6.0	5	.08
11	105	---	---	105	30	8.5	6.0	5	.08
12	90	---	---	88	10	2.4	5.8	5	.08
13	90	---	---	87	10	2.3	5.4	5	.07
14	86	---	---	72	9	1.7	5.2	5	.07
15	73	---	---	66	9	1.6	7.8	10	.21
16	69	---	---	64	8	1.4	11	8	.24
17	66	---	---	62	8	1.3	15	17	.69
18	75	---	---	57	8	1.2	11	12	.36
19	69	---	---	46	8	.99	8.8	10	.24
20	63	---	---	39	8	.84	6.4	8	.14
21	59	---	---	30	8	.65	5.2	7	.10
22	56	---	---	28	8	.60	5.4	8	.12
23	54	---	---	20	7	.38	5.8	8	.13
24	54	---	---	15	7	.28	6.0	9	.15
25	52	23	3.2	13	7	.25	5.8	8	.13
26	51	20	2.8	11	6	.18	5.4	7	.10
27	52	21	2.9	12	7	.23	5.6	7	.11
28	53	22	3.1	13	7	.25	5.8	7	.11
29	56	23	3.5	14	7	.26	6.3	8	.14
30	63	25	4.3	16	7	.30	6.9	9	.17
31	62	23	3.9	17	7	.32	---	---	---
TOTAL	3205	---	23.7	1880	---	76.23	227.6	---	4.96
YEAR	5312.6		104.89						

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

OCTOBER			NOVEMBER			DECEMBER			
1	15	10	.41	81	17	3.7	398	23	25
2	16	10	.43	64	16	2.8	401	23	25
3	18	12	.58	54	16	2.3	362	22	22
4	15	12	.49	49	15	2.0	294	21	17
5	14	14	.53	49	15	2.0	241	20	13
6	7.1	12	.23	61	15	2.5	210	20	11
7	5.7	10	.15	80	21	4.5	180	20	9.7
8	6.1	9	.15	74	17	3.4	160	17	7.3
9	5.7	8	.12	179	39	30	196	15	7.9
10	5.2	8	.11	539	45	65	404	53	72
11	5.3	8	.11	764	37	76	864	28	65
12	6.3	8	.14	702	27	51	1010	17	46
13	6.9	8	.15	559	23	35	911	13	32
14	15	8	.32	362	17	17	697	12	23
15	7.5	8	.16	236	15	9.6	598	12	19
16	6.1	8	.13	178	12	5.8	569	12	18
17	6.3	8	.14	144	10	3.9	521	11	15
18	7.0	8	.15	179	15	7.2	465	10	13
19	8.7	7	.16	777	143	308	458	10	12
20	12	5	.16	633	80	137	475	11	14
21	13	7	.25	483	40	52	1060	67	323
22	17	12	.55	342	16	15	2230	149	916
23	31	17	1.4	252	10	6.8	2150	70	406
24	52	23	3.2	201	10	5.4	1750	44	208
25	38	13	1.3	170	10	4.6	1200	35	113
26	63	13	2.2	147	10	4.0	790	27	58
27	48	10	1.3	132	10	3.6	620	20	33
28	54	9	1.3	189	12	6.1	525	18	26
29	101	32	8.7	279	44	33	464	20	25
30	127	26	8.9	337	28	25	560	35	53
31	106	20	5.7	---	---	---	697	38	72
TOTAL	838.9	---	39.62	8296	---	924.2	21460	---	2699.9

SURFACE WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT--Continued
 SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

03202000 RACCOON CREEK AT ADAMSVILLE OH

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JANUARY			FEBRUARY			MARCH			
1	777	36	76	300	25	33	2080	25	140
2	827	30	67	375	13	19	813	23	50
3	701	21	40	420	10	15	659	22	39
4	627	18	30	380	10	15	574	21	33
5	601	18	29	350	10	14	537	20	29
6	553	17	25	325	10	13	493	18	24
7	498	17	23	303	10	12	451	17	21
8	457	17	21	286	10	11	431	16	19
9	413	17	19	270	10	9.5	442	15	18
10	330	17	15	260	10	8.3	426	13	15
11	300	16	13	350	10	7.8	649	78	230
12	275	16	12	585	50	81	1950	309	1530
13	250	15	10	1000	70	202	2310	123	765
14	245	15	9.6	1150	35	114	2410	67	436
15	228	15	8.9	1200	27	93	2100	52	295
16	218	15	8.4	1180	23	79	1280	37	128
17	208	15	7.9	1150	19	61	844	30	68
18	195	14	7.0	1090	18	53	689	28	52
19	187	13	6.1	1070	17	49	594	26	42
20	178	13	5.8	1160	15	47	524	25	35
21	170	13	5.5	1500	15	61	466	24	30
22	162	12	4.9	2350	107	762	439	23	27
23	158	12	4.7	3280	142	1250	458	22	27
24	150	12	4.5	3580	80	773	533	91	211
25	147	11	4.0	3920	53	561	1520	428	1950
26	143	11	3.9	4360	40	471	912	57	140
27	139	10	3.4	4470	33	398	689	53	99
28	137	10	3.2	3890	30	315	612	45	74
29	135	8	2.5	---	---	---	524	37	52
30	133	7	2.2	---	---	---	1080	138	574
31	215	28	20	---	---	---	2940	298	2240
TOTAL	9757	---	492.5	40554	---	5527.6	30429	---	9393
APRIL			MAY			JUNE			
1	4480	63	724	232	8	5.0	195	7	3.7
2	5390	27	393	402	79	165	174	7	3.3
3	4820	23	299	1930	182	895	159	6	2.6
4	3340	22	198	2300	94	584	153	6	2.5
5	1430	21	81	2380	51	328	152	6	2.5
6	923	21	52	2070	36	201	140	6	2.3
7	1130	40	122	911	30	74	130	5	1.8
8	1340	57	206	542	23	34	139	7	2.6
9	1400	50	189	430	20	23	145	7	2.7
10	1270	43	147	352	17	16	162	7	3.1
11	1020	37	102	297	15	12	170	8	3.7
12	835	35	79	263	13	9.2	205	7	3.9
13	720	33	64	254	10	6.9	270	17	12
14	636	31	53	302	10	8.2	267	11	7.9
15	575	30	47	727	297	718	221	9	5.4
16	555	27	40	2800	502	3210	174	8	3.8
17	524	25	35	3790	184	1870	144	7	2.7
18	470	25	32	3530	70	667	137	7	2.6
19	419	23	26	3280	43	381	120	7	2.3
20	376	21	21	2640	34	242	107	7	2.0
21	352	20	19	1270	23	79	104	7	2.0
22	326	18	16	758	17	35	96	7	1.8
23	300	17	14	585	15	24	89	7	1.7
24	275	15	11	504	13	18	88	7	1.7
25	257	14	9.7	441	12	14	81	7	1.5
26	239	13	8.4	373	10	10	73	7	1.4
27	219	11	6.5	312	8	6.7	67	6	1.1
28	205	10	5.5	277	7	5.2	64	6	1.0
29	232	12	7.5	257	7	4.9	60	6	.97
30	274	8	5.9	239	7	4.5	57	6	.92
31	---	---	---	222	7	4.2	---	---	---
TOTAL	34332	---	3013.5	34670	---	9654.8	4143	---	87.49

SURFACE-WATER QUALITY RECORDS FOR THE RACCOON CREEK BASIN PROJECT--Continued
 SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1984 TO SEPTEMBER 1985

03202000 RACCOON CREEK AT ADAMSVILLE OH

DAY	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
JULY			AUGUST			SEPTEMBER			
1	68	6	1.1	87	15	3.5	100	9	2.5
2	81	20	4.4	145	20	7.8	80	9	2.0
3	73	15	3.0	103	12	3.3	64	9	1.6
4	86	16	3.7	76	9	1.8	50	9	1.2
5	80	15	3.2	60	9	1.5	42	9	1.0
6	78	15	3.2	53	9	1.3	40	8	.86
7	81	15	3.3	49	9	1.2	35	8	.76
8	155	25	10	47	8	1.0	33	8	.71
9	149	20	8.0	45	7	.85	31	8	.67
10	212	31	48	43	7	.81	31	8	.67
11	608	84	182	39	7	.74	30	8	.65
12	268	25	18	37	6	.60	31	8	.67
13	161	17	7.4	34	6	.55	32	8	.69
14	114	14	4.3	33	6	.53	27	7	.51
15	99	12	3.2	30	5	.41	24	7	.45
16	96	12	3.1	34	5	.46	22	7	.42
17	86	7	1.6	69	10	1.9	22	7	.42
18	103	12	3.3	178	33	19	21	7	.40
19	123	15	5.0	198	12	6.4	20	7	.38
20	88	10	2.4	124	10	3.3	19	6	.31
21	76	10	2.1	85	10	2.3	17	6	.28
22	103	12	3.3	65	9	1.6	16	6	.26
23	210	30	17	54	8	1.2	15	6	.24
24	182	17	8.4	49	7	.93	12	6	.19
25	126	8	2.7	141	34	29	11	6	.18
26	93	8	2.0	430	47	55	11	6	.18
27	108	15	4.4	350	13	12	10	5	.14
28	143	13	5.0	260	10	7.3	9.7	5	.13
29	118	12	3.8	190	10	5.7	9.3	5	.13
30	91	12	2.9	140	10	4.3	10	5	.14
31	82	14	3.1	94	10	3.5	---	---	---
TOTAL	4141	---	372.9	3342	---	179.78	875.0	---	18.74
YEAR	192837.9		32404.03						

SURFACE-WATER AND GROUND-WATER QUALITY IN ACTIVE COAL MINING AREAS OF OHIO

The following tables list the results of chemical analysis of samples collected from 20 drainage basins in eastern Ohio. All basins are in Ohio's coal region. The first table lists surface-water quality data, the second lists ground-water quality data, and the third contains miscellaneous water-level measurement.

All data was collected as part of a study to gather base-line water-quality data in Ohio's active coal mining areas in order to assess the impact of present and future surface mining and reclamation.

MISCELLANEOUS SURFACE-WATER STATION ANALYSES

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	ACIDITY (MG/L AS CACO3)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)
03109500*		L BEAVER C NR EAST LIVERPOOL OH (LAT 40 40 33N LONG 080 32 27W)						
OCT 1985 02...	0930	61	950	8.20	12.0	--	193	230
JUN 1986 25...	0945	70	750	8.40	19.5	--	105	170
03110000*		YELLOW C NR HAMMONDSVILLE OH (LAT 40 32 16N LONG 080 43 31W)						
OCT 1985 02...	1100	6.2	770	7.50	12.5	--	155	240
JUN 1986 25...	1300	24	497	8.40	21.5	--	93	120
03111500*		SHORT C NR DILLONVALE OH (LAT 40 11 36N LONG 080 44 04W)						
OCT 1985 02...	1330	24	2600	8.00	13.5	--	390	1200
JUN 1986 25...	1715	31	2360	8.40	22.5	--	198	1100
03111548*		WHEELING C BL BLAINE OH (LAT 40 04 01N LONG 080 48 31W)						
OCT 1985 03...	1200	15	2400	8.00	13.5	--	248	1000
JUN 1986 24...	0800	28	2400	8.00	24.0	--	197	960
03113550		MCMAHON C AT BELLAIRE OH (LAT 40 00 39N LONG 080 45 45W)						
OCT 1985 03...	1000	3.2	1700	7.50	12.5	--	151	730
JUN 1986 24...	0900	8.0	1100	7.90	24.0	--	135	360
03114000*		CAPTINA C AT ARMSTRONGS MILLS OH (LAT 39 54 31N LONG 080 55 27W)						
OCT 1985 02...	1515	1.7	1250	7.90	19.0	--	136	450
JUN 1986 24...	1030	5.7	1100	8.20	24.5	--	137	71
03117500*		SANDY C AT WAYNESBURG OH (LAT 40 40 21N LONG 081 15 36W)						
OCT 1985 02...	1630	35	1660	7.70	13.5	--	154	730
JUN 1986 24...	1915	70	600	8.70	21.5	--	117	110
03123000		SUGAR C AB BEACH CITY DAM AT BEACH CITY OH (LAT 40 39 24N LONG 081 34 37W)						
OCT 1985 02...	1400	14	755	7.30	14.0	--	216	59
JUN 1986 24...	1400	19	650	7.80	23.5	--	232	66
03126170		SKULL F AT FREEPORT OH (LAT 40 11 52N LONG 081 16 13W)						
SEP 1985 30...	1130	0.28	1300	7.00	14.0	--	78	580

WATER QUALITY DATA

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
03127100	CROOKED C NR STILLWATER OH (LAT 40 18 29N LONG 081 19 26W)							
SEP 1985 30...	1400	0.18	500	7.40	18.0	--	212	19
03109500	L BEAVER C NR EAST LIVERPOOL OH (LAT 40 40 33N LONG 080 32 27W)							
OCT 1985 02...	200	<100	340	330	10	50	30	20
JUN 1986 25...	200	30	290	240	50	130	60	70
03110000	YELLOW C NR HAMMONDSVILLE OH (LAT 40 32 16N LONG 080 43 31W)							
OCT 1985 02...	200	<100	370	360	10	30	10	20
JUN 1986 25...	100	60	380	350	30	40	20	20
03111500	SHORT C NR DILLONVALE OH (LAT 40 11 36N LONG 080 44 04W)							
OCT 1985 02...	400	200	800	760	40	90	50	40
JUN 1986 25...	310	240	590	570	20	60	20	40
03111548	WHEELING C BL BLAINE OH (LAT 40 04 01N LONG 080 48 31W)							
OCT 1985 03...	300	<100	490	460	30	650	140	510
JUN 1986 24...	450	150	1600	1600	20	140	10	130
03113550	MCMAHON C AT BELLAIRE OH (LAT 40 00 39N LONG 080 45 45W)							
OCT 1985 03...	100	100	550	530	20	70	10	60
JUN 1986 24...	290	80	950	910	40	120	20	100
03114000	CAPTINA C AT ARMSTRONGS MILLS OH (LAT 39 54 31N LONG 080 55 27W)							
OCT 1985 02...	100	100	240	200	40	40	10	30
JUN 1986 24...	160	30	40	0	40	70	50	20
03117500	SANDY C AT WAYNESBURG OH (LAT 40 40 21N LONG 081 15 36W)							
OCT 1985 02...	200	<100	270	240	30	80	0	90
JUN 1986 24...	100	40	750	730	20	400	60	340
03123000	SUGAR C AB BEACH CITY DAM AT BEACH CITY OH (LAT 40 39 24N LONG 081 34 37W)							
OCT 1985 02...	800	100	1600	1600	40	230	60	170
JUN 1986 24...	1000	20	2300	2300	20	370	50	320
03126170	SKULL F AT FREEPORT OH (LAT 40 11 52N LONG 081 16 13W)							
SEP 1985 30...	300	100	540	490	50	530	120	410

COAL AREAS--MISCELLANEOUS SURFACE-WATER STATION ANALYSES--Continued

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	ACIDITY (MG/L AS CACO3)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)
03127100 SEP 1985		CROOKED C NR STILLWATER OH (LAT 40 18 29N LONG 081 19 26W)						
30...	100	<100	850	760	90	720	40	680
03127500*		STILLWATER C AT UHRICHVILLE OH (LAT 40 23 10N LONG 081 20 50W)						
SEP 1985 30...	1500	12	1200	7.60	19.0	--	206	390
JUN 1986 24...	1100	65	820	7.60	22.5	--	137	270
03128600		L STILLWATER C NR DENNISON OH (LAT 40 24 19N LONG 081 17 18W)						
OCT 1985 01...	0930	8.4	710	7.20	15.0	--	177	230
03129100		WHITE EYES C NR FRESNO OH (LAT 40 18 17N LONG 081 45 01W)						
OCT 1985 01...	1330	0.79	445	6.60	14.0	--	95	63
JUN 1986 23...	1700	14	380	7.80	24.5	--	96	58
03140000*		MILL C NR COSHOCTON OH (LAT 40 21 46N LONG 081 51 45W)						
OCT 1985 01...	1015	0.43	470	7.60	11.5	--	125	30
JUN 1986 23...	1445	6.1	385	8.00	24.0	--	128	42
03149500		SALT C NR CHANDLERSVILLE OH (LAT 39 54 31N LONG 081 51 38W)						
OCT 1985 01...	1115	0.24	580	7.60	15.0	--	146	52
JUN 1986 25...	0900	4.9	510	7.70	19.5	--	116	65
03150250		MEIGS C NR BEVERLY OH (LAT 39 36 00N LONG 081 42 42W)						
SEP 1985 30...	1630	2.6	650	8.00	17.5	--	134	130
JUN 1986 23...	1330	19	1200	7.70	26.5	--	145	490
03156700		RUSH C NR SUGAR GROVE OH (LAT 39 38 18N LONG 082 30 42W)						
SEP 1985 30...	1045	18	890	7.60	14.0	--	118	280
JUN 1986 23...	1000	22	830	7.60	26.0	--	85	230
03158200		MONDAY C AT DOANVILLE OH (LAT 39 26 07N LONG 082 11 30W)						
SEP 1985 30...	1315	2.5	1200	3.20	15.0	199	0	660
JUN 1986 23...	1130	11	1200	3.50	23.0	89	0	430
03201988		L RACCOON C NR VINTON OH (LAT 38 57 11N LONG 082 21 56W)						
SEP 1985 30...	1100	8.7	595	6.10	14.0	11	8	240
JUN 1986 25...	0900	4.9	455	6.80	20.0	--	6	160

WATER QUALITY DATA

DATE	TOTAL RECOV- ERABLE (UG/L AS AL)	INUM, DIS- SOLVED (UG/L AS AL)	TOTAL RECOV- ERABLE (UG/L AS FE)	PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	TOTAL RECOV- ERABLE (UG/L AS MN)	SUS- PENDE RECOV. (UG/L AS MN)	NESE, DIS- SOLVED (UG/L AS MN)
03216050	ICE C AT IRONTON OH (LAT 38 31 01N LONG 082 38 29W)							
NOV 1985 25...	1330	14	410	7.80	9.0	--	83	87
03127500	STILLWATER C AT UHRICHVILLE OH (LAT 40 23 10N LONG 081 20 50W)							
SEP 1985 30...	700	300	1700	--	<10	1300	900	400
JUN 1986 24...	480	30	1100	--	<10	600	60	540
03128600	L STILLWATER C NR DENNISON OH (LAT 40 24 19N LONG 081 17 18W)							
OCT 1985 01...	6500	100	16000	16000	10	2900	1200	1700
03129100	WHITE EYES C NR FRESNO OH (LAT 40 18 17N LONG 081 45 01W)							
OCT 1985 01...	100	<100	2300	2200	90	490	30	460
JUN 1986 23...	330	80	1500	1400	100	310	30	280
03140000	MILL C NR COSHOCTON OH (LAT 40 21 46N LONG 081 51 45W)							
OCT 1985 01...	400	<100	2700	2500	190	250	140	110
JUN 1986 23...	250	30	1200	1100	70	240	40	200
03149500	SALT C NR CHANDLERSVILLE OH (LAT 39 54 31N LONG 081 51 38W)							
OCT 1985 01...	200	<100	740	720	20	440	--	510
JUN 1986 25...	140	20	790	680	110	370	50	320
03150250	MEIGS C NR BEVERLY OH (LAT 39 36 00N LONG 081 42 42W)							
SEP 1985 30...	100	<100	540	460	80	400	20	380
JUN 1986 23...	380	30	650	590	60	120	90	30
03156700	RUSH C NR SUGAR GROVE OH (LAT 39 38 18N LONG 082 30 42W)							
SEP 1985 30...	100	100	350	330	20	2100	0	2100
JUN 1986 23...	340	30	870	790	80	2000	100	1900
03158200	MONDAY C AT DOANVILLE OH (LAT 39 26 07N LONG 082 11 30W)							
SEP 1985 30...	18000	18000	4100	0	4200	4700	0	4400
JUN 1986 23...	8400	8200	1400	100	1300	3700	0	3700
03201988	L RACCOON C NR VINTON OH (LAT 38 57 11N LONG 082 21 56W)							
SEP 1985 30...	1000	300	700	550	150	1900	0	2000
JUN 1986 25...	290	20	1000	850	150	2000	0	2000
03216050	ICE C AT IRONTON OH (LAT 38 31 01N LONG 082 38 29W)							
NOV 1985 25...	200	100	690	670	20	200	0	200

COAL AREAS--MISCELLANEOUS SURFACE-WATER STATION ANALYSES--Continued

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	ACIDITY (MG/L AS CACO3)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)
382715082242400 INDIAN GUYAN C NR BRADRIK OH (LAT 38 27 15N LONG 082 24 24W)								
OCT 1985								
01...	0845	0.24	465	7.50	14.5	--	182	74
JUN 1986								
24...	1215	2.2	565	7.60	23.0	--	86	150
383005082280600 SYMMES C NR GETAWAY OH (LAT 38 30 05N LONG 082 28 06W)								
OCT 1985								
01...	1015	1.3	410	7.10	15.0	--	105	53
JUN 1986								
24...	1330	21	270	7.00	25.0	--	73	42
383301082231400 LITTLE INDIAN GUYAN C AT SCOTTOWN OH (LAT 38 33 01N LONG 082 23 14W)								
DEC 1985								
19...	1330	7.4	380	6.70	2.0	--	10	170
383332082205600 INDIAN GUYAN C AT PLATFORM OH (LAT 38 33 32N LONG 082 20 56W)								
DEC 1985								
19...	1100	--	435	7.30	0.5	--	87	140
383657082124400 SWAN C NR BLADEN OH (LAT 38 36 57N LONG 082 12 44W)								
NOV 1985								
25...	1530	2.8	310	7.80	9.0	--	100	64
383841082271400 LONG C NR WILGUS OH (LAT 38 38 41N LONG 082 27 14W)								
NOV 1985								
26...	1000	4.0	350	7.90	10.5	--	133	71
383943082291700 AARON C NR ARABIA OH (LAT 38 39 43N LONG 082 29 17W)								
NOV 1985								
26...	1100	2.6	400	7.80	11.0	--	113	110
384125082283700 JOHNS C NR WATERLOO OH (LAT 38 41 25N LONG 082 28 37W)								
NOV 1985								
26...	1125	6.0	290	7.50	10.5	--	72	67
384613082233600 SAND FK NR PATRIOT OH (LAT 38 46 13N LONG 082 23 36W)								
NOV 1985								
26...	1300	12	340	7.50	11.5	--	103	100
385026082294700 BLACK FK NR GALLIA OH (LAT 38 50 26N LONG 082 29 47W)								
NOV 1985								
26...	1500	25	250	7.20	10.0	--	38	62
385028082293700 SYMMES CR NR GALLIA OH (LAT 38 50 28N LONG 082 29 37W)								
NOV 1985								
26...	1400	16	360	7.10	9.5	--	41	110
385826082201800 RACCOON C AT VINTON OH (LAT 38 58 26N LONG 082 20 18W)								
SEP 1985								
30...	1300	3.9	475	7.10	15.0	--	20	150
JUN 1986								
25...	1000	28	390	6.70	23.0	--	19	110

WATER QUALITY DATA

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
382715082242400 INDIAN GUYAN C NR BRADRICK OH (LAT 38 27 15N LONG 082 24 24W)								
OCT 1985 01...	100	<100	360	220	140	550	100	450
JUN 1986 24...	310	20	890	840	50	760	10	750
383005082280600 SYMMES C NR GETAWAY OH (LAT 38 30 05N LONG 082 28 06W)								
OCT 1985 01...	200	<100	860	710	150	1700	300	1400
JUN 1986 24...	1400	60	3500	3400	130	530	130	400
383301082231400 LITTLE INDIAN GUYAN C AT SCOTTOWN OH (LAT 38 33 01N LONG 082 23 14W)								
DEC 1985 19...	2000	<100	960	830	130	1300	0	1300
383332082205600 INDIAN GUYAN C AT PLATFORM OH (LAT 38 33 32N LONG 082 20 56W)								
DEC 1985 19...	200	<100	540	440	100	310	0	310
383657082124400 SWAN C NR BLADEN OH (LAT 38 36 57N LONG 082 12 44W)								
NOV 1985 25...	100	100	640	590	50	140	0	140
383841082271400 LONG C NR WILGUS OH (LAT 38 38 41N LONG 082 27 14W)								
NOV 1985 26...	200	100	670	630	40	120	0	120
383943082291700 AARON C NR ARABIA OH (LAT 38 39 43N LONG 082 29 17W)								
NOV 1985 26...	200	100	560	480	80	160	0	160
384125082283700 JOHNS C NR WATERLOO OH (LAT 38 41 25N LONG 082 28 37W)								
NOV 1985 26...	200	<100	1000	860	140	240	0	240
384613082233600 SAND FK NR PATRIOT OH (LAT 38 46 13N LONG 082 23 36W)								
NOV 1985 26...	100	100	350	300	50	220	0	220
385026082294700 BLACK FK NR GALLIA OH (LAT 38 50 26N LONG 082 29 47W)								
NOV 1985 26...	200	<100	850	780	70	480	20	460
385028082293700 SYMMES CR NR GALLIA OH (LAT 38 50 28N LONG 082 29 37W)								
NOV 1985 26...	300	100	900	790	110	230	10	220
385826082201800 RACCOON C AT VINTON OH (LAT 38 58 26N LONG 082 20 18W)								
SEP 1985 30...	200	200	480	360	120	1200	100	1100
JUN 1986 25...	110	20	790	720	70	1300	0	1300

COAL AREAS--MISCELLANEOUS SURFACE-WATER STATION ANALYSES--Continued

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	ACIDITY (MG/L AS CACO3)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)
395337082011100 MOXAHALA C NR DARLINGTON OH (LAT 39 53 37N LONG 082 01 11W)								
OCT 1985								
01...	0900	19	1800	3.70	14.5	99	0	980
JUN 1986								
23...	1545	41	1300	6.50	27.5	--	16	530
395417081323000 WILLS C AT PLEASANT CITY OH (LAT 39 54 17N LONG 081 32 30W)								
OCT 1985								
01...	1430	1.7	2500	7.80	15.0	--	248	1400
JUN 1986								
25...	1015	4.7	2800	7.90	21.5	--	200	1200
400117081362600 CROOKED C NR CAMBRIDGE OH (LAT 40 01 17N LONG 081 36 26W)								
OCT 1985								
02...	0930	0.14	670	7.40	13.5	--	169	140
JUN 1986								
25...	1130	1.0	640	7.70	21.5	--	145	110
400506081073900 STILLWATER C NR HENDRYSBURG OH (LAT 40 05 06N LONG 081 07 39W)								
OCT 1985								
02...	1200	2.2	2580	7.70	14.0	--	256	1300
40912082014700 LITTLE WAKATOMIKA C NR TRINWAY OH (LAT 40 09 12N LONG 082 01 47W)								
SEP 1985								
30...	1300	2.3	1690	6.70	14.5	--	75	980
JUN 1986								
26...	1000	6.8	1400	8.00	17.0	--	75	590
400920081432900 WHITE EYES C NR PLAINFIELD OH (LAT 40 09 20N LONG 081 43 29W)								
OCT 1985								
01...	1545	1.3	960	6.70	14.0	--	52	410
JUN 1986								
26...	1100	4.5	660	8.30	20.5	--	79	200
401126081121600 BOGGS FORK AT PIEDMONT OH (LAT 40 11 26N LONG 081 12 16W)								
OCT 1985								
01...	1500	4.6	1950	7.70	15.0	--	233	910
401538081070100 BRUSHY FORK NR CADIZ OH (LAT 40 15 38N LONG 081 07 01W)								
OCT 1985								
01...	1200	3.7	3300	8.00	14.0	--	285	1900
401624081363400 BUCKHORN C AT NEWCOMERSTOWN OH (LAT 40 16 24N LONG 081 36 34W)								
OCT 1985								
02...	1020	0.35	710	7.60	10.0	--	148	120
JUN 1986								
24...	0900	3.3	410	7.70	20.5	--	67	80
401647081194200 LAUREL CR NR TIPPECANOE OH (LAT 40 16 47N LONG 081 19 42W)								
SEP 1985								
30...	1300	0.3	390	7.50	18.0	--	155	15
401724081032100 STANDINGSTONE FK NR CADIZ OH (LAT 40 17 16N LONG 081 02 33W)								
OCT 1985								
01...	1100	1.1	2500	7.90	13.0	--	295	1400

WATER QUALITY DATA

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
395337082011100 MOXAHALA C NR DARLINGTON OH (LAT 39 53 37N LONG 082 01 11W)								
OCT 1985								
01...	8000	8100	1200	200	1000	15000	2000	13000
JUN 1986								
23...	320	40	210	180	30	6600	--	6800
395417081323000 WILLS C AT PLEASANT CITY OH (LAT 39 54 17N LONG 081 32 30W)								
OCT 1985								
01...	600	300	550	540	10	240	90	150
JUN 1986								
25...	680	40	950	940	10	350	180	170
400117081362600 CROOKED C NR CAMBRIDGE OH (LAT 40 01 17N LONG 081 36 26W)								
OCT 1985								
02...	200	<100	380	350	30	450	60	390
JUN 1986								
25...	620	20	1200	1200	30	860	70	790
400506081073900 051 STILLWATER C NR HENDRYSBURG OH (LAT 40 05 06N LONG 081 07 39W)								
OCT 1985								
02...	300	100	580	530	50	160	20	140
400912082014700 LITTLE WAKATOMIKA C NR TRINWAY OH (LAT 40 09 12N LONG 082 01 47W)								
SEP 1985								
30...	200	100	570	540	30	940	80	860
JUN 1986								
26...	160	30	610	570	40	830	0	830
400920081432900 WHITE EYES C NR PLAINFIELD OH (LAT 40 09 20N LONG 081 43 29W)								
OCT 1985								
01...	300	200	1600	1400	160	1700	0	1700
JUN 1986								
26...	180	30	1100	1000	70	800	0	800
401126081121600 BOGGS FORK AT PIEDMONT OH (LAT 40 11 26N LONG 081 12 16W)								
OCT 1985								
01...	300	300	380	250	130	310	110	200
401538081070100 BRUSHY FORK NR CADIZ OH (LAT 40 15 38N LONG 081 07 01W)								
OCT 1985								
01...	--	<100	1200	1200	30	210	120	90
401624081363400 BUCKHORN C AT NEWCOMERSTOWN OH (LAT 40 16 24N LONG 081 36 34W)								
OCT 1985								
02...	100	<100	230	170	60	60	20	40
JUN 1986								
24...	110	40	570	500	70	330	30	300
401647081194200 LAUREL CR NR TIPPECANOE OH (LAT 40 16 47N LONG 081 19 42W)								
SEP 1985								
30...	400	100	1100	1000	60	640	110	530
401724081032100 STANDINGSTONE FK NR CADIZ OH (LAT 40 17 16N LONG 081 02 33W)								
OCT 1985								
01...	300	<100	530	520	10	220	10	210

COAL AREAS--MISCELLANEOUS SURFACE-WATER STATION ANALYSES--Continued

WATER QUALITY DATA

DATE	TIME	STREAM- FLOW, INSTAN- TANEOUS (CFS)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	ACIDITY (MG/L AS CACO3)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)
401857080391700 CROSS C NR MINGO JUNCTION OH (LAT 40 18 57N LONG 080 39 17W)								
OCT 1985								
02...	1200	13	1750	7.90	12.5	--	173	780
JUN 1986								
25...	1515	16	1420	8.70	22.5	--	175	610
401936082001400 SIMMONS RN NR WARSAW OH (LAT 40 19 36N LONG 082 00 14W)								
SEP 1985								
30...	1420	0.19	1070	6.80	16.0	--	134	430
JUN 1986								
23...	1040	1.6	1010	7.70	21.0	--	103	430
402012081051300 CLEAR FORK NR JEWETT OH (LAT 40 20 12N LONG 081 05 13W)								
OCT 1985								
01...	1400	0.45	1900	7.60	14.5	--	182	910
402429081185300 WOLF RUN NR DENNISON OH (LAT 40 24 29N LONG 081 18 53W)								
OCT 1985								
01...	0830	0.8	1300	7.90	11.5	--	372	340
403426081211900 CONOTTON C NR SOMERDALE OH (LAT 40 34 26N LONG 081 21 19W)								
OCT 1985								
03...	1230	12	665	7.50	11.5	--	88	180
JUL 1986								
07...	1200	202	340	7.70	24.0	--	123	65
403823081213700 NIMISHILLEN CR AT SANDYVILLE OH (LAT 40 38 23N LONG 081 21 37W)								
OCT 1985								
03...	1030	70	1440	7.60	12.0	--	207	210
JUN 1986								
24...	1745	95	1410	8.50	22.0	--	240	180
410616082075500 WAKATOMIKA C NR FRAZEYSBURG OH (LAT 41 06 16N LONG 082 07 55W)								
SEP 1985								
30...	1045	5.5	445	6.80	15.0	--	131	17
JUN 1986								
26...	0830	25	410	7.70	18.0	--	81	21

COAL AREAS--MISCELLANEOUS SURFACE-WATER STATION ANALYSES--Continued

157

WATER QUALITY DATA

DATE	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, SUS- PENDE RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, SUS- PENDE RECOV. (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)
401857080391700 CROSS C NR MINGO JUNCTION OH (LAT 40 18 57N LONG 080 39 17W)								
OCT 1985								
02...	500	200	310	--	<10	220	50	170
JUN 1986								
25...	510	230	520	470	50	240	30	210
401936082001400 SIMMONS RN NR WARSAW OH (LAT 40 19 36N LONG 082 00 14W)								
SEP 1985								
30...	100	<100	220	210	10	130	50	80
JUN 1986								
23...	410	20	1200	1200	20	600	140	460
402012081051300 CLEAR FORK NR JEWETT OH (LAT 40 20 12N LONG 081 05 13W)								
OCT 1985								
01...	100	<100	290	270	20	250	30	220
402429081185300 WOLF RUN NR DENNISON OH (LAT 40 24 29N LONG 081 18 53W)								
OCT 1985								
01...	300	200	950	940	10	230	30	200
403426081211900 CONOTTON C NR SOMERDALE OH (LAT 40 34 26N LONG 081 21 19W)								
OCT 1985								
03...	200	<100	1600	1500	90	1900	0	1900
JUL 1986								
07...	2700	30	8900	8800	50	1400	530	870
403823081213700 NIMISHILLEN CR AT SANDYVILLE OH (LAT 40 38 23N LONG 081 21 37W)								
OCT 1985								
03...	<200	200	520	500	20	110	20	90
JUN 1986								
24...	140	40	790	710	80	100	60	40
410616082075500 WAKATOMIKA C NR FRAZEYSBURG OH (LAT 41 06 16N LONG 082 07 55W)								
SEP 1985								
30...	200	<100	540	460	80	150	30	120
JUN 1986								
26...	540	20	1500	1400	110	200	70	130

* Active gage. Refer to Volume 1 for detailed flow records.

COAL AREAS--GROUND-WATER RECORDS

WATER QUALITY DATA

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)
401043081052800 HR-23 VILLAGE OF FLUSHING OH #7 (LAT 40 10 43N LONG 081 05 28W)									
NOV 1985	21...	1030	--	1350	7.10	10.0	2.0	840	500 250
WATER QUALITY DATA									
401049081054700 HR-24 VILLAGE OF FLUSHING OH #12 (LAT 40 10 49N LONG 081 05 47W)									
NOV 1985	21...	1130	--	1350	7.30	10.0	--	770	460 220
401047081054700 HR-25 VILLAGE OF FLUSHING OH #13 (LAT 40 10 47N LONG 081 05 47W)									
NOV 1985	21...	1200	16.80	1100	7.50	10.0	--	550	280 170
401920081104300 HR-30 TAPPAN LK PARK T-3 NR DEERSVILLE OH (LAT 40 19 20N LONG 081 10 43W)									
NOV 1985	22...	0930	9.35	400	7.40	11.0	0.7	170	0 50
401937081103000 HR-32 TAPPAN LK PARK T-5 NR DEERSVILLE OH (LAT 40 19 37N LONG 081 10 30W)									
NOV 1985	22...	1200	34.00	500	7.65	11.5	0.4	100	0 27
401917081111200 HR33 TAPPAN LK PARK T-6 NR DEERSVILLE OH (LAT 40 19 17N LONG 081 11 12W)									
NOV 1985	22...	1030	10.00	380	7.70	11.5	--	150	0 42
401858081112200 HR-35 TAPPAN LK PARK T-8 NR DEERSVILLE OH (LAT 40 18 58N LONG 081 11 22W)									
NOV 1985	22...	1130	--	320	7.20	11.5	0.2	120	0 33
404754080453700 CO-1 MARX NR LISBON OH (LAT 40 47 54N LONG 080 45 37W)									
SEP 1986	02...	1600	44.87	1300	6.65	14.0	0	790	460 210
405008080460800 CO-2 GREEN NR LISBON OH (LAT 40 50 08N LONG 080 46 08W)									
SEP 1986	03...	0945	0.0	750	7.10	11.5	0.1	440	65 120
404639080483300 CO-3 SIEFKE NR LISBON OH (LAT 40 46 39N LONG 080 48 33W)									
SEP 1986	02...	1705	44.20	570	6.80	14.0	0	320	99 90
404846080461000 CO-4 VILLAGE OF LISBON NO 3 OH (LAT 40 48 46N LONG 080 46 10W)									
SEP 1986	03...	0845	23.00	512	7.20	10.5	0.3	260	0 75
404506080414100 CO-6 REED NR ELKTON OH (LAT 40 45 06N LONG 080 41 41W)									
SEP 1986	02...	1420	47.87	650	6.90	13.5	2.2	360	110 98
395320082190600 PE-44 FISHER AT GLENFORD OH (LAT 39 53 20N LONG 082 19 06W)									
AUG 1986	18...	1645	36.87	584	7.40	13.0	5.6	290	22 79

COAL AREAS--GROUND-WATER RECORDS--Continued

159

WATER QUALITY DATA

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
401043081052800 HR-23 VILLAGE OF FLUSHING OH #7 (LAT 40 10 43N LONG 081 05 28W)								
NOV 1985 21...	53	20	1.4	340	560	6.2	12	1200
401049081054700 HR-24 VILLAGE OF FLUSHING OH #12 (LAT 40 10 49N LONG 081 05 47W)								
NOV 1985 21...	54	20	1.4	304	590	3.7	12	1200
401047081054700 HR-25 VILLAGE OF FLUSHING OH #13 (LAT 40 10 47N LONG 081 05 47W)								
NOV 1985 21...	31	56	1.1	274	390	15	10	883
401920081104300 HR-30 TAPPAN LK PARK T-3 NR DEERSVILLE OH (LAT 40 19 20N LONG 081 10 43W)								
NOV 1985 22...	12	21	1.7	251	18	6.0	14	248
401937081103000 HR-32 TAPPAN LK PARK T-5 NR DEERSVILLE OH (LAT 40 19 37N LONG 081 10 30W)								
NOV 1985 22...	8.3	73	3.2	263	11	14	11	311
401917081111200 HR33 TAPPAN LK PARK T-6 NR DEERSVILLE OH (LAT 40 19 17N LONG 081 11 12W)								
NOV 1985 22...	10	23	1.5	211	9.9	3.7	16	222
401858081112200 HR-35 TAPPAN LK PARK T-8 NR DEERSVILLE OH (LAT 40 18 58N LONG 081 11 22W)								
NOV 1985 22...	9.4	22	2.3	173	12	6.1	17	194
404754080453700 CO-1 MARX NR LISBON OH (LAT 40 47 54N LONG 080 45 37W)								
SEP 1986 02...	64	6.5	2.2	210	560	10	15	1050
405008080460800 CO-2 GREEN NR LISBON OH (LAT 40 50 08N LONG 080 46 08W)								
SEP 1986 03...	33	8.8	1.9	365	76	4.2	19	304
404639080483300 CO-3 SIEFKE NR LISBON OH (LAT 40 46 39N LONG 080 48 33W)								
SEP 1986 02...	22	4.6	1.3	214	100	8.2	8.7	315
404846080461000 CO-4 VILLAGE OF LISBON NO 3 OH (LAT 40 48 46N LONG 080 46 10W)								
SEP 1986 03...	18	13	2.0	273	57	8.2	13	293
404506080414100 CO-6 REED NR ELKTON OH (LAT 40 45 06N LONG 080 41 41W)								
SEP 1986 02...	27	11	1.4	248	120	2.2	15	408
395320082190600 PE-44 FISHER AT GLENFORD OH (LAT 39 53 20N LONG 082 19 06W)								
AUG 1986 18...	23	13	4.5	270	47	13	14	329

COAL AREAS--GROUND-WATER RECORDS--Continued

WATER QUALITY DATA

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	ALUM- INUM, TOTAL RECOVERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, TOTAL RECOVERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOVERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
401043081052800 HR-23 VILLAGE OF FLUSHING OH #7 (LAT 40 10 43N LONG 081 05 28W)								
NOV 1985 21...	1100	100	<100	3500	3300	3100	3100	2.2
401049081054700 HR-24 VILLAGE OF FLUSHING OH #12 (LAT 40 10 49N LONG 081 05 47W)								
NOV 1985 21...	1100	100	<100	3000	17	2800	780	2.7
401047081054700 HR-25 VILLAGE OF FLUSHING OH #13 (LAT 40 10 47N LONG 081 05 47W)								
NOV 1985 21...	840	100	100	1400	1100	1400	1600	4.2
401920081104300 HR-30 TAPPAN LK PARK T-3 NR DEERSVILLE OH (LAT 40 19 20N LONG 081 10 43W)								
NOV 1985 22...	270	600	<100	1400	710	250	300	1.4
401937081103000 HR-32 TAPPAN LK PARK T-5 NR DEERSVILLE OH (LAT 40 19 37N LONG 081 10 30W)								
NOV 1985 22...	310	100	100	1800	1200	80	72	0.8
401917081111200 HR33 TAPPAN LK PARK T-6 NR DEERSVILLE OH (LAT 40 19 17N LONG 081 11 12W)								
NOV 1985 22...	230	100	<100	1800	730	370	390	1.4
401858081112200 HR-35 TAPPAN LK PARK T-8 NR DEERSVILLE OH (LAT 40 18 58N LONG 081 11 22W)								
NOV 1985 22...	210	100	<100	2000	910	140	160	1.4
404754080453700 CO-1 MARX NR LISBON OH (LAT 40 47 54N LONG 080 45 37W)								
SEP 1986 02...	1000	20	<10	2600	2500	3200	3200	0.8
405008080460800 CO-2 GREEN NR LISBON OH (LAT 40 50 08N LONG 080 46 08W)								
SEP 1986 03...	490	40	<10	1700	1700	390	390	0.4
404639080483300 CO-3 SIEFKE NR LISBON OH (LAT 40 46 39N LONG 080 48 33W)								
SEP 1986 02...	360	30	<10	980	140	60	57	6.0
404846080461000 CO-4 VILLAGE OF LISBON NO 3 OH (LAT 40 48 46N LONG 080 46 10W)								
SEP 1986 03...	350	30	<10	890	800	250	240	0.4
404506080414100 CO-6 REED NR ELKTON OH (LAT 40 45 06N LONG 080 41 41W)								
SEP 1986 02...	420	80	<10	560	13	90	57	0.5
395320082190600 PE-44 FISHER AT GLENFORD OH (LAT 39 53 20N LONG 082 19 06W)								
AUG 1986 18...	360	40	<10	60	6	<10	<1	1.0

COAL AREAS--GROUND-WATER RECORDS--Continued

161

WATER QUALITY DATA

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)
395309082192500 PE-45 GARD AT GLENFORD OH (LAT 39 53 09N LONG 082 19 25W)									
AUG 1986 19...	1245	---	480	7.20	13.0	--	220	65	52
395507082210500 PE-47 M.COOPERIDER NR GLENFORD OH (LAT 39 55 07N LONG 082 21 05W)									
AUG 1986 18...	1035	0.0	448	7.80	13.0	0	240	0	63
395218082151700 PE-49 MITCHELL NR GLENFORD OH (LAT 39 52 18N LONG 082 15 17W)									
AUG 1986 22...	1010	1.08	573	7.50	14.0	0	250	0	62
395431082195500 PE-50 LYBARGER NR GLENFORD OH (LAT 39 54 31N LONG 082 19 55W)									
AUG 1986 22...	1050	--	670	7.60	13.0	3.1	330	52	87
DATE		MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)
395309082192500 PE-45 GARD AT GLENFORD OH (LAT 39 53 09N LONG 082 19 25W)									
AUG 1986 19...	22	12	1.5	155	34	40	10	271	
395507082210500 PE-47 M.COOPERIDER NR GLENFORD OH (LAT 39 55 07N LONG 082 21 05W)									
AUG 1986 18...	21	17	1.1	324	3.5	7.2	13	268	
395218082151700 PE-49 MITCHELL NR GLENFORD OH (LAT 39 52 18N LONG 082 15 17W)									
AUG 1986 22...	23	23	3.0	256	63	5.2	13	278	
395431082195500 PE-50 LYBARGER NR GLENFORD OH (LAT 39 54 31N LONG 082 19 55W)									
AUG 1986 22...	28	18	1.9	281	36	36	15	384	

COAL AREAS--GROUND-WATER RECORDS--Continued

WATER QUALITY DATA

DATE	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	ALUM- INUM, TOTAL RECOV- ERABLE (UG/L AS AL)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, TOTAL RECOV- ERABLE (UG/L AS FE)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, TOTAL RECOV- ERABLE (UG/L AS MN)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)
395309082192500 PE-45 GARD AT GLENFORD OH (LAT 39 53 09N LONG 082 19 25W)								
AUG 1986 19...	270	20	<10	690	620	60	57	0.6
395507082210500 PE-47 M.COOPERIDER NR GLENFORD OH (LAT 39 55 07N LONG 082 21 05W)								
AUG 1986 18...	320	890	<10	1500	1400	280	290	1.0
395218082151700 PE-49 MITCHELL NR GLENFORD OH (LAT 39 52 18N LONG 082 15 17W)								
AUG 1986 22...	350	480	20	5900	4400	170	290	0.7
395431082195500 PE-50 LYBARGER NR GLENFORD OH (LAT 39 54 31N LONG 082 19 55W)								
AUG 1986 22...	390	<10	<10	80	<3	<10	1	0.

COAL AREAS--GROUND-WATER RECORDS--Continued

163

GROUND-WATER LEVELS AT MISCELLANEOUS SITES

Site Number	Local Number		Location		County	Basin	Date	Water level	
404553080431700	CO-5	lat	404553	long	80431700	Columbiana	L. Beaver Creek	09-02-86	28.89
404613080434100	CO-7	lat	404613	long	80434100	Columbiana	L. Beaver Creek	09-03-86	107.00
404456080391200	CO-8	lat	404456	long	80391200	Columbiana	L. Beaver Creek	09-04-86	133.62
404545080414900	CO-9	lat	404545	long	80414900	Columbiana	L. Beaver Creek	09-03-86	8.55
404620080415100	CO-10	lat	404620	long	80415100	Columbiana	L. Beaver Creek	09-03-86	8.73
404843080452300	CO-11	lat	404843	long	80452300	Columbiana	L. Beaver Creek	09-04-86	35.57
404940080455700	CO-12	lat	404940	long	80455700	Columbiana	L. Beaver Creek	09-04-86	33.74
404906080451300	CO-13	lat	404906	long	80451300	Columbiana	L. Beaver Creek	09-04-86	40.59
404847080455000	CO-14	lat	404847	long	80455000	Columbiana	L. Beaver Creek	09-04-86	34.51
404841080465000	CO-15	lat	404841	long	80465000	Columbiana	L. Beaver Creek	09-04-86	98.23
404751080463700	CO-16	lat	404751	long	80463700	Columbiana	L. Beaver Creek	09-03-86	18.85
404716080454800	CO-17	lat	404716	long	80454800	Columbiana	L. Beaver Creek	09-03-86	44.87
404546080452700	CO-18	lat	404546	long	80452700	Columbiana	L. Beaver Creek	09-03-86	34.16
404607080462500	CO-19	lat	404607	long	80462500	Columbiana	L. Beaver Creek	09-03-86	5.28
404705080480500	CO-20	lat	404705	long	80480500	Columbiana	L. Beaver Creek	09-04-86	13.84
404644080483900	CO-21	lat	404644	long	80483900	Columbiana	L. Beaver Creek	09-03-86	74.39
404652080500200	CO-22	lat	404652	long	80500200	Columbiana	L. Beaver Creek	09-04-86	24.60
404843080460800	CO-23	lat	404843	long	80460800	Columbiana	L. Beaver Creek	09-01-86	23.00
401045081054700	HR-26	lat	401045	long	81054700	Harrison	Stillwater Creek	11-21-85	11.70
401028081051400	HR-27	lat	401028	long	81051400	Harrison	Stillwater Creek	11-21-85	flowing
401011081045900	HR-28	lat	401011	long	81045900	Harrison	Stillwater Creek	11-21-85	4.00
401045081053300	HR-29	lat	401045	long	81053300	Harrison	Stillwater Creek	11-21-85	3.00
401907081104500	HR-31	lat	401907	long	81104500	Harrison	Stillwater Creek	11-22-85	9.60
401915081111700	HR-34	lat	401915	long	81111700	Harrison	Stillwater Creek	11-22-85	10.50
401903081111100	HR-36	lat	401903	long	81111100	Harrison	Stillwater Creek	11-22-85	27.80
401856081112300	HR-37	lat	401856	long	81112300	Harrison	Stillwater Creek	11-22-85	26.50
401859081111700	HR-38	lat	401859	long	81111700	Harrison	Stillwater Creek	11-22-85	9.30
401856081111500	HR-39	lat	401856	long	81111500	Harrison	Stillwater Creek	11-22-85	44.00
401908081111100	HR-40	lat	401908	long	81111100	Harrison	Stillwater Creek	11-22-85	18.00
401911081110700	HR-41	lat	401911	long	81110700	Harrison	Stillwater Creek	11-22-85	10.20
401917081103900	HR-42	lat	401917	long	81103900	Harrison	Stillwater Creek	11-22-85	14.80
401912081110400	HR-43	lat	401912	long	81110400	Harrison	Stillwater Creek	11-22-85	10.70
395204082171400	PE-39	lat	395204	long	82171400	Perry	Moxahala Creek	08-19-86	44.40
395457082243100	PE-40	lat	395457	long	82243100	Perry	Moxahala Creek	08-18-86	3.75
395336082140600	PE-42	lat	395336	long	82140600	Perry	Moxahala Creek	08-18-86	35.20
395316082190200	PE-43	lat	395316	long	82190200	Perry	Moxahala Creek	08-19-86	18.78
395353082191400	PE-46	lat	395353	long	82191400	Perry	Moxahala Creek	08-19-86	22.69
395424082214600	PE-48	lat	395424	long	82214600	Perry	Moxahala Creek	08-18-86	26.89
395308082145000	PE-51	lat	395308	long	82145000	Perry	Moxahala Creek	08-18-86	9.68
395346082192000	PE-52	lat	395346	long	82192000	Perry	Moxahala Creek	08-18-86	21.02
395318082182600	PE-53	lat	395318	long	82182600	Perry	Moxahala Creek	08-18-86	74.80
395428082202900	PE-54	lat	395428	long	82212900	Perry	Moxahala Creek	08-18-86	18.18
395507082215000	PE-55	lat	395507	long	82215000	Perry	Moxahala Creek	08-18-86	2.40
395401082190800	PE-56	lat	395401	long	82190800	Perry	Moxahala Creek	08-18-86	36.87

Depth to water below land surface, in feet.

GROUND-WATER RECORDS

FRANKLIN COUNTY

The following tables contain ground water-level measurements, chemical analyses from a network of wells and three surface-water sites in Southern Franklin County. The data were collected as part of a cooperative study with the city of Columbus. The objective of the study is to evaluate the effects of several landfills on the chemical quality of the ground-water and surface-water systems and to evaluate the effects of infiltration induced by the city of Columbus' collector-well system.

395006083013600. Local number, FR-116, M1.

LOCATION.--Lat 39°50'06", long 83°01'36", Hydrologic Unit 05060001, near Shadeville.

Owner: Jackson Township.

AQUIFER.--Glacial sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 62 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 725 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plastic pipe, 2.5 ft above land-surface datum.

PERIOD OF RECORD.--April 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.48 ft below land-surface datum, Mar. 26, 1984; lowest, 25.61 ft below land-surface datum, Nov. 3, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Nov 16, 1985	22.58	Dec 04, 1985	21.88	Mar 12, 1986	21.93	Sept 8, 1986	25.60

395016083010300. Local number, FR-117, M2.

LOCATION.--Lat 39°50'16", long 83°01'03", Hydrologic Unit 05060001, near Shadeville.

Owner: Jackson Township.

AQUIFER.--Glacial clay, sand, and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 45 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 705 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 2-inch steel pipe, 3.08 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.02 ft below land-surface datum, June 17, 1981; lowest, 17.53 ft below land-surface datum, Sep. 8, 1986.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
NOV 16, 1985	14.82	Dec 4, 1985	14.01	Mar 12, 1986	14.53	Sept 8, 1986	17.53

395132083001200. Local number, FR-73.

LOCATION.--Lat 39°51'32", long 83°00'12", Hydrological Unit 05060001, near Columbus.

Owner: Hartman Farms.

AQUIFER.--Glacial sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled water-supply well, diameter 12 in., depth unknown.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 735 ft above National Geodetic Vertical Datum of 1929. Measuring point: Base of pump housing, 6.14 ft below land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 39.38 ft below land-surface datum, July 1, 1981; lowest, 45.01 ft below land-surface datum, Jan. 31, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 3, 1985	42.29	MAR 12, 1986	41.34

395123083003300. Local number, FR-121, M7.

LOCATION.--Lat 39°51'23", long 83°00'33", Hydrologic Unit 05060001, near Columbus.

Owner: Franklin County.

AQUIFER.--Glacial sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 45 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 690 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of coupling, 2.6 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.01 ft below land-surface datum, Mar. 24, 1984; lowest, 19.38 ft below land-surface datum, Oct. 18, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 18, 1985	19.38	DEC 4, 1985	7.54	DEC. 30, 1985	12.69	MAR. 12, 1986	13.79

GROUND-WATER RECORDS

165

FRANKLIN COUNTY

395108083010600. Local number, FR-147.

LOCATION.--Lat 39°51'08", long 83°01'06", Hydrologic Unit 05060001, near Columbus.

Owner: City of Columbus.

AQUIFER.--Glacial sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 75 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 685 ft above National Geodetic Vertical Datum of 1929, from topographic map.

PERIOD OF RECORD.--May 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.54 ft below land-surface datum, May 19, 1981; lowest, 22.19 ft below land-surface datum, Nov. 15, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
DEC 4, 1985	8.26	MAR 12, 1986	6.46

395045083003100. Local number, FR 103, TH 11.

LOCATION.--Lat 39°50'45", long 83°00'31", Hydrologic Unit 05060001, near Columbus.

Owner: City of Columbus.

AQUIFER.--Glacial sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 93 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 699 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.70 ft above land-surface datum.

PERIOD OF RECORD.--August 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 18.00 ft below land-surface datum, May 9, 1983; lowest, 74.70 ft below land-surface datum, Jan. 25, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 22, 1985	28.65	Nov 16, 1985	25.57	Dec 30, 1985	25.50	Mar 12, 1986	27.28
Nov 8, 1985	30.69	Dec 4, 1985	21.53				

395059083000900. Local number, FR-122, M8.

LOCATION.--Lat 39°50'59", long 83°00'09", Hydrologic Unit 05060002, near Shadeville.

Owner: Franklin County.

AQUIFER.--Glacial clay and sand of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 104 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 730 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 3-inch aluminum casing, 2.90 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 30.15 ft below land-surface datum, May 19, 1981; lowest, 94.64 ft below land-surface datum, Mar. 2, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Nov 12, 1985	38.62	Dec 4, 1985	38.47	Mar 12, 1986	36.90

95008082593100. Local number, FR-126, M13.

LOCATION.--Lat 39°50'08", long 82°59'31", Hydrological Unit 05060001, near Shadeville.

Owner: Franklin County.

AQUIFER.--Glacial clay and sand of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 122 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 703 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plastic pipe, 2.39 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.96 ft below land-surface datum, June 17, 1981; lowest, 20.43 ft below land-surface datum, June 9, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 3, 1985	13.67	Mar 12, 1986	15.42

GROUND-WATER RECORDS

FRANKLIN COUNTY

3395114082592600. Local number, FR-46.

LOCATION.--Lat 39°51'14", long 82°59'26", Hydrologic Unit 05060001, near Hamilton Meadows.

Owner: Hartman Farms.

AQUIFER.--Glacial sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6 in., depth 38 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 718 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 4.0 ft below land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 20.77 ft below land-surface datum, July 1, 1981; lowest, 27.03 ft below land-surface datum, Jan. 31, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 3, 1985	23.41	Mar 12, 1986	22.51

395131082592400. Local number, FR-123, M9.

LOCATION.--LAT 39°51'31", long 82°59'24", Hydrologic Unit 05060001, near Hamilton Meadows.

Owner: Franklin County.

AQUIFER.--Glacial sand and gravel of Quaternary Age.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 36.5 ft.

DATUM.--Elevation of land-surface datum is 710 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plastic pipe, 2.25 ft above land-surface datum.

PERIOD OF RECORD.--April 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.06 ft below land-surface datum, June 9, 1982; lowest, 11.48 ft below land-surface datum, Jan. 31, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Nov 16, 1985	9.38	Dec 3, 1985	7.88	Mar 12, 1986	7.66

395037082581900. Local number, FR-36.

LOCATION.--Lat 39°50'37", long 82°58'19", Hydrologic Unit 05060001, near Hamilton Meadows.

Owner: JP Sand and Gravel Co.

AQUIFER.--Glacial sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4 in., depth 31 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 717 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.3 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 10.63 ft below land-surface datum, Oct. 17, 1979; lowest, 15.64 ft below land-surface datum, Dec. 12, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 28, 1985	14.39	Dec 3, 1985	12.04	Mar 12, 1986	12.07	Jul 17, 1986	13.90
Nov 16, 1985	12.15						

395126083014000. Local number, FR-131, M18.

LOCATION.--Lat 39°51'26", long 83°01'40", Hydrologic Unit 05060001, near Columbus.

Owner: Franklin County.

AQUIFER.--Glacial Clay, sand, and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 53 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 727 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plastic coupling, 2.4 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 37.77 ft below land-surface datum, July 1, 1981; lowest, 45.22 ft below land-surface datum, Jan. 30, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 4, 1985	44.08	Mar 12, 1986	41.45

GROUND-WATER RECORDS

167

FRANKLIN COUNTY

395218083023900. Local number, FR-133.

LOCATION.--Lat 39°52'18", long 83°02'39", Hydrologic Unit 0506001, on White Road near Grove City, Ohio

Owner: Franklin County.

AQUIFER.--Gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 82 ft, cased to 82 ft finish: 4.0 ft of 0.80 in well screen.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 765 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.0 ft above land-surface datum.

PERIOD OF RECORD.--April 1977 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level 49.05 ft below land surface datum, April 1, 1980; lowest, 57.96 ft below land-surface datum, Jan. 30, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 4, 1985	57.34	Mar 12, 1986	56.84				

395206083014501. Local number, FR-209.

LOCATION.--Lat 39°52'06", long 83°01'45", Hydrologic Unit 05060001, on White Road near Grove City, Ohio.

Owner: M. Davis.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled domestic water well, diameter 5 in., depth unknown.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 700 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.72 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.-- Highest water level, 12.51 ft below land-surface datum, May 23, 1984; lowest, 16.13 ft below land-surface datum, Nov. 16, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 4, 1985	13.44	Mar 12, 1986	12.80

395315083020002. Local number, FR-213.

LOCATION.--Lat 39°53'15", long 83°02'00", Hydrologic Unit 05060001, on Thrailkill Road near Columbus, Ohio.

Owner: Tom Cannon Co.

AQUIFER.--Gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled domestic water well, diameter 5 in., depth 97 ft, cased to 97 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 731 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.8 ft above land-surface datum.

PERIOD OF RECORD.--June 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 71.38 ft below land-surface datum, June 8, 1982; lowest, 77.95 ft below land-surface datum, Dec. 4, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 4, 1985	77.95	Mar 13, 1986	77.17

395250083014101. Local number, FR-236.

LOCATION.--Lat 39°52'50", long 83°01'41", Hydrologic Unit 05060001, on S.R. 104 near Grove City, Ohio.

Owner: S.B. Riegle.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled domestic water well, diameter 4.25 in., depth 95 ft, cased to 95 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 718 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.05 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 53.99 ft below land-surface datum, Mar. 21, 1984; lowest, 61.18 ft below land-surface datum, Nov. 26, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 4, 1985	57.09	MAR 12, 1986	57.03

GROUND-WATER RECORDS

FRANKLIN COUNTY

0395350083030001. Local number, FR-230.

LOCATION.--Lat 39°53'50", long 83°03'00", Hydrologic Unit 05060001, on Marlane Drive near Grove City, Ohio.

Owner: J. Kendrick.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled domestic water well, diameter 6.0 in., depth unknown.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 760 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.2 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 69.50 ft below land-surface datum, July 11, 1979; lowest, 83.75 ft below land-surface datum, Jan. 31, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 4, 1985	82.78	Mar 12, 1986	81.73

395348083022701. Local number, FR-227.

LOCATION.--Lat 39°53'48", long 83°02'27", Hydrologic Unit 05060001, on Lazar Road near Columbus, Ohio.

Owner: J. Johnson.

AQUIFER.--Limestone of Silurian and Devonian Age.

WELL CHARACTERISTICS.--Drilled domestic water well, diameter 5 in., depth 260 ft, cased to 93 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 748 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.56 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 61.98 ft below land-surface datum, July 11, 1979; lowest, 74.58 ft below land-surface datum, Nov. 26, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 04, 1985	72.85	MAR. 13, 1986	71.06

395319083014100. Local number, FR-242.

LOCATION.--Lat 39°53'19", long 83°01'41", Hydrologic Unit 05060001, at Model Landfill near Columbus, Ohio.

Owner: Model Landfill Inc.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6.0 in., depth 68 ft, cased to 68 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 705 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.94 ft above land-surface datum.

PERIOD OF RECORD.--May 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 53.44 ft below land-surface datum, April 13, 1982; lowest, 58.01 ft below land-surface datum, Nov. 23, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 4, 1985	57.19	Mar 13 1986	56.52

395351083013700. Local number, FR-244.

LOCATION.--Lat 39°53'51", long 83°01'37", Hydrologic Unit 05060001, at Model Landfill near Columbus, Ohio.

Owner: Model Landfill Inc.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 4.5 in., depth 75 ft, cased to 55 ft, finish is 20.0 ft of slotted screen.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 700 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.63 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 41.89 ft below land surface datum, Oct. 18, 1979; lowest, 65.97 ft below land surface datum, Nov. 23, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 4, 1985	65.80	Mar 13, 1986	65.15

GROUND-WATER RECORDS

169

FRANKLIN COUNTY

095331083013900. Local number, FR-246.

LOCATION.--Lat 39°53'31", long 83°01'39", Hydrologic Unit 05060001, at Model Landfill, near Columbus, Ohio.

Owner: Model Landfill, Inc.

AQUIFER.--Limestone of Devonian Age.

WELL CHARACTERISTICS.--Drilled commercial water well, diameter 4.0 in., depth 142 ft, cased to 89 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel

DATUM.--Elevation of land-surface datum is 722 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.0 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 104.40 ft below land-surface datum, Oct. 18, 1979; lowest, 120.95 ft below land-surface datum, Jan. 30, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 4, 1985	118.34	Mar 13, 1986	117.19

395344083004100. Local number, FR-254.

LOCATION.--Lat 39°53'44", long 83°00'41", Hydrologic Unit 05060001, at American Aggregates Quarry near Columbus, Ohio.

Owner: American Aggregates Corporation.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in, depth 35 ft, cased to 30 ft finish is 5 ft of 0.10 in well screen.

DATUM.--Altitude of land-surface datum is 691.20 ft. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 28.33 ft below land-surface datum, May 7, 1982; lowest, 31.74 ft below land-surface datum, July 15, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
DEC. 17, 1985	20.44	MAR. 12, 1986	20.69	June 10, 1986	22.28

395321083005700. Local number, FR-268.

LOCATION.--Lat 39°53'21", long 83°00'57", Hydrologic Unit 05060001, at American Aggregates Quarry near Columbus, Ohio.

Owner: American Aggregates Corporation.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2.0 in., depth 64 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 680.2 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.3 ft above land-surface datum.

PERIOD OF RECORD.--June 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 18.20 ft below land-surface datum, May 6, 1983; lowest, 30.81 ft below land-surface datum, Sept. 6, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 4, 1985	25.27	Dec 17, 1985	23.26	Mar 12, 1986	28.19	Mar 21 1986	26.21

395254083010700. Local number, FR-253.

LOCATION.--Lat 39°52'54", long 83°01'07", Hydrologic Unit 05060001, at Scioto River and I-270 E near Columbus, Ohio.

Owner: American Aggregates Corp.

AQUIFER.--Sand and Gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 50 ft, cased to 40 ft finish is 10 ft 0.010 in slot screen.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 688 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.05 ft above land-surface datum.

PERIOD OF RECORD.--May 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.51 ft below land-surface datum, Mar. 30, 1984; lowest, 31.73 ft below land-surface datum, Sept. 6, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 4, 1985	23.05	Dec 17, 1985	21.64	Mar 12, 1986	26.84

GROUND-WATER RECORDS

FRANKLIN COUNTY

395417083005000. Local number, FR-259.

LOCATION.--Lat 39°54'17", long 83°00'50", Hydrologic Unit 05060001, in Columbus Landfill near Columbus, Ohio.

Owner: City of Columbus.

AQUIFER.--Sand and Gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 50 ft, cased to 45 ft finish is 5 ft of 0.010 in well screen.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface is 725 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 39.21 ft below land-surface datum, May 1, 1983; lowest, 46.72 ft below land-surface datum, Aug. 13, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Nov 13, 1985	43.43	Dec 4, 1985	41.59	Mar 12, 1986	42.39

395458083011600. Local number, FR-248.

LOCATION.--Lat 39°54'58", long 83°01'16", Hydrologic unit 05060001, on Frank Road near Columbus, Ohio.

Owner: Agg-Rok Inc.

AQUIFER.--Gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled commercial water well, diameter 4.25 in., depth 63 ft, cased to 63 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 698 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.21 ft below land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 24.23 ft below land-surface datum, Aug. 21, 1979; lowest, 43.08 ft below land-surface datum, Jan. 31, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 4, 1985	37.53	Mar 12, 1986	38.07

395509083003700. Local number, FR-257.

LOCATION.--Lat 39°55'09", long 83°00'37", Hydrologic Unit 05060001, on Scioto River levee 700 ft north of Frank Road near Columbus, Ohio.

Owner: City of Columbus.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 40 ft, cased to 35 ft finish is 5 ft of 0.010 in well screen.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 710 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.63 ft below land-surface datum, Mar. 20, 1984; lowest, 25.93 ft below land-surface datum, Nov. 16, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Nov 13, 1985	24.24	Dec 4, 1985	21.84	Mar 13, 1986	21.54

GROUND-WATER RECORDS

FRANKLIN COUNTY

395058083002400. Local number, FG-119, M5.

LOCATION.--Lat 39°50'58", long 83°00'24", Hydrologic Unit 05060001, near Shadeville.

Owner: Franklin County.

AQUIFER.--Glacial clay, sand, and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 85 ft.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 700 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of 2-inch coupling, 210 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.10 ft below land-surface datum, June 17, 1981; lowest, 38.19 ft below land-surface datum, Jan. 27, 1984.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.81	24.96	16.26	18.32	20.90	19.44	19.38	22.48	26.59	27.99	27.64	29.93
2	26.81	25.08	---	18.39	21.35	19.69	19.77	22.81	26.63	27.95	27.75	29.91
3	26.64	25.17	---	18.53	21.69	19.99	20.14	23.15	26.63	27.71	27.83	29.91
4	26.45	25.19	15.40	18.55	21.90	20.13	20.48	23.32	26.64	27.37	27.84	29.91
5	26.26	25.19	15.35	18.63	21.91	20.15	20.81	23.32	26.74	27.00	27.86	29.91
6	26.14	25.22	15.45	18.71	21.48	20.27	21.03	23.10	26.82	26.65	27.93	29.91
7	26.02	25.23	15.65	18.81	20.30	20.41	21.06	23.12	26.82	26.37	27.97	29.91
8	25.92	25.27	15.93	18.85	18.97	20.64	21.06	23.38	26.74	26.20	27.97	29.91
9	25.84	25.27	16.21	18.88	17.77	20.84	21.09	23.66	26.51	26.06	27.95	29.91
10	25.75	25.27	16.45	18.90	17.10	21.06	21.13	23.93	26.24	25.96	27.94	29.91
11	25.66	25.25	16.62	18.92	16.54	21.32	21.19	24.17	26.01	25.86	28.09	29.93
12	25.59	25.00	16.64	18.94	16.39	21.48	21.26	24.40	25.74	25.91	28.23	29.99
13	25.51	24.52	16.34	19.02	16.46	21.48	21.35	24.64	25.49	25.97	28.38	30.08
14	25.43	24.16	15.57	19.09	16.75	21.15	21.41	24.87	25.68	25.97	28.52	30.13
15	25.33	23.59	14.99	19.15	17.20	19.63	21.49	25.09	25.89	25.97	28.63	30.25
16	25.24	23.00	14.39	19.19	17.37	18.51	21.59	25.30	26.13	25.96	28.74	30.35
17	25.16	22.18	14.19	19.22	17.65	17.77	21.70	25.47	26.36	25.95	28.87	30.40
18	25.05	21.26	14.57	19.23	17.99	17.37	21.83	25.66	26.59	25.98	28.98	30.47
19	24.87	20.16	14.91	19.23	18.33	17.12	21.94	25.76	26.78	26.08	29.10	30.52
20	24.78	19.61	15.29	19.22	18.54	16.98	22.03	25.76	26.95	26.25	29.21	30.59
21	24.70	19.29	15.58	19.21	18.73	16.99	22.14	25.76	27.06	26.39	29.32	30.69
22	24.57	19.01	15.81	19.07	18.74	17.10	22.22	25.61	27.18	26.49	29.42	30.79
23	24.49	19.00	16.07	19.05	18.79	17.22	22.26	25.50	27.31	26.62	29.55	30.89
24	24.42	18.99	16.41	19.16	18.87	17.26	22.26	25.56	27.45	26.75	29.65	31.00
25	24.44	19.07	16.69	19.46	18.88	17.44	22.25	25.61	27.58	26.87	29.76	31.08
26	24.48	19.15	16.91	19.82	18.88	17.79	22.18	25.78	27.68	27.03	29.86	31.14
27	24.55	19.17	17.20	20.26	18.79	18.19	22.13	25.98	27.75	27.15	29.96	31.15
28	24.65	19.00	17.45	20.66	19.12	18.45	22.17	26.15	27.84	27.28	30.03	31.05
29	24.73	17.99	17.71	20.73	---	18.51	22.25	26.28	27.94	27.38	30.04	30.72
30	24.79	16.76	17.91	20.73	---	18.67	22.31	26.42	27.99	27.47	30.04	30.25
31	24.87	---	18.16	20.67	---	19.02	---	26.53	---	27.54	30.03	---
MAX	26.81	25.27	---	20.73	21.91	21.48	22.31	26.53	27.99	27.99	30.04	31.15
WTR YR 1986 MEAN	23.37			HIGH	14.19	DEC 17	LOW	31.15	SEP 27			

GROUND-WATER RECORDS IN

FRANKLIN COUNTY

395039082585800. Local number, FR 115, TH 67.

LOCATION.--Lat 39°50'39", long 82°58'58", Hydrologic Unit 05060001, near Hamilton Meadows.

Owner: City of Columbus.

AQUIFER.--Glacial sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 116 ft.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 721 ft above National Geodetic Vertical Datum of 1929. Measuring point: Floor of instrument shelter, 2.10 ft above land-surface datum.

PERIOD OF RECORD.--August 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.21 ft below land-surface datum, May 3, 1984; lowest, 41.43 ft below land-surface datum, Mar. 16, 1984.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32.71	33.05	31.00	31.52	31.17	31.39	30.75	31.98	29.12	29.77	32.29	32.82
2	32.35	32.06	31.04	31.59	31.31	29.51	28.92	30.27	31.93	31.72	32.72	32.70
3	32.84	31.58	29.31	31.82	30.15	28.55	30.95	29.52	30.13	29.92	31.19	32.67
4	32.99	31.06	30.75	31.68	29.30	30.92	29.09	31.87	31.99	31.84	30.50	32.63
5	33.17	30.67	28.67	31.92	28.57	29.27	28.30	32.22	30.32	32.22	32.46	32.47
6	33.22	32.64	30.74	32.04	31.15	31.47	30.91	30.51	31.84	30.51	30.94	32.53
7	33.31	33.09	31.04	32.27	29.18	29.63	31.33	29.95	32.19	29.64	32.56	32.57
8	33.36	32.60	29.00	32.29	28.26	28.88	29.40	29.39	30.46	30.66	32.74	32.60
9	33.44	32.51	30.96	32.21	30.39	28.32	31.37	31.79	29.70	30.61	31.32	32.63
10	33.49	31.50	31.25	32.36	30.45	28.20	29.52	32.17	31.98	30.73	30.52	32.62
11	33.62	30.52	29.22	32.42	28.41	28.21	31.27	30.44	30.18	29.63	31.43	32.62
12	33.65	32.09	30.67	32.43	28.21	28.04	31.75	29.57	29.11	29.04	30.59	32.63
13	33.78	32.30	28.58	32.65	28.39	27.78	30.02	29.27	29.01	31.13	32.54	32.64
14	33.81	32.35	27.60	32.63	30.90	30.18	29.06	29.12	28.93	31.77	31.02	33.48
15	33.89	32.45	27.25	32.71	32.82	30.73	31.47	29.05	28.79	29.94	32.74	33.70
16	33.98	31.92	29.99	32.75	30.63	28.57	29.72	28.97	28.74	31.71	33.09	32.48
17	33.96	31.86	28.04	32.74	29.00	27.61	31.66	28.89	28.80	30.00	33.32	31.61
18	34.02	31.75	30.49	32.75	28.51	30.33	29.93	28.81	28.73	31.92	33.31	31.09
19	34.07	31.75	28.38	32.79	28.13	28.04	29.04	31.69	28.67	32.34	33.48	30.87
20	34.09	31.80	30.43	32.83	28.07	30.56	31.41	29.87	28.72	30.62	33.57	30.70
21	34.08	31.73	30.83	32.66	27.95	28.53	31.91	29.23	28.72	29.76	33.69	30.58
22	34.11	31.82	28.70	32.68	27.80	27.67	30.21	29.02	28.68	32.14	33.64	31.79
23	34.01	31.98	27.61	32.57	30.74	30.44	31.87	29.56	28.69	30.47	33.78	32.05
24	34.13	32.20	30.49	32.49	31.22	30.93	30.16	31.15	28.78	32.13	33.90	32.24
25	34.21	32.22	28.56	32.29	29.31	28.86	31.79	29.64	28.83	30.51	32.59	32.36
26	34.18	32.20	30.51	32.25	29.56	27.91	32.18	29.21	28.80	29.73	31.64	32.28
27	34.06	31.63	28.56	31.93	28.49	27.61	30.48	30.65	28.78	32.15	31.20	32.13
28	34.25	31.31	28.02	31.64	31.04	30.53	29.46	29.56	28.77	32.35	30.84	32.05
29	33.92	31.26	30.69	30.45	---	30.95	31.88	31.81	28.67	30.82	32.89	32.97
30	34.20	31.27	31.04	31.05	---	29.00	30.13	30.07	31.64	32.23	33.33	32.18
31	34.29	---	31.28	31.18	---	28.12	---	29.35	---	30.72	33.52	---
MAX	34.29	33.09	31.28	32.83	32.82	31.47	32.18	32.22	32.19	32.35	33.90	33.70
WTR YR 1986	MEAN	31.03		HIGH	27.25	DEC 15	LOW	34.29	OCT 31			

GROUND-WATER RECORDS

173

FRANKLIN COUNTY

395027082585600. Local number, TH-83, M15.

LOCATION.--Lat 39°50'27", long 82°58'56", Hydrologic Unit 05060001, near Hamilton Meadows.

Owner: JP Sand and Gravel Co.

AQUIFER.--Glacial sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 8 in., depth 64 ft.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 707 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing 1.70 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 11.50 ft below land-surface datum, June 15, 1981; lowest, 31.87 ft below land-surface datum, Mar. 17, 1984.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.26	20.52	18.79		---	19.31	18.58	19.63	15.61	16.62		
2	19.51	18.87	18.60		---	16.55	15.78	17.35	19.42	19.28		
3	20.44	18.21	16.00		---	15.19	18.75	16.21	17.04	16.89		
4	20.67	17.60	18.58		---	18.74	16.03	19.54	19.57	19.43		
5	20.81	17.13	15.69		14.98	16.16	14.89	19.96	17.32	19.88		
6	20.79	19.69	18.45		18.89	19.42	18.72	17.70	19.36	17.59		
7	20.98	20.44	18.81		16.20	16.70	19.22	16.59	19.96	16.25		
8	21.06	19.77	16.00		14.72	15.46	16.55	16.04	17.60	17.69		
9	21.14	19.63	18.67		17.89	14.92	19.14	19.37	16.33	17.62		
10	21.19	18.44	18.99		18.08	14.69	16.63	19.92	19.61	17.85		
11	21.33	17.21	16.40		15.10	14.60	19.00	17.58	17.25	16.33		
12	21.39	19.58	18.39		17.99	14.47	19.61	16.30	15.72	15.53		
13	21.54	19.91	15.60		15.31	14.22	17.25	15.85	15.43	18.45		
14	21.59	19.91	14.12		18.69	17.99	15.80	15.64	15.30	19.40		
15	21.60	20.09	13.90		21.26	18.70	19.21	15.53	15.15	16.93		
16	21.73	19.75	17.69		18.16	15.30	16.81	15.43	15.06	19.26		
17	21.76	19.51	14.81		15.73	14.10	19.36	15.35	15.08	16.81		
18	21.83	19.44	18.19		15.05	18.29	17.04	15.26	15.03	---		
19	21.87	19.51	15.16		14.65	15.29	15.74	19.26	14.97	---		
20	21.89	19.48	18.34		14.46	18.39	19.24	16.80	15.01	---		
21	21.88	19.60	18.75		14.30	15.40	19.74	15.80	15.61	---		
22	21.89	19.53	15.75		14.19	14.16	17.40	15.52	14.98	---		
23	21.74	19.68	14.16		18.55	18.26	19.62	16.01	14.99	---		
24	21.83	19.88	18.23		19.09	18.79	17.32	18.27	15.06	---		
25	21.95	19.96	15.37		16.27	15.80	19.50	16.39	15.11	---		
26	21.90	19.95	18.37		16.97	14.49	19.95	15.71	15.11	---		
27	21.75	19.56	15.62		15.18	14.10	17.75	17.85	15.08	---		
28	21.99	19.17	14.50		18.79	18.37	16.25	16.30	15.09	---		
29	21.41	19.01	18.39		---	18.85	19.51	19.38	14.99	---		
30	21.89	18.99	16.47		---	15.96	17.30	17.02	19.16	---		
31	22.04	---	---		---	14.70	---	15.93	---	---		
MAX	22.04	20.52	---		---	19.42	19.95	19.96	19.96	---		
WTR YR 1986 MEAN	17.79			HIGH	13.90	DEC 15	LOW	22.04	OCT 31			

GROUND-WATER RECORDS

FRANKLIN COUNTY

395329083013100. Local number, FR-264.

LOCATION.--Lat 39°53'29", long 83°01'31", Hydrologic Unit 05060001, at American Aggregates Quarry near Columbus, Columbus, Ohio.

Owner: American Aggregates Corp.

AQUIFER.--Limestone of Silurian and Devonian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 5 in., depth 140.52 ft, cased to 15.0 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel. After March 26, 1985: Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 659 ft above National Geodetic Vertical Datum of 1929. Measuring point: base of instrument shelter 0.0 ft above land-surface datum.

PERIOD OF RECORD.--July 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 56.28 ft below land-surface datum, Jan. 10, 1984; lowest, 64.70 ft below land-surface datum, Oct. 3, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64.43	63.77	58.23	58.65	59.68	---	58.55	59.78	61.28	61.03		
2	64.57	63.83	58.25	58.66	59.55	---	58.57	59.83	61.17	60.84		
3	64.70	62.49	58.26	58.73	59.55	---	58.59	59.83	61.17	60.96		
4	64.69	62.41	58.29	58.75	58.97	---	58.61	59.83	61.26	61.12		
5	64.06	62.27	58.32	58.75	---	---	58.63	59.83	61.33	61.29		
6	63.73	62.43	58.40	58.78	---	---	58.64	59.81	61.34	61.40		
7	63.69	62.51	58.43	58.83	---	---	58.65	59.83	61.37	61.53		
8	63.69	62.80	58.51	58.85	---	---	58.75	59.97	61.43	61.58		
9	63.67	62.95	58.57	58.85	---	---	58.77	60.10	61.49	61.58		
10	63.73	60.24	58.58	58.91	---	---	58.80	60.17	61.51	61.26		
11	63.73	58.38	58.57	58.98	---	---	58.84	60.24	61.34	61.28		
12	63.77	58.29	58.46	58.99	---	58.60	58.89	60.29	61.07	60.57		
13	63.85	58.88	58.46	59.09	---	58.48	58.94	60.63	61.12	60.77		
14	63.71	58.93	58.41	59.22	---	58.40	58.95	60.64	61.12	60.93		
15	63.70	59.00	58.32	59.30	---	58.39	58.96	60.70	61.18	61.14		
16	63.66	58.48	58.25	59.35	---	58.29	59.01	60.73	61.28	61.27		
17	63.62	58.33	58.19	59.35	---	58.17	59.05	60.79	61.34	61.38		
18	63.58	58.42	58.15	59.28	---	58.06	59.16	60.88	61.37	61.38		
19	63.58	58.53	58.20	59.29	---	57.95	59.19	60.80	61.48	---		
20	63.58	58.62	58.24	59.04	---	58.02	59.19	60.81	61.53	---		
21	63.61	58.69	58.28	59.16	---	58.02	59.23	60.94	61.61	---		
22	63.68	58.82	58.33	59.17	---	58.05	59.40	61.05	61.64	---		
23	63.66	58.93	58.38	59.20	---	58.10	59.41	61.18	61.74	---		
24	63.59	59.23	58.41	59.22	---	58.17	59.46	61.26	61.79	---		
25	63.41	59.30	58.44	59.21	---	58.22	59.60	61.29	61.79	---		
26	63.46	59.31	58.45	59.20	---	58.26	59.68	61.29	61.79	---		
27	63.57	58.37	58.53	59.42	---	58.32	59.68	61.01	61.79	---		
28	63.61	58.25	58.55	59.54	---	58.38	59.69	61.22	61.74	---		
29	63.55	58.23	58.58	59.57	---	58.42	59.71	61.23	61.36	---		
30	63.50	58.23	58.61	59.69	---	58.47	59.73	61.23	61.44	---		
31	63.60	---	58.63	59.70	---	58.50	---	61.23	---	---		
MAX	64.70	63.83	58.63	59.70	---	---	59.73	61.29	61.79	---		
WTR YR 1986	MEAN	60.22		HIGH	57.95	MAR 19	LOW	64.70	OCT 3			

GROUND-WATER RECORDS

175

FRANKLIN COUNTY

395255083003000. Local number, FR-262.

LOCATION.--Lat 39°52'55", long 83°00'30", Hydrologic Unit 05060001, 0.4 mi of I-270, 0.4 mi W. of US 23S, near Columbus, Ohio.

Owner: American Aggregates Corp.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 50 ft, cased to 45 ft, finish is 5 ft of 0.010 in well screen.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel. After May 3, 1985: Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 691.8 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level 9.12 ft below land-surface datum May 10, 1983; lowest, 26.57 ft below land-surface datum, Sept. 26, 27, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.04	24.21	---	16.06	19.46	15.35	15.24	19.95	22.83	24.09	24.26	25.95
2	23.08	24.24	---	16.21	19.53	15.47	15.44	20.07	22.88	24.10	24.33	25.99
3	23.13	24.26	---	16.46	19.58	15.65	15.62	20.17	22.94	24.10	24.40	26.03
4	23.18	24.24	14.72	16.60	19.59	15.82	15.81	20.26	22.99	24.10	24.48	26.07
5	23.23	24.13	14.21	16.80	19.44	15.92	16.01	20.37	23.06	24.05	24.55	26.08
6	23.27	24.09	14.40	17.03	17.99	16.08	16.19	20.50	23.12	24.00	24.62	26.08
7	23.31	24.06	14.51	17.24	15.70	16.29	16.37	20.60	23.19	23.99	24.69	26.10
8	23.35	24.04	14.68	17.40	12.47	16.38	16.59	20.73	23.24	23.98	24.75	26.12
9	23.39	24.03	14.85	17.56	12.65	16.51	16.78	20.83	23.30	23.99	24.82	26.15
10	23.43	24.03	14.97	17.76	12.81	16.63	16.96	20.94	23.36	23.99	24.88	26.18
11	23.47	23.86	15.02	17.90	13.12	16.79	17.16	21.04	23.37	23.97	24.92	26.22
12	23.53	23.13	14.94	18.05	13.30	16.93	17.36	21.14	23.37	23.96	24.95	26.22
13	23.55	22.66	13.77	18.21	13.46	16.90	17.56	21.26	23.33	23.83	25.04	26.22
14	23.57	22.20	12.93	18.38	13.61	14.10	17.71	21.37	23.30	23.74	25.10	26.22
15	23.61	21.72	12.59	18.53	13.80	12.83	17.86	21.49	23.29	23.67	25.16	26.23
16	23.66	21.19	12.82	18.68	13.91	12.73	18.01	21.59	23.30	23.61	25.22	26.25
17	23.70	20.00	13.00	18.77	14.04	13.01	18.17	21.69	23.33	23.57	25.27	26.27
18	23.75	18.60	13.21	18.85	14.15	13.09	18.32	21.79	23.37	23.55	25.32	26.29
19	23.77	17.97	13.38	18.90	14.30	13.27	18.45	21.87	23.42	23.55	25.37	26.33
20	23.81	17.61	13.59	18.89	14.41	13.34	18.55	21.95	23.47	23.56	25.42	26.36
21	23.84	17.48	13.76	18.88	14.54	13.40	18.71	22.02	23.53	23.61	25.48	26.39
22	23.86	17.32	13.89	18.89	14.56	13.47	18.84	22.10	23.62	23.66	25.52	26.42
23	23.89	17.32	14.08	18.91	14.64	13.63	18.97	22.19	23.67	23.71	25.58	26.45
24	23.93	17.40	14.36	18.90	14.74	13.78	19.08	22.28	23.74	23.76	25.62	26.50
25	23.95	17.43	14.61	18.86	14.79	13.91	19.20	22.36	23.81	23.82	25.67	26.53
26	23.97	17.43	14.76	18.88	14.86	14.08	19.34	22.44	23.86	23.86	25.72	26.57
27	24.00	17.03	15.04	18.97	15.07	14.29	19.47	22.51	23.93	23.92	25.75	26.57
28	24.11	15.92	15.22	19.03	15.22	14.46	19.60	22.58	23.98	23.97	25.79	26.55
29	24.12	---	15.46	19.16	---	14.64	19.72	22.64	24.02	24.05	25.83	26.36
30	24.14	---	15.63	19.27	---	14.85	19.83	22.70	24.06	24.13	25.87	26.02
31	24.17	---	15.87	19.36	---	15.04	---	22.76	---	24.19	25.91	---
MAX	24.17	---	---	19.36	19.59	16.93	19.83	22.76	24.06	24.19	25.91	26.57

WTR YR 1986 MEAN 20.50 HIGH 12.47 FEB 8 LOW 26.57 SEP 26 AND OTHERS

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	
NOV 14...	1045	830	7.10	13.0	0.4	0	460	130	120	
DATE		MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)
NOV 14...	38	11	1.6	321	50	0	110	39	0.1	
DATE		SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS TOTAL (UG/L)
NOV 14...	11		520	<0.10	<0.01	<100	600	210	1.1	<1

GROUND-WATER RECORDS

FRANKLIN COUNTY

395117083011600. Local number, FR-120, M6.

LOCATION.--Lat 39°51'17", long 83°01'16", Hydrologic Unit 05060001, near Columbus.

Owner: Franklin County.

AQUIFER.--Glacial sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 72 ft.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 685 ft above National Geodetic Vertical Datum of 1929. Measuring point: Floor of instrument shelter, 7.14 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 3.36 ft above land-surface datum, Mar. 21, 1984; lowest, 15.58 ft below land-surface datum, Nov. 15, 1984.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.90	12.55	2.33	8.93	7.09	---	5.31	8.16	8.22	9.61	10.94	12.50
2	12.89	12.84	.50	9.01	7.16	---	5.50	7.85	9.62	9.15	11.13	12.67
3	12.92	12.52	1.74	9.19	8.07	---	5.73	6.69	8.72	8.80	10.85	12.72
4	12.94	12.45	3.40	9.14	7.38	---	5.91	9.14	8.72	8.72	11.07	12.75
5	13.03	12.49	3.85	9.36	3.40	---	6.06	9.47	8.79	9.02	11.21	11.38
6	13.02	11.96	4.89	9.47	.41	---	6.04	9.57	9.76	9.31	11.20	11.29
7	13.08	12.38	5.64	9.70	-0.84	---	6.14	9.66	9.44	9.62	11.33	11.22
8	13.11	11.90	6.18	9.74	.40	---	7.80	9.76	9.21	9.77	11.39	11.22
9	13.12	12.24	6.15	9.69	-0.74	---	7.02	8.66	9.20	9.54	11.50	11.23
10	13.14	11.95	6.98	9.85	---	---	6.81	8.58	9.42	9.81	11.55	11.21
11	13.17	9.49	6.80	9.92	---	---	7.97	8.48	8.56	9.64	11.62	11.17
12	13.15	9.44	4.72	9.99	---	3.99	8.68	8.52	7.52	9.19	11.72	10.96
13	13.18	8.61	.97	10.13	---	2.27	8.96	8.55	7.99	6.77	11.76	10.97
14	13.17	5.86	.04	10.13	---	-2.49	9.04	8.67	8.12	5.95	11.70	10.96
15	13.15	6.90	1.21	10.26	---	-2.46	9.17	8.65	8.29	8.05	11.83	10.93
16	13.16	6.93	.93	10.28	---	-2.12	8.69	8.58	8.43	7.57	11.91	10.97
17	13.17	4.52	2.83	10.29	---	-1.70	9.22	8.59	8.62	8.67	11.98	10.97
18	13.19	4.24	4.15	10.29	---	-1.36	9.47	8.32	8.68	8.98	11.95	10.97
19	13.22	4.15	5.05	10.22	---	2.16	9.58	9.50	8.71	8.15	12.09	11.02
20	13.21	5.15	5.63	9.38	---	-0.39	9.52	9.66	8.62	9.41	12.13	11.07
21	13.14	5.75	6.15	8.51	---	.66	9.52	9.70	8.73	9.17	12.23	11.11
22	13.16	6.44	6.33	6.87	---	1.33	9.34	9.81	8.73	8.58	12.27	11.11
23	13.09	7.00	6.74	5.96	---	2.00	8.82	8.61	8.81	9.89	12.32	11.14
24	12.76	7.53	7.23	5.88	---	2.82	8.48	8.26	8.63	10.16	12.41	11.16
25	11.92	7.84	7.57	4.49	---	4.87	8.53	9.04	8.60	10.34	12.36	11.15
26	11.72	7.93	7.68	4.27	---	5.45	8.76	8.52	8.69	10.46	12.50	9.97
27	11.60	3.74	8.01	5.23	---	5.92	9.03	8.36	8.78	10.58	12.31	8.96
28	11.55	.28	8.22	6.06	---	4.78	9.08	8.42	8.63	10.61	12.36	7.99
29	11.40	-0.80	8.43	4.88	---	4.89	9.30	8.37	8.69	10.81	12.45	7.99
30	11.43	-0.35	8.55	7.79	---	5.07	9.39	8.36	9.44	10.81	12.55	7.73
31	11.30	---	8.69	8.43	---	5.17	---	8.28	---	10.93	12.64	---
MAX	13.22	12.84	8.69	10.29	---	---	9.58	9.81	9.76	10.93	12.64	12.75

WTR YR 1986 MEAN 8.60 HIGH -2.49 MAR 14 LOW 13.22 OCT 19

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	
APR 09 ...	1645	670	7.50	11.0	0.2	K1	360	30	93	31	
DATE		SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
APR 09 ...	4.2	1.5	330	20	0.2	58	16	0.3	13	420	
DATE		NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS TOTAL (UG/L)	
APR 09 ...	0.22	<0.01	0.4	<0.10	<0.01	2100	47	1.2	1		

GROUND-WATER RECORDS

177

FRANKLIN COUNTY

395020083003700. Local number, FR 104, TH 73.

LOCATION.--Lat 39°50'20", long 83°00'37", Hydrological Unit 05060001, near Shadeville.

Owner: City of Columbus.

AQUIFER.--Glacial sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 68 ft.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 685 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 4.00 ft above land-surface datum.

PERIOD OF RECORD.--August 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.66 ft below land-surface datum, May 4, 1983; lowest, 19.26 ft below land-surface datum, Nov. 2, 3, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.56	22.86	13.57	13.95	11.85	8.22	9.41	10.96	17.21	18.02	13.24	16.88
2	18.70	23.11	13.95	12.94	12.11	8.29	13.85	15.28	13.29	15.00	13.01	16.99
3	18.90	23.11	13.99	12.18	12.17	8.40	9.76	15.64	17.38	16.58	14.98	17.02
4	19.01	22.73	14.48	11.70	11.22	13.39	14.35	11.71	13.34	12.36	15.37	16.97
5	19.10	22.84	14.63	11.24	7.70	13.49	14.70	11.17	17.52	11.66	13.41	16.72
6	19.09	22.83	15.67	10.91	4.76	13.73	14.94	10.90	13.57	16.50	15.42	16.81
7	19.17	22.79	16.32	10.70	2.98	13.99	15.13	10.78	12.45	16.88	15.65	16.91
8	19.21	22.76	16.93	10.52	3.61	13.85	15.33	11.04	16.35	14.86	17.35	17.04
9	19.24	22.81	17.45	10.30	4.06	13.99	11.25	10.81	16.37	14.39	18.11	17.17
10	19.24	22.56	17.79	10.11	4.44	14.19	15.20	10.85	12.21	14.55	18.55	17.27
11	15.41	21.51	17.89	10.00	5.38	14.01	11.11	15.76	15.70	12.37	16.44	17.38
12	14.47	20.16	16.64	9.87	8.55	13.17	10.60	13.82	16.63	11.56	16.45	17.17
13	13.96	19.72	10.72	9.83	9.78	10.37	15.78	14.00	16.87	12.72	16.52	17.32
14	13.58	18.24	9.71	9.76	8.87	6.22	15.61	14.55	17.08	12.81	16.36	15.44
15	13.23	17.76	10.37	9.75	11.74	6.39	11.48	16.77	17.43	10.57	16.57	15.08
16	12.95	17.39	11.68	9.67	11.49	7.15	15.49	16.83	17.64	10.38	16.58	19.09
17	12.77	13.89	13.00	9.60	7.43	8.17	11.38	17.41	17.90	15.62	16.65	19.43
18	12.60	14.73	14.36	9.50	9.00	8.55	15.67	17.04	18.09	11.43	16.72	19.72
19	12.44	14.85	15.25	9.40	7.43	9.46	15.89	13.09	18.27	11.23	16.77	20.18
20	12.30	15.10	15.98	8.90	6.79	8.91	11.81	16.66	18.02	16.29	16.82	20.58
21	12.06	16.03	16.46	8.21	10.69	9.48	11.07	16.95	18.34	16.64	16.99	18.57
22	16.42	16.79	16.89	7.86	10.63	10.02	15.09	17.09	18.38	12.68	19.06	18.47
23	18.36	17.35	17.29	10.13	10.97	10.63	10.76	16.90	18.67	12.29	19.62	18.44
24	19.29	17.77	17.92	10.01	11.49	11.52	14.66	13.03	18.54	14.63	17.55	18.42
25	19.85	18.05	18.36	10.69	12.04	9.62	10.21	14.72	18.56	14.80	17.37	18.31
26	20.31	18.32	18.70	10.34	9.89	7.50	9.80	14.74	18.62	15.03	15.56	16.72
27	20.92	17.10	19.01	10.73	12.75	7.47	14.55	12.59	18.84	13.03	15.16	15.41
28	21.45	12.04	19.34	11.13	8.47	12.36	14.98	14.66	18.74	12.78	16.74	14.66
29	21.91	11.19	19.59	9.08	---	12.88	10.87	12.49	18.85	15.01	17.02	12.32
30	22.23	12.69	19.74	11.33	---	13.19	15.15	16.70	14.79	13.10	17.02	13.81
31	22.57	---	15.61	11.66	---	13.58	---	17.11	---	15.25	17.06	---
MAX	22.57	23.11	19.74	13.95	12.75	14.19	15.89	17.41	18.85	18.02	19.62	20.58
WTR YR 1986 MEAN	14.49											
HIGH												
LOW												

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CaCO3)	HARDNESS NONCARB WH WAT TOT FLD (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	
NOV 20...	1545	681	7.40	11.0	0.2	K1	410	90	100	
DATE		MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CaCO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)
NOV 20...	38		5.7	1.4	314	24	0.2	86	13	0.4
DATE		SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUMINUM, DIS-SOLVED (UG/L AS AL)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	
NOV 20...	15		450	<0.10	<0.01	<100	2100	56	1.1	

GROUND-WATER RECORDS

FRANKLIN COUNTY

395020083003400. Local number, FR-104, TH72.

LOCATION.--Lat 39°50'20", long 83°00'34", Hydrologic Unit 05060001, near Columbus.

Owner: City of Columbus.

AQUIFER.--Glacial sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 100 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 682 ft above land-surface datum.

PERIODS OF RECORD.--September 1982 to current year.

EXTREMES POOR PERIOD OF RECORD.--Highest water level, 0.45 ft below land-surface datum, Mar. 26, 1984; lowest, 31.09 ft below land-surface datum, Nov. 8, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
OCT 22, 1985	11.46	DEC 4, 1985	23.03	DEC 30, 1985	27.45	MAR 12, 1986	9.91
NOV 8, 1985	31.09						

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)
NOV 20...	1420	725	7.80	14.5	1.5	0	330	81	32

DATE	SODIUM, DIS-SOLVED (MG/L AS Na)	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY, WH WAT TOTAL FIELD (MG/L AS CaCO3)	CARBON DIOXIDE, DIS-SOLVED (MG/L AS CO2)	SULFIDE TOTAL (MG/L AS S)	SULFATE, DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
NOV 20...	18	2.9	425	13	0	29	26	0.4	13

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUMINUM, DIS-SOLVED (UG/L AS AL)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS TOTAL (UG/L)
NOV 20...	460	<3.90	0.06	300	4400	140	3.2	<1

GROUND-WATER RECORDS

179

FRANKLIN COUNTY

395021083002900. Local number, FR 104, TH 18.

LOCATION.--Lat 39°50'21", long 83°00'29", Hydrologic Unit 05060001, near Columbus.

Owner: City of Columbus.

AQUIFER.--Glacial sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 12 in., depth 76 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 691 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of plastic pipe, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--September 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 9.17 ft below land-surface datum, Mar. 26, 1984; lowest, 35.62 ft below land-surface datum, Nov. 8, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 22, 1985	20.26	Dec 4, 1985	26.86	Mar 12, 1986	18.94	Jul 18, 1986	21.60
Nov 8, 1985	35.62	Dec 30, 1985	31.84				

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLIFORM, FECAL, UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CaCO3)	HARDNESS NONCARBONATE (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)
NOV 20...	1400	640	7.80	11.5	1.2	K2	340	19	70

DATE	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY, WH WAT TOTAL FIELD (MG/L AS CaCO3)	CARBON DIOXIDE, DIS-SOLVED (MG/L AS CO2)	SULFIDE TOTAL (MG/L AS S)	SULFATE, DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	FLUORIDE, DIS-SOLVED (MG/L AS F)
NOV 20...	40	12	1.7	312	9.8	0	55	32	0.3

DATE	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, NO2+NO3, DIS-SOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUMINUM, DIS-SOLVED (UG/L AS Al)	IRON, DIS-SOLVED (UG/L AS Fe)	MANGANESE, DIS-SOLVED (UG/L AS Mn)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS TOTAL (UG/L)
NOV 20...	5.6	410	<0.10	<0.01	<100	1800	200	1.7	<1

GROUND-WATER RECORDS

FRANKLIN COUNTY

395027082592500. Local number, FR 151.

LOCATION.--Lat 39°50'27", long 82°59'25", Hydrologic Unit 05060001, near Shadeville.

Owner: City of Columbus.

AQUIFER.--Glacial sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 60 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 720 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of plastic pipe, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--July 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.54 ft below land-surface datum, July 25, 1985; lowest, 30.85 ft below land-surface datum, Mar. 15, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Nov 1, 1985	27.29	Dec 3, 1985	24.17	Mar 12, 1986	23.59	Sep 8, 1986	6.53
Nov 16, 1985	25.81						

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
NOV 14...	0915	720	7.09	13.0	0.9	0	380	100	100	32
APR 11...	0830	737	7.40	11.5	0.3	K1	380	130	100	32

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
NOV 14...	8.7	1.5	280	44	0	86	33	0.1	10	440
APR 11...	9.3	1.5	253	19	<0.1	85	33	0.2	10	420

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS TOTAL (UG/L)
NOV 14...	--	--	--	<0.10	0.01	100	930	35	0.6	<1
APR 11...	0.05	<0.01	0.3	<0.10	<0.01	--	910	36	0.3	3

GROUND-WATER RECORDS

181

FRANKLIN COUNTY

395314083021900. Local number, FR-202.

LOCATION.--Lat.39°53'14", long 83°02'19", Hydrologic Unit 05060001, on Thrailkill Road near Columbus, Ohio.

Owner: D.W. Himes.

AQUIFER.--Limestone of Silurian age.

WELL CHARACTERISTICS.-- Drilled domestic water well, diameter 5 in., depth 220 ft, cased to 139 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 752 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.17 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 66.17 ft below land-surface datum, June 25, 1979; lowest, 96.50 ft below land-surface datum, July 19, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 4, 1985	84.01	MAR 13, 1986	83.10				

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
APR 10...	1620	945	7.50	12.5	0.2	K1	460	110	110	44

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WH WAT TOTAL MG/L AS CACO3	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
APR 10...	26	2.3	349	21	<0.1	190	8.0	1.6	15	610

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS TOTAL (UG/L)
APR 10...	0.60	<0.01	0.7	<0.10	<0.01	1100	40	0.3	1

GROUND-WATER RECORDS

FRANKLIN COUNTY

395409083015001. Local number, FR-224.

LOCATION.--Lat 39°54'09", long 83°01'50", Hydrologic Unit 05060001, on Dyer Road near Columbus, Ohio.

Owner: H. Barnes.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled domestic water well, diameter 5.5 in., depth 78 ft, cased to 78 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 721 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 0.69 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 44.72 ft below land-surface datum, July 11, 1979; lowest, 75.20 ft below land-surface datum, Nov. 26, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 4, 1985	73.16	Mar 13, 1986	72.81

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CAC03)	HARDNESS NONCARB WH WAT TOT FLD (MG/L AS CAC03)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)
APR 10...	1500	1100	7.20	11.0	<0.1	K1	590	310	140	58

DATE	SODIUM, DIS-SOLVED (MG/L AS NA)	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CAC03)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)
APR 10...	21	2.9	281	34	1.5	350	8.3	1.6	11	760

DATE	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS TOTAL (UG/L)
APR 10...	0.49	<0.01	0.6	<0.10	<0.01	90	18	0.7	3

GROUND-WATER RECORDS

183

FRANKLIN COUNTY

395409083013201. Local number, FR-217.

LOCATION.--Lat 39°54'09", long 83°01'32", Hydrologic Unit 05060001, on Dyer Road near Columbus, Ohio.

Owner: J.Strawser.

AQUIFER.--Sand and Gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled domestic water well, diameter 4.25 in., depth 93 ft, cased to 93 ft.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface is 712 ft above National Geodetic Vertical Datum of 1929, from topographic map.

Measuring point: Top of casing, 1.12 ft above land-surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 36.38 ft below land-surface datum, July 1, 1979; lowest, 66.23 ft below land-surface datum, Jan. 31, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 4, 1985	63.30	Mar 12, 1986	64.83

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
APR 10...	1540	1600	7.10	13.0	0.2	K1	790	570	210	65
DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
APR 10...	53	4.2	218	34	<0.1	600	85	0.3	11	1200
DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS TOTAL (UG/L)	
APR 10...	0.32	<0.01	0.5	<0.10	<0.01	1500	160	1.1	1	

GROUND-WATER RECORDS

FRANKLIN COUNTY

395448083004200. Local number, FR-258.

LOCATION.--Lat 39°54'48", long 83°00'42", Hydrologic Unit 05060001, on Scioto River levee behind Inland Products near Columbus, Ohio.

Owner: City of Columbus.

AQUIFER.--Gravel and cobbles of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 50 ft, cased to 40 ft, finish is 5 ft of 0.010 in well screen from 40 ft to 45 ft.

INSTRUMENTATION.--Periodic measurements with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 713 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.87 ft below land-surface datum, Mar. 20, 1984; lowest, 30.85 ft below land-surface datum, Jan. 30, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Nov 13, 1985	28.37	Dec 4, 1985	25.51	Mar 13, 1986	26.34

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
APR 11...	1315	985	7.30	15.0	1.6	K1	400	50	110	31

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LILITY WH WAT TOTAL FIELD MG/L AS CACO3	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
APR 11...	32	11	352	34	<0.1	120	56	0.5	11	590

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS TOTAL (UG/L)
APR 11...	7.70	<0.01	9.8	<0.10	<0.01	220	560	3.9	3

GROUND-WATER RECORDS

185

FRANKLIN COUNTY

395413083002900. Local number, FR-260.

LOCATION.--Lat 39°4'13", long 83°00'29", Hydrologic Unit 05060001, on Scioto River levee 600 ft North of Columbus Corporate boundary near Columbus, Ohio.

Owner: City of Columbus.

AQUIFER.--Gravel of Quaternary Age.

WELL CHARACTERISTICS.-- Drilled observation water well, diameter 2 in., depth 60 ft, cased to 55 ft finish is 5 ft of 0.010 in well screen.

INSTRUMENTATION.--Periodic measurements with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 713 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.82 ft below land-surface datum, May 10, 1983; lowest, 43.35 ft below land-surface datum, July 14, 1982.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Nov 13, 1985	30.98	Dec 04, 1985	29.22	DMar 13, 1986	28.85

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
NOV 14...	1300	780	7.20	15.0	2.3	0	270	46	70	23
APR 10...	1000	750	7.60	14.0	0.6	K1	270	60	70	22

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)
NOV 14...	40	7.6	222	27	0	93	64	0.8	15	450
APR 10...	35	6.5	205	10	<1.0	100	58	0.9	14	440

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS TOTAL (UG/L)
NOV 14...	--	--	--	<0.10	<0.01	100	1300	19	4.3	19
APR 10...	8.40	<0.01	9.9	<0.10	<0.01	--	1300	21	3.5	13

GROUND-WATER RECORDS

FRANKLIN COUNTY

395523083003100. Local number, FR-256.

LOCATION.--Lat 39°55'23", long 83°00'31", Hydrologic Unit 05060001, on Scioto River levee 0.6 mi north of Frank Road near Columbus, Ohio.

Owner: City of Columbus.

AQUIFER.--Sand of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 40 ft, cased to 30 ft finish is 10 ft of 0.010 in well screen.

INSTRUMENTATION.--Periodic measurement with steel tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 710 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 3.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1982 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 18.66 ft below land-surface datum, Mar. 20, 1984: lowest, 24.97 ft below land-surface datum, Sept. 16, 1982.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Nov 13, 1985	21.68	Dec 04, 1985	19.48	Mar 13, 1986	19.19	Apr 11, 1986	22.04

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
NOV 13...	1500	1400	7.20	16.0	1.0	0	670	70	130	84
APR 11...	1045	1560	7.00	15.5	0.5	K1	690	70	140	83

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFIDE TOTAL (MG/L AS S)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)
NOV 13...	64	16	596	73	0.3	110	100	0.2	26	900
APR 11...	74	16	621	120	1.2	100	120	0.2	27	950

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS TOTAL (UG/L)
NOV 13...	--	--	--	<0.10	<0.01	100	9000	40	12	15
APR 11...	0.81	<0.01	9.4	<0.10	<0.01	--	12000	46	22	4

GROUND-WATER RECORDS IN FRANKLIN COUNTY

187

SURFACE-WATER RECORDS

395021083003600. SCIOTO RIVER AT SITE 104, NEAR COLUMBUS.

LOCATION.--Lat 39°50'21", long 83°00'36", Hydrologic Unit 05060001, on left bank adjacent to City of Columbus Radial

Collector Well No. 104, 0.9 mi downstream of Grant Run and 0.5 mi northwest of Shadeville.

PERIOD OF RECORD.--November 1985 to current year.

REMARKS.--This site is used for chemical-quality sampling only as part of a cooperative study with the City of Columbus.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)
NOV 20...	1215	427	8.20	12.0	11.6	8600	210	83	56

DATE	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
NOV 20...	16	13	4.7	117	1.5	70	29	0.2	9.3

DATE	SOLIDS, SUM OF CONSTITUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS TOTAL (UG/L)
NOV 20...	270	4.40	0.08	600	440	18	9.6	<1

GROUND-WATER RECORDS IN FRANKLIN COUNTY

SURFACE-WATER RECORDS

395317083013300 SCIOTO BIG RUN ABOVE LANDFILL TRIBUTARY AT COLUMBUS, OH

LOCATION.--Lat 39°53'17", long 83°01'33", Franklin County, Hydrologic Unit 05060001, right bank, 0.78 mi downstream from Marsh Run and 0.73 mi upstream from confluence with Scioto River at Columbus.

PERIOD OF RECORD.--October 1983 to current year.

REMARKS.--This site is used for chemical quality sampling only as part of a cooperative study with the city of Columbus.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)
NOV 13...	1030	455	8.00	13.0	10.6	4200	190	61	51	16
APR 10...	1345	1180	8.40	11.5	11.0	K13	520	200	140	41

DATE	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	SULFATE DIS- SOLVED (MG/L AS SO4)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)
NOV 13...	20	3.3	135	2.5	72	33	0.2	7.3	280	--
APR 10...	54	5.5	315	2.4	210	100	0.3	11	750	1.20

DATE	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS TOTAL (UG/L)
NOV 13...	--	--	1.30	0.04	300	79	21	7.4	3
APR 10...	0.03	1.3	0.39	<0.01	--	51	130	4.0	1

GROUND-WATER RECORDS IN FRANKLIN COUNTY

189

SURFACE-WATER RECORDS

395317083013400 LANDFILL TRIBUTARY AT SCIOTO BIG RUN, COLUMBUS, OH

LOCATION.--Lat 39°53'17", long 83°01'34", Franklin County, Hydrologic Unit 05060001, 300 ft upstream from confluence with Scioto Big Run at Columbus.

PERIOD OF RECORD.--October 1983 to current year.

REMARKS.--This site is used for chemical quality sampling only as part of a cooperative study with the city of Columbus.

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	SPECIFIC CONDUCTANCE (US/CM)	PH (STANDARD UNITS)	TEMPERATURE (DEG C)	OXYGEN, DIS-SOLVED (MG/L)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	HARDNESS (MG/L AS CaCO3)	HARDNESS NONCARB WH WAT TOT FLD (MG/L AS CaCO3)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)
NOV 13...	0940	373	8.30	13.0	10.6	2500	170	8	43	14
APR 10...	1200	1060	8.80	7.0	18.0	130	350	99	83	34

DATE	SODIUM, DIS-SOLVED (MG/L AS Na)	POTASSIUM, DIS-SOLVED (MG/L AS K)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CaCO3)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	SULFATE DIS-SOLVED (MG/L AS SO4)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)
NOV 13...	13	2.9	159	1.5	45	22	0.2	8.5	240	--
APR 10...	80	2.2	248	0.7	95	150	0.3	1.8	600	0.06

DATE	NITROGEN, NITRITE DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA + ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)	ALUMINUM, DIS-SOLVED (UG/L AS AL)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)	CARBON, ORGANIC TOTAL (MG/L AS C)	PHENOLS TOTAL (UG/L)
NOV 13...	--	--	2.20	0.05	200	110	13	8.2	3
APR 10...	0.01	0.5	0.69	0.15	--	59	37	6.3	3

GROUND-WATER RECORDS FOR GEAUGA COUNTY PROJECT

The following tables contain chemical analyses and ground-water-level measurements from a network of wells in Geauga County and ground-water-level measurements from miscellaneous wells in the adjacent counties. The data was collected as part of a cooperative study with the Geauga County Planning Commission for evaluating ground-water resources within Geauga County. The ground-water-level measurements from miscellaneous wells in the adjacent counties were collected in order to extend potentiometric maps to natural boundaries for use in calibrating a mathematical model of the flow system.

Remarks: Wells GE-45 and GE-190 have been destroyed.

GROUND-WATER RECORDS

GEAUGA COUNTY

412514081202200. Local number, GE-39.

LOCATION.--Lat 41°25'14", long 81°20'22", Hydrologic Unit 04110003, near intersection of U.S. 422 and SR 306.

Owner: Citizens Federal Savings.

AQUIFER.--Pottsville Formation of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled well, diameter 6.0 in., depth 78 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,200 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.20 ft. above land-surface datum.

PERIOD OF RECORD.--May 1978 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 35.63 ft below land-surface datum, May 9, 1978; lowest, 41.45 ft below land-surface datum, Aug. 18, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 4, 1986	38.48	APR. 25, 1986	40.50	MAY 9, 1986	37.80	AUG. 18, 1986	41.45

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPERATURE (DEG C)	TEMPERATURE, AIR (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	PH (STANDARD UNITS)	CARBON DIOXIDE, DIS-SOLVED (MG/L AS CO ₂)	ALKALINITY, WH WAT TOTAL FIELD (MG/L AS CaCO ₃)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, NO ₂ +NO ₃ DIS-SOLVED (MG/L AS N)	PHOSPHORUS, ORTHO, DIS-SOLVED (MG/L AS P)
APR 25...	12.5	26.0	690	<10	6.90	40	164	0.24	0.06	1.30	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARDNESS (MG/L AS CaCO ₃)	HARDNESS NONCARB WH WAT TOT FLD (MG/L AS CaCO ₃)	CALCIUM DIS-SOLVED (MG/L AS Ca)	MAGNESIUM, DIS-SOLVED (MG/L AS Mg)	SODIUM, DIS-SOLVED (MG/L AS Na)	POTASSIUM, DIS-SOLVED (MG/L AS K)	CHLORIDE, DIS-SOLVED (MG/L AS Cl)	SULFATE, DIS-SOLVED (MG/L AS SO ₄)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO ₂)
APR 25...	1.5	320	160	95	21	32	2.4	120	63	0.1	8.6

DATE	BARIUM, DIS-SOLVED (UG/L AS Ba)	IRON, DIS-SOLVED (UG/L AS Fe)	MANGANESE, DIS-SOLVED (UG/L AS Mn)	STRONTIUM, DIS-SOLVED (UG/L AS Sr)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHYLENE BLUE AT 180 ACTIVE SUBSTANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	BROMIDE, DIS-SOLVED (MG/L AS Br)
APR 25...	--	11	<1	150	K1	K1	<1	0.07	455	440	0.26

GROUND-WATER RECORDS

191

GEAUGA COUNTY

414124081010100. Local number, GE-44.

LOCATION.--Lat 41°41'24", long 81°01'01", Hydrologic Unit 04110004, 17509 Thompson Road near Thompson, OH.

Owner: Bill Armstrong.

AQUIFER.--Berea Sandstone and Bedford Shale of Mississippian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 70 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,045 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.84 ft above land-surface datum.

PERIOD OF RECORD.--May 1978 to April 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.38 ft below land-surface datum, April 11, 1980; lowest, 3.97 ft below land-surface datum, Aug. 5, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL
APR. 17, 1986	1.41

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 16...	10.0	4.5	442	12	7.90	6.2	257	0.17	0.23	<0.10	0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 16...	1.4	190	0	41	21	28	2.5	2.6	4.0	0.4	17

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 16...	300	1100	34	360	K1	K1	1	0.04	255	270	0.079

GROUND-WATER RECORDS

GEAUGA COUNTY

413202081015700. Local number, GE-48.

LOCATION.--Lat 41°32'02", long 81°01'57", Hydrologic Unit 04110004, at Huntsburg Recreation Park on US 322, east of SR 528.

Owner: Huntsburg Township.

AQUIFER.--Cuyahoga Group of Mississippian Age.

WELL CHARACTERISTICS.--Drilled pitcher-pump well, depth 58 ft, cased to 52 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,090 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.52 ft above land-surface datum.

PERIOD OF RECORD.--May 1978 to April 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 4.58 ft below land-surface datum, Sept. 17, 1980; lowest, 5.84 ft below land-surface datum, Mar. 3, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL
APR 16, 1986	4.65

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 16...	10.0	4.5	442	12	7.90	6.2	257	0.17	0.23	<0.10	0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 16...	1.4	190	0	41	21	28	2.5	2.6	4.0	0.4	17

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 16...	300	1100	34	360	K1	K1	1	0.04	255	270	0.079

GROUND-WATER RECORDS

193

GEAUGA COUNTY

413258081100900. Local number, GE-55.

LOCATION.--Lat 41°32'58", long 81°10'09", Hydrologic Unit 04110002, at Aquilla Lake Wildlife Area on Aquilla Road in Claridon Township.

Owner: State of Ohio, Division of Wildlife.

AQUIFER.--Cuyahoga Group of Mississippian Age.

WELL CHARACTERISTICS.--Drilled pitcher-pump well, diameter 6.0 in., depth 125 ft., cased to 65 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,137 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.42 ft above land-surface datum.

PERIOD OF RECORD.--May 1978 to April 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, flowing, Feb. 7, 1986 and April 17, 1986; lowest, 1.96 ft below land-surface datum, Aug. 8, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 7, 1986	FLOWING	APR. 17, 1986	FLOWING

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 17...	10.5	14.0	495	17	9.10	0.3	229	0.15	0.35	<0.10	0.05

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 17...	1.2	5	0	1.3	0.32	120	1.2	25	5.5	0.9	7.9

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 17...	100	27	2	30	K1	K1	<1	0.04	306	300	0.23

GROUND-WATER RECORDS

GEAUGA COUNTY

412051081165700. Local number, GE-60.

LOCATION.--Lat 41°20'51", long 81°16'57", Hydrologic Unit 04110003, 10098 Crackel Road in Auburn Township.

Owner: Don Childress.

AQUIFER.--Pottsville Formation of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 115 ft, cased to 42 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,200 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.28 ft above land-surface datum.

PERIOD OF RECORD.--May 1978 to April 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 58.23 ft below land-surface datum, May 24, 1978; lowest, 61.35 ft below land-surface datum, Nov. 6, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 4, 1986	59.44	APR. 29, 1986	59.51	AUG. 18, 1986	59.83

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 22...	11.5	0.5	813	<10	7.40	29	376	0.0	1.10	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARR WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 22...	1.1	400	23	92	41	49	6.4	1.9	120	0.2	19

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 22...	<100	1400	27	1	K1	K1	<1	0.04	544	560	0.048

GROUND-WATER RECORDS

195

GEAUGA COUNTY

412522081092800. Local number, GE-67.

LOCATION.--Lat 41°25'22", long 81°09'28", Hydrologic Unit 04110002, Russell Park off Rapids Road in Troy Township.

Owner: Geauga County Park Board.

AQUIFER.--Cuyahoga Group of Mississippian Age.

WELL CHARACTERISTICS.--Drilled pitcher-pump well, diameter 6.0 in., depth 90 ft, cased to 75 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,100 ft above National Geodetic Vertical Datum of 1929. Measuring

point: top of casing, 1.55 ft above land-surface datum.

PERIOD OF RECORD.--June 1978 to April 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.64 ft below land-surface datum, April 9, 1980; lowest, 2.63 ft below land-surface datum, Oct. 19, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL
APR 24, 1986	2.57

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 24...	10.5	29.0	402	17	8.50	1.3	218	0.06	0.34	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
APR 24...	0.8	42	0	11	3.4	84	2.4	10	0.7	1.2	7.9

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 24...	500	160	11	97	K1	K1	1	0.04	262	250	0.21

GROUND-WATER RECORDS

GEAUGA COUNTY

412949081104600. Local number, GE-68.

LOCATION.--Lat 41°29'49", long 81°10'46", Hydrologic Unit 04110002, Pleasant Hill Cemetery on Butternut Road in Burton Township.

Owner: Pleasant Hill Mennonite Church.

AQUIFER.--Pottsville Formation of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled pitcher-pump well, diameter 6.0 in., depth 55 ft, cased to 17 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,205 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 0.67 ft above land-surface datum.

PERIOD OF RECORD.--June 1978 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.79 ft below land-surface datum, April 10, 1980; lowest, 21.71 ft below land-surface datum, August 15, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 6, 1986	13.80	APR. 24, 1986	18.32	Aug. 19 1986	20.10

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD (MG/L AS CACO3)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 24...	9.0	26.0	140	<10	6.50	16	26	0.38	0.02	2.90	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 24...	0.6	52	26	15	3.4	7.1	1.5	11	15	<0.1	9.1

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 24...	<100	79	13	51	K1	K1	<1	0.06	89	78	0.013

GROUND-WATER RECORDS

197

GEAUGA COUNTY

413151081125800. Local number, GE-69.

LOCATION.--Lat 41°31'51", long 81°12'58", Hydrologic Unit 04110003, Highway Maintenance Garage on Bass Lake Road, north of US 322.

Owner: Ohio Department of Transportation.

AQUIFER.--Pottsville Formation of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled well, diameter 6.0 in., depth 80 ft, cased to 21 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,260 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.62 ft above land-surface datum.

PERIOD OF RECORD.--June 1978 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.60 ft below land-surface datum, June 15, 1978; lowest, 28.58 ft below land-surface datum, Aug. 8, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN 30, 1986	28.39	APR. 22, 1986	28.18	AUG. 21, 1986	27.20

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 22...	12.5	5.5	2650	14	6.90	37	151	0.19	0.11	0.54	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 22...	1.3	700	550	210	42	310	1.8	780	120	0.1	9.1

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 22...	200	70	<10	400	K1	K1	<1	0.13	1670	1600	0.21

GROUND-WATER RECORDS

GEAUGA COUNTY

413629081082800. Local number, GG-73.

LOCATION.--Lat 41°36'29", long 81°08'28", Hydrologic Unit 04110004, at roadside rest near intersection of US 6 and SR 166.

Owner: State of Ohio.

AQUIFER.--Pottsville Formation of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled pitcher-pump well, diameter 6.0 in., depth 80 ft, cased to 40 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,300 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.10 ft above land-surface datum.

PERIOD OF RECORD.--June 1978 to April 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 43.49 ft below land-surface datum, June 15, 1978; lowest, 47.77 ft below land-surface datum, April 15, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL
APR 15, 1986	47.77

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD (MG/L AS CAO3)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 15...	10.5	12.0	560	12	7.30	23	242	0.18	0.02	0.22	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CAO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CAO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 15...	0.8	300	58	79	25	4.8	1.4	3.1	68	0.2	9.6

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 15...	100	390	5	150	K1	K1	2	0.04	349	340	0.031

GROUND-WATER RECORDS

199

GEAUGA COUNTY

413028081221000. Local number, GE-77.

LOCATION.--Lat 41°30'28", long 81°22'10", Hydrologic Unit 04110003, 7615 Cedar Road in Chester Township.

Owner: Mr. Chambers.

AQUIFER.--Cuyahoga Group of Mississippian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 155 ft, cased to 80 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,140 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 2.07 ft above land-surface datum.

PERIOD OF RECORD.--June 1978 to April 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 34.68 ft below land-surface datum, April 22, 1986; lowest, 41.45 ft below land-surface datum, Aug. 7, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 29, 1986	40.47	APR. 22, 1986	34.68

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 22...	11.5	0.5	813	<10	7.40	29	376	0.0	1.10	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 22...	1.1	400	23	92	41	49	6.4	1.9	120	0.2	19

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 22...	<100	1400	27	1	K1	K1	<1	0.04	544	560	0.048

GROUND-WATER RECORDS

GEAUGA COUNTY

412749081171500. Local number, GE-89.

LOCATION.--Lat 41°27'49", long 81°17'15", Hydrologic Unit 04110003, northeast corner of SR 87 and Sperry Road.

Owner: Mid-America Trailer.

AQUIFER.--Pottsville Formation of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled well, diameter 6.0 in., depth 130 ft, cased to 41 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,270 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 0.60 ft above above land-surface datum.

PERIOD OF RECORD.--October 1978 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 81.48 ft below land-surface datum, Oct. 19, 1978; lowest, 85.43 ft below land-surface datum, April 22, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 30, 1986	85.22	APR. 22, 1986	85.43	AUG. 20, 1986	85.22

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 23...	11.5	12.0	903	<10	7.10	39	252	0.23	0.07	0.66	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 23...	0.7	460	210	120	40	14	1.8	130	74	0.2	13

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 23...	100	10	<1	240	K1	K1	<1	0.07	540	540	0.18

GROUND-WATER RECORDS

201

GEAUGA COUNTY

412713081123200. Local number, GE-92.

LOCATION.--Lat 41° 27' 13", long 81° 12' 32", Hydrologic Unit 04110002, Punderson State Park picnic area, off SR 87, west of SR 44.

Owner: State of Ohio Division of Parks and Recreation.

AQUIFER.--Pottsville Formation of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled pitcher-pump well, diameter 6.0 in., depth 72 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,170 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.49 ft above land-surface datum.

PERIOD OF RECORD.--October 1978 to April 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 33.34 ft below land-surface datum, April 10, 1980; lowest, 34.53 ft below land-surface datum, Oct. 20, 1978.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL
APR 24, 1986	34.03

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 24...	10.5	7.5	625	10	7.60	14	290	0.08	0.12	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
APR 24...	2.8	370	81	89	36	9.0	1.5	2.1	100	0.2	16

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE AT 180 ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 24...	<100	2800	96	500	K1	K1	<1	0.03	430	430	0.15

GROUND-WATER RECORDS

GEAUGA COUNTY

413757081122300. Local number, GE-101.

LOCATION.--Lat 41°37'57", long 81°12'23", Hydrologic Unit 04110004, 12080 Clark Road in Chardon Township.

Owner: Richard Shine.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 48 ft, cased to 48 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 990 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 0.90 ft above land-surface datum.

PERIOD OF RECORD.--May 1980 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.49 ft below land surface datum, Jan. 29, 1986; lowest, 25.08 ft below land-surface datum, Aug. 21, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 29, 1986	21.49	APR. 14, 1986	23.82	AUG. 21 1986	25.08

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 14...	10.0	20.0	554	18	7.30	22	224	0.19	0.11	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 14...	0.4	290	67	80	22	5.8	1.6	4.5	73	0.2	14

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 14...	100	1300	89	190	K1	0	1	0.04	360	340	0.077

GROUND-WATER RECORDS

203

GEAUGA COUNTY

413450081173000. Local number, GE-102.

LOCATION.--Lat 41°34'50", long 81°17'30", Hydrologic Unit 04110003, 9794 Stukey Lane in Chardon Township.

Owner: Tom Earstow.

AQUIFER.--Berea Sandstone of Mississippian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 116 ft, cased to 21.2 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,025 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 0.40 ft above land-surface datum.

PERIOD OF RECORD.--May 1980 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 39.84 ft below land-surface datum, Aug. 27, 1985; lowest, 51.28 ft below land-surface datum, May 7, 1980.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL
APR. 15, 1986	50.24	AUG. 21, 1986	40.60

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 15...	11.0	6.5	594	11	7.30	24	244	0.17	0.03	<0.10	<0.01
DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 15...	0.8	300	61	84	23	11	1.3	29	38	0.2	9.5
DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 15...	<100	10	39	110	K1	K1	1	0.04	351	340	0.084

GROUND-WATER RECORDS

GEAUGA COUNTY

413755081101200. Local number, GE-103.

LOCATION.--Lat 41°37'55", long 81°10'12", Hydrologic Unit 04110004, 8755 Old State Road in Hambden Township.

Owner: Donald Hurd.

AQUIFER.--Berea Sandstone of Mississippian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 136 ft, cased to 133 ft.

INSTRUMENTATION.--water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,158 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.70 ft above land-surface datum.

PERIOD OF RECORD.--May 1980 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 79.44 ft below land-surface datum, May 7, 1980; lowest, 87.00 ft below land-surface datum, Aug. 21, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 7, 1986	81.54	MAY 1, 1986	85.74	AUG. 21, 1986	87.00

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
MAY 01...	11.5	16.0	550	10	7.40	22	284	0.14	0.36	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
MAY 01...	<0.1	240	0	56	25	26	2.9	1.2	21	0.3	15

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
MAY 01...	100	840	170	890	K1	K1	<1	0.03	327	320	0.042

GROUND-WATER RECORDS

205

GEAUGA COUNTY

413606081102100. Local number, GE-104.

LOCATION.--Lat 41°36'06", long 81°10'21", Hydrologic Unit 04110004, 9912 Cutts Road in Hambden Township.

Owner: Barbara Sweeney.

AQUIFER.--Berea Sandstone of Mississippian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 204 ft, cased to 187 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,215 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.25 ft above land-surface datum.

PERIOD OF RECORD.--May 1980 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 90.83 ft below land-surface datum, May 7, 1980; lowest, 97 ft below land-surface datum, Feb. 7, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 7, 1986	97.00	MAY 1, 1986	96.80	AUG. 21, 1986	95.76

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CAO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
MAY 01...	11.0	18.0	510	<10	7.90	6.2	257	0.19	0.71	<0.10	0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
MAY 01...	0.7	140	0	34	14	57	2.7	5.1	17	0.3	12

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
MAY 01...	200	390	9	590	K1	K1	<1	0.03	301	300	0.079

GROUND-WATER RECORDS

GEAUGA COUNTY

413544081060500. Local number, GE-105.

LOCATION.--Lat 41°35'44", long 81°06'05", Hydrologic Unit 04110002, 10194 Kile Road, south of US 6.

Owner: Martin Tomasin.

AQUIFER.--Cuyahoga Group of Mississippian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 220 ft, cased to 84 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,220 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 0.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1980 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 25.28 ft below land-surface datum, Aug. 21, 1986; lowest, 44.10 ft below land-surface datum, Aug. 6, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 7, 1986	25.98	APR. 15, 1986	25.64	AUG. 21, 1986	25.64

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CAO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 15...	11.0	5.5	978	12	8.20	5.0	416	0.16	0.74	<0.10	0.02

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CAO3)	HARD- NESS NONCARB WH WAT TOT PLD MG/L AS CAO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 15...	9.0	28	0	7.2	2.3	220	2.3	120	5.0	1.1	7.2

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 15...	900	100	8	190	K1	K2	<1	0.06	578	620	1.1

GROUND-WATER RECORDS

207

GEAUGA COUNTY

413117081171900. Local number, GE-108.

LOCATION.--Lat 41°31'17", long 81°17'19", Hydrologic Unit 04110003, 12880 Rosetta Drive in Munson Township.

Owner: Ken White.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 132 ft, cased to 132 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,120 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 0.60 ft above land-surface datum.

PERIOD OF RECORD.--May 1980 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 48.86 ft below land-surface datum, May 8, 1980; lowest, 50.42 ft below land-surface datum, Aug. 7, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 30, 1986	49.16	MAY 1, 1986	49.45	AUG. 21, 1986	50.12

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
MAY 01...	11.5	21.0	328	33	8.10	2.6	167	0.13	0.27	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT PLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
MAY 01...	<0.1	9	0	1.8	1.2	76	1.6	0.8	13	0.3	12

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
MAY 01...	<100	72	3	29	K1	K1	<1	0.04	207	210	0.026

GROUND-WATER RECORDS

GEAUGA COUNTY

413005081130000. Local number, GE-109.

LOCATION.--Lat 41°30'05", long 81°13'00", Hydrologic Unit 04110002, 13468 Bass Lake Road, south of US 322.

Owner: Lynn Brown.

AQUIFER.--Pottsville Formation of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 105 ft, cased to 89 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,280 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.50 ft above land-surface datum.

PERIOD OF RECORD.--May 1980 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 72.85 ft below land-surface datum, Nov. 7, 1980; lowest, 75.98 ft below land-surface datum, Aug. 21, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Jan. 30, 1986	75.10	APR. 22, 1986	75.30	AUG 21, 1986	75.98

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL (MG/L AS CACO3)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 22...	10.5	2.0	463	<10	7.50	13	215	0.13	0.07	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 22...	1.8	260	47	70	21	4.5	1.0	2.6	58	0.2	11

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 22...	100	370	120	280	K1	K1	<1	0.03	293	300	0.022

GROUND-WATER RECORDS

209

GEAUGA COUNTY

413346081064000. Local number, GE-111.

LOCATION.--Lat 41°33'46", long 81°06'40", Hydrologic Unit 04110002, 14920 Chardon Windsor Road, east of SR 608.

Owner: David Ritterbeck.

AQUIFER.--Pottsville Formation of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 85 ft, cased to 31.5 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,270 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.70 ft above land-surface datum.

PERIOD OF RECORD.--May 1980 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 22.90 ft below land-surface datum, May 8, 1980; lowest, 28.15 below land-surface datum, April 17, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 6, 1986	28.00	APR. 17, 1986	28.15	AUG 21, 1986	27.41

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD (MG/L AS CAO3)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 17...	10.0	13.5	307	<10	7.10	21	135	--	<0.01	1.40	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CAO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CAO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 17...	0.5	160	29	49	10	3.3	0.6	2.7	19	0.2	8.3

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 17...	200	11	1	78	K1	K1	<1	0.05	195	170	0.033

GROUND-WATER RECORDS

GEAUGA COUNTY

413207081044400. Local number, GE-112.

LOCATION.--Lat 41°32'07", long 81°04'44", Hydrologic Unit 04110002, on US 322, west of Huntsburg, Ohio.

Owner: Rolling Green Golf Course.

AQUIFER.--Pottsville Formation of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 80 ft, cased to 24 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,265 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.30 ft above land-surface datum.

PERIOD OF RECORD.--May 1980 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 43.86 ft below land-surface datum, May 8, 1980; lowest, 46.68 ft below land-surface datum, Aug. 19, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 6, 1986	45.83	APR. 17, 1986	46.29	AUG. 19, 1986	46.68

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 17...	10.0	12.0	729	<10	6.90	54	220	0.37	0.03	2.00	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 17...	0.6	350	130	98	26.	17	1.3	71	61	0.1	8.2

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 17...	200	33	2	150	K1	K6	1	0.06	443	420	0.11

GROUND-WATER RECORDS

211

GEAUGA COUNTY

412737081063300. Local number, GG-115.

LOCATION.--Lat 41°27'37", long 81°06'33", Hydrologic Unit 04110002, 14992 White Road, east of Burton, Ohio.

Owner: Xavier Rumas.

AQUIFER.--Pottsville Formation of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 80 ft, cased to 34 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,170 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.30 ft above land-surface datum.

PERIOD OF RECORD.--May 1980 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 23.10 ft below land-surface datum, May 9, 1980; lowest, 25.38 below land-surface datum, Feb. 6, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 6, 1986	25.38	APR. 24, 1986	24.83	AUG. 19, 1986	23.99

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPERATURE (DEG C)	TEMPERATURE AIR (DEG C)	SPECIFIC CONDUCTANCE (US/CM)	OXYGEN DEMAND, CHEMICAL (HIGH LEVEL) (MG/L)	PH (STANDARD UNITS)	CARBON DIOXIDE DIS-SOLVED (MG/L AS CO2)	ALKALINITY WH WAT TOTAL FIELD (MG/L AS CACO3)	NITROGEN, ORGANIC DIS-SOLVED (MG/L AS N)	NITROGEN, AMMONIA DIS-SOLVED (MG/L AS N)	NITROGEN, NO2+NO3 DIS-SOLVED (MG/L AS N)	PHOSPHORUS, CITHO, DIS-SOLVED (MG/L AS P)
APR 24...	11.5	19.0	315	14	6.60	51	105	0.16	0.04	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARDNESS (MG/L AS CACO3)	HARDNESS NONCARB WH WAT TOT PLD (MG/L AS CACO3)	CALCIUM DIS-SOLVED (MG/L AS CA)	MAGNESIUM, DIS-SOLVED (MG/L AS MG)	SODIUM, DIS-SOLVED (MG/L AS NA)	POTASSIUM, DIS-SOLVED (MG/L AS K)	CHLORIDE, DIS-SOLVED (MG/L AS CL)	SULFATE DIS-SOLVED (MG/L AS SO4)	FLUORIDE, DIS-SOLVED (MG/L AS F)	SILICA, DIS-SOLVED (MG/L AS SiO2)
APR 24...	0.7	160	52	43	12	5.3	1.3	4.5	69	<0.1	9.3

DATE	BARIUM, DIS-SOLVED (UG/L AS BA)	IRON, DIS-SOLVED (UG/L AS FE)	MANGANESE, DIS-SOLVED (UG/L AS MN)	STRONTIUM, DIS-SOLVED (UG/L AS SR)	COLIFORM, FECAL, 0.7 UM-MF (COLS./100 ML)	STREPTOCOCCI, FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHYLENE BLUE ACTIVE SUBSTANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L)	SOLIDS, SUM OF CONSTITUENTS, DIS-SOLVED (MG/L)	BROMINE, DIS-SOLVED (MG/L AS BR)
APR 24...	<100	4200	810	64	K1	K1	1	0.03	207	210	0.021

GROUND-WATER RECORDS

GEAUGA COUNTY

412926081144300. Local number, GG-116.

LOCATION.--Lat 41°29'26", long 81°14'43", Hydrologic Unit 04110002, 11040 Fairmont Road in Newbury Township.

Owner: Robert Jenkins.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 112 ft, cased to 112 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,188 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.60 ft above land-surface datum.

PERIOD OF RECORD.--May 1980 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 41.83 ft below land-surface datum, May 9, 1980; lowest, 42.87 ft below land-surface datum, Aug. 14, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 30, 1986	42.56	APR. 30, 1986	41.85	AUG. 20, 1986	42.40

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD (MG/L AS CA CO3)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 30...	10.5	16.0	500	<10	7.50	15	250	0.13	0.07	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CA CO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CA CO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 30...	1.1	170	0	44	14	48	1.3	1.3	41	<0.1	14

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE AT 180 ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 30...	<100	790	91	160	K1	K1	<1	0.04	308	310	0.034

GROUND-WATER RECORDS

213

GEAUGA COUNTY

413230081190200. Local number, GE-120.

LOCATION.--Lat 41°32'30", long 81°19'02", Hydrologic Unit 04110003, 8947 Wilson Mills Road, east of SR 306.

Owner: Erwin Brandt.

AQUIFER.--Berea Sandstone of Mississippian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 135 ft, cased to 91 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,115 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--June 1980 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 91.40 ft below land-surface datum, Aug. 7, 1985; lowest, 98.62 ft below land-surface datum, Jan. 29, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 29, 1986	98.62	APR. 18, 1986	96.41	AUG. 22, 1986	93.19

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD (MG/L AS CAO3)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 18...	10.0	16.5	426	10	7.90	5.3	219	0.09	0.21	0.47	0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CAO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CAO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
APR 18...	0.7	72	0	18	6.4	67	2.3	3.2	12	0.7	11

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 18...	500	13	5	260	K1	K1	2	0.04	238	250	0.051

GROUND-WATER RECORDS

GEAUGA COUNTY

412410081223900. Local number, GE-122.

LOCATION.--Lat 41°24'10", long 81°22'39", Hydrologic Unit 04110003, 17165 Abbey Lane in Bainbridge Township.

Owner: Robert Uhl.

AQUIFER.--Berea Sandstone of Mississippian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 135 ft, cased to 94 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,010 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.20 ft above land-surface datum.

PERIOD OF RECORD.--June 1980 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 59.22 ft below land-surface datum, June 17, 1980; lowest, 62.26 ft below land-surface datum, Aug. 18, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 4, 1986	61.22	APR. 21, 1986	60.39	AUG. 18, 1986	62.36

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 21...	11.0	8.5	1450	34	7.10	52	335	0.0	1.40	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 21...	1.3	790	450	180	82	86	4.5	6.8	660	0.1	13

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 21...	<100	1400	70	1300	K1	1	<1	0.03	1250	1200	0.048

GROUND-WATER RECORDS

215

GEAUGA COUNTY

412212081230100. Local number, GE-126.

LOCATION.--Lat 41°22'12", long 81°23'01", Hydrologic Unit 04110004, 16575 Farmington Road, east of Parkman, Ohio.

Owner: Dennis Coz.

AQUIFER.--Berea Sandstone of Mississippian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 200 ft, cased to 136 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,070 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.50 ft above land-surface datum.

PERIOD OF RECORD.--June 1980 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 90.10 ft below land-surface datum, Aug. 15, 1985; lowest, 118.86 ft below land-surface datum, Aug. 18, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 25, 1986	96.78	APR. 30, 1986	91.80	AUG. 18, 1986	118.86

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 30...	11.0	20.0	660	<10	7.20	34	277	--	0.17	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 30...	<0.1	310	38	88	23	14	1.8	16	73	0.2	15

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 30...	100	660	170	190	K1	K1	4	0.04	411	400	0.06

GROUND-WATER RECORDS

GEAUGA COUNTY

412224081084300. Local number, GE-141.

LOCATION.--Lat 41°22'24", long 81°08'43", Hydrologic Unit 04110002, 18037 Tilden Road, south of Welshfield, Ohio.

Owner: Thomas Albano.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 53 ft, cased to 53 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,118 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 0.80 ft above land-surface datum.

PERIOD OF RECORD.--August 1985 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 7.13 ft below land-surface datum, Feb. 5, 1986; lowest, 9.78 ft below land-surface datum, Aug. 15, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 5, 1986	7.13	MAY 1, 1986	7.94	AUG. 18, 1986	9.18

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD (MG/L AS CA CO3)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
MAY 01...	11.5	20.0	493	<10	7.50	11	186	--	0.05	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CA CO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CA CO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
MAY 01...	0.1	230	47	67	16	6.0	1.0	21	53	0.1	10

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
MAY 01...	200	1000	180	95	K1	K1	1	0.04	299	290	0.049

GROUND-WATER RECORDS

217

GEAUGA COUNTY

412845081030100. Local number, GE-147.

LOCATION.--Lat 41°28'45", long 81°03'01", Hydrologic Unit 04110004, 16598 Nauvoo Road, east of SR 528.

Owner: Richard Gery.

AQUIFER.--Cuyahoga Group of Mississippian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 63 ft, cased to 54 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,120 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.90 ft above land-surface datum.

PERIOD OF RECORD.--September 1985 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.26 ft below land-surface datum, Apr. 30, 1986; lowest, 2.61 ft below land-surface datum, Sept. 18, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 6, 1986	1.74	APR. 30, 1986	1.26	AUG. 18, 1986	2.26

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD (MG/L AS CACO3)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 30...	11.5	23.0	780	15	7.60	13	270	0.01	0.89	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS WH WAT (MG/L AS CACO3)	HARD- NESS NONCARB TOT FLD (MG/L AS CACO3)	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
APR 30...	<0.1	260	0	63	24	81	5.6	6.3	170	0.2	14

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 30...	<100	770	15	790	K1	K1	<1	0.03	524	530	0.1

GROUND-WATER RECORDS

GEAUGA COUNTY

414158081050000. Local number, GB-148.

LOCATION.--Lat 41°41'58", long 81°05'00", Hydrologic Unit 04110004, 6386 Clay Street in Thompson Township.

Owner: Christopher Derus.

AQUIFER.--Bedford Shale of Mississippian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 100 ft, cased to 25 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,045 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--August 1985 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 6.77 ft below land-surface datum, Apr. 16, 1986; lowest, 8.67 ft below land-surface datum, Aug. 19, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 10, 1986	6.96	APR. 16, 1986	6.77	AUG. 19, 1986	8.67

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD (MG/L AS CA CO3)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 16...	10.5	3.5	263	11	7.50	7.3	119	0.07	0.13	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CA CO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CA CO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 16...	0.4	130	7	34	10	7.9	1.1	3.2	18	0.2	14

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 16...	<100	310	240	94	K1	K1	4	0.03	165	160	0.033

GROUND-WATER RECORDS

219

GEAUGA COUNTY

412319081135000. Local number, GE-151.

LOCATION.--Lat 41°23'19", long 81°03'50", Hydrologic Unit 04110002, 17681 Messinger Road, just north of US 422.

Owner: William Nokes.

AQUIFER.--Pottsville Formation of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 148 ft, cased to 62.2 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,268 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 2.30 ft above land-surface datum.

PERIOD OF RECORD.--September 1985 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 81.28 ft below land-surface datum, Feb. 4, 1986; lowest, 83.74 ft below land-surface datum, Sept. 19, 1985.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 4, 1986	81.28	APR. 29, 1986	82.48	AUG. 18 1986	82.72

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 29...	--	25.0	--	<10	7.50	11	174	0.14	0.06	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 29...	0.4	210	41	58	17	3.4	1.0	2.9	49	0.3	10

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 29...	<100	470	90	93	K1	K1	<1	0.03	248	250	0.049

GROUND-WATER RECORDS

GEAUGA COUNTY

412442081102100. Local number, GE-159.

LOCATION.--Lat 41°24'42", long 81°10'21", Hydrologic Unit 04110002, on Rapids Road, 1 mile north of US 422.

Owner: Troy Manufacturing.

AQUIFER.--Berea Sandstone of Mississippian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 286 ft, cased to 237 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,140 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.40 ft above land-surface datum.

PERIOD OF RECORD.--February 1986 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.42 ft below land-surface datum, Feb. 5, 1986; lowest, 20.74 ft below land-surface datum, Aug. 18, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 5, 1986	15.42	APR. 30, 1986	20.35	AUG. 18, 1986	20.74

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD (MG/L AS CACO3)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 30...	12.5	20.0	760	21	--	--	335	0.08	0.42	<0.10	0.02

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 30...	3.1	6	0	1.8	0.46	190	1.1	53	0.9	0.7	7.3

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 30...	<100	17	3	34	K1	K1	<1	0.05	454	460	0.34

GROUND-WATER RECORDS

221

GEAUGA COUNTY

412319081163000. Local number, GE-165.

LOCATION.--Lat 41°23'19", long 81°16'30", Hydrologic Unit 04110002, at northwest corner of US 422 and Munn Road.

Owner: Howard Alston.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 56 ft, cased to 56 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,165 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.20 ft above land-surface datum.

PERIOD OF RECORD.--February 1986 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 8.24 ft below land-surface datum, Feb. 4, 1986; lowest, 9.05 ft below land-surface datum, Aug. 18, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 4, 1986	8.24	MAY 1, 1986	8.45	AUG. 18, 1986	9.05

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
MAY 01...	10.0	22.0	405	<10	7.70	6.6	171	0.14	0.06	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
MAY 01...	2.8	200	28	60	12	4.7	0.8	11	24	<0.1	10

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
MAY 01...	100	1800	180	78	K1	K1	<1	0.04	220	230	0.16

GROUND-WATER RECORDS

GEAUGA COUNTY

412628081122800. Local number, GE-169.

LOCATION.--Lat 41°26'28", long 81°12'28", Hydrologic Unit 04110002, 15724 SR 44, south of SR 87.

Owner: George Ostrander.

AQUIFER.--Cuyahoga Group of Mississippian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 93 ft, cased to 68.5 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,115 ft above National Geodetic Vertical Datum of 1929. Measuring

point: top of casing, 1.10 ft above land-surface datum.

PERIOD OF RECORD.--January 1986 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 0.93 ft above land-surface datum, Jan. 30, 1986 and April 29, 1986; lowest, 0.83 ft above land-surface datum, Aug. 20, 1986.

WATER LEVEL, IN FEET ABOVE OR BELOW (-) LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 30, 1986	-0.93	APR. 29, 1986	-0.93	AUG. 20, 1986	-0.83

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL (MG/L AS CACO3)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 29...	11.0	27.0	450	33	8.20	2.5	205	0.05	0.55	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 29...	<0.1	69	0	17	6.3	73	3.2	26	3.0	0.5	9.8

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 29...	900	130	7	200	K1	K1	<1	0.04	268	260	0.25

GROUND-WATER RECORDS

223

GEAUGA COUNTY

412907081202100. Local number, GE-174.

LOCATION.--Lat 41°29'07", long 81°20'21", Hydrologic Unit 04110003, 14025 Chillicothe Road in Russell Township.

OWNER: Peter Rogers.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 110 ft, cased to 110 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,130 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.36 ft above land-surface datum.

PERIOD OF RECORD.--January 1986 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 31.47 ft below land-surface datum, Aug. 20, 1986; lowest, 34.08 ft below land-surface datum, April 23, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 31, 1986	31.49	APR. 23, 1986	34.08	AUG. 20, 1986	31.47

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 23...	11.0	16.0	551	<10	7.30	28	291	0.13	0.17	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 23...	--	320	26	84	26	8.4	1.4	1.5	58	0.2	20

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 23...	100	1400	170	200	K1	K1	<1	0.04	365	380	0.022

GROUND-WATER RECORDS

GEAUGA COUNTY

412841081214900. Local number, GE-175.

LOCATION.--Lat 41°28'41", long 81°21'49", Hydrologic Unit 04110003, 7791 Dines Road in Russell Township.

Owner: John Tanasics.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 136 ft, cased to 136 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,045 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 0.70 ft above land-surface datum.

PERIOD OF RECORD.--January 1986 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 30.58 ft below land-surface datum, April 23, 1986; lowest, 35.34 ft below land-surface datum, Aug. 20, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 31, 1986	30.80	APR. 23, 1986	30.58	AUG. 20 1986	35.34

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD (MG/L AS CACO3)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 23...	K11.0	13.5	416	10	7.60	11	217	0.08	0.12	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 23...	0.9	230	13	64	17	7.6	1.6	1.3	19	0.2	16

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 23...	100	780	200	180	K1	K1	<1	0.03	256	260	0.021

GROUND-WATER RECORDS

225

GEAUGA COUNTY

413114081201600. Local number, GE-180.

LOCATION.--Lat 41°31'14", long 81°20'16", Hydrologic Unit 04110003, 12809 Chillicothe Road, Chesterland, Ohio.

Owner: Lyman Lang.

AQUIFER.--Pottsville Formation of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 90 ft, cased to 58 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,212 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 0.57 ft above land-surface datum.

PERIOD OF RECORD.--January 1986 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 30.65 ft below land-surface datum, April 23, 1986; lowest, 31.47 ft below land-surface datum, Aug. 29, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 29, 1986	30.88	APR. 23, 1986	30.65	MAY 9, 1986	31.10	AUG. 29, 1986	31.47

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 23...	11.5	14.5	369	<10	6.10	85	55	0.37	0.03	2.20	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 23...	1.0	110	58	33	7.4	30	1.5	63	29	<0.1	10

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 23...	<100	26	2	65	K1	K1	<1	0.07	225	210	0.12

GROUND-WATER RECORDS

GEAUGA COUNTY

413647081120000. Local number, GE-186.

LOCATION.--Lat 41°36'47", long 81°12'00", Hydrologic Unit 04110004, 9455 Robinson Road in Chardon Township.

Owner: Richard Gascoigne.

AQUIFER.--Cuyahoga Group of Mississippian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 138 ft, cased to 52 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,150 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 0.82 ft above land-surface datum.

PERIOD OF RECORD.--January 1986 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 37.41 ft below land-surface datum, Jan. 29, 1986; lowest, 46.25 ft below land-surface datum, Aug. 21, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
JAN. 29, 1986	37.41	APR. 15, 1986	43.20	AUG. 21 1986	46.25

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LINITY WH WAT TOTAL FIELD (MG/L AS CACO3)	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NC2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 15...	10.0	12.0	577	14	7.80	10	327	0.07	0.73	<0.10	0.03

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SIO2)
APR 15...	0.5	50	0	13	4.1	120	2.6	4.2	14	0.6	9.9

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 15...	200	20	2	240	K1	K3	4	0.04	367	370	0.046

GROUND-WATER RECORDS

227

GEAUGA COUNTY

413607081032500. Local number, GE-202.

LOCATION.--Lat 41°36'07", long 81°03'25", Hydrologic Unit 04110004, 9999 Plank Road, south of US 6, west of SR 528.

OWNER: Mike Waxler.

AQUIFER.--Pottsville Formation of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled domestic well, diameter 6.0 in., depth 74 ft, cased to 51 ft.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 1,247 ft above National Geodetic Vertical Datum of 1929. Measuring point: top of casing, 1.60 ft above land-surface datum.

PERIOD OF RECORD.--February 1986 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 27.60 ft below land-surface datum, Feb. 10, 1986; lowest, 28.84 ft below land-surface datum, Aug. 19, 1986.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
FEB. 10, 1986	27.60	APR. 16, 1986	28.20	AUG. 19, 1986	28.84

WATER QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L)	PH (STAND- ARD UNITS)	CARBON DIOXIDE DIS- SOLVED (MG/L AS CO2)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	NITRO- GEN, ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P)
APR 16...	11.5	7.0	504	<10	7.20	31	254	0.08	0.12	<0.10	<0.01

DATE	CARBON, ORGANIC TOTAL (MG/L AS C)	HARD- NESS (MG/L AS CACO3)	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	FLUO- RIDE, DIS- SOLVED (MG/L AS F)	SILICA, DIS- SOLVED (MG/L AS SiO2)
APR 16...	0.5	270	18	71	23	8.0	1.5	1.6	30	0.4	16

DATE	BARIUM, DIS- SOLVED (UG/L AS BA)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	STRON- TIUM, DIS- SOLVED (UG/L AS SR)	COLI- FORM, FECAL, 0.7 UM-MF (COLS./ 100 ML)	STREP- TOCOCCI FECAL, KF AGAR (COLS. PER 100 ML)	PHENOLS TOTAL (UG/L)	METHY- LENE BLUE ACTIVE SUB- STANCE (MG/L)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	BROMIDE DIS- SOLVED (MG/L AS BR)
APR 16...	200	590	96	240	K1	K3	2	0.04	297	310	0.025

GROUND-WATER RECORDS

GEAUGA COUNTY

Site Number	Local Number	Geologic Unit	Date	Water Level ¹	Date	Water Level ¹	Date	Water Level ¹
412309081202400	GE-23	324PSVL	FEB 04, 1986	12.37	MAY 07, 1986	12.08	AUG 18, 1986	12.63
412449081232700	GE-29	330BERE	FEB 04, 1986	39.79	MAY 07, 1986	39.04	AUG 18, 1986	40.26
412655081205600	GE-31	-----	JAN 31, 1986	1.10 ₂	MAY 08, 1986	0.46	AUG 20, 1986	0.99 ₂
412803081210000	GE-32	330BDFD	FEB 07, 1986	1.72 ₂	APR 23, 1986	0.77	AUG 20, 1986	2.00 ₂
412439081183000	GE-36	324PSVL	FEB 04, 1986	66.27	MAY 07, 1986	66.63	AUG 18, 1986	66.63
412440081201500	GE-38	-----	FEB 04, 1986	23.47	MAY 07, 1986	23.57	AUG 18, 1986	23.61 ₂
412905081045500	GE-42	1120TSH	FEB 06, 1986	39.63	MAY 08, 1986	37.01	AUG 19, 1986	48.33 ₂
414220081045500	GE-43	330BDFD	FEB 10, 1986	8.21	MAY 08, 1986	8.78	AUG 19, 1986	9.79
414026081024400	GE-45	324PSVL	FEB 11, 1986	38.93	MAY 08, 1986	39.73	-----	-----
412620081032400	GE-49	-----	FEB 06, 1986	15.51	MAY 07, 1986	16.79	AUG 19, 1986	16.06
413449081121600	GE-52	-----	FEB 13, 1986	37.41	MAY 08, 1986	38.76	AUG 21, 1986	39.47
413346081122300	GE-53	1120TSH	JAN 30, 1986	33.75	MAY 09, 1986	28.22	-----	-----
413346081122301	GE-53A	-----	JAN 30, 1986	31.26 ₂	MAY 09, 1986	29.96	AUG 21, 1986	32.84
413343081132800	GE-54	-----	JAN 30, 1986	54.64	MAY 09, 1986	59.89	AUG 21, 1986	59.92
412751081171900	GE-63	-----	JAN 30, 1986	81.45	-----	-----	-----	-----
412749081145200	GE-64	324PSVL	JAN 30, 1986	30.58	MAY 08, 1986	30.24	AUG 20, 1986	30.07
412622081162500	GE-65	-----	JAN 30, 1986	6.25	MAY 08, 1986	6.05	AUG 20, 1986	7.01
412645081182400	GE-66	-----	JAN 31, 1986	27.81	MAY 08, 1986	26.34	AUG 20, 1986	26.60
413201081110900	GE-70	330CYHG	FEB 07, 1986	Flowing	MAY 09, 1986	Flowing	AUG 21, 1986	1.12
413433081075500	GE-72	324PSVL	FEB 07, 1986	9.46	MAY 08, 1986	12.74	AUG 21, 1986	13.89
413138081152000	GE-76	1120TSH	JAN 30, 1986	23.85	MAY 09, 1986	24.50	AUG 21, 1986	24.50
413735081131200	GE-82	-----	JAN 29, 1986	64.67	-----	-----	AUG 21, 1986	65.41
412627081075400	GE-83	324PSVL	FEB 06, 1986	31.11	MAY 08, 1986	31.08	AUG 19, 1986	30.70
412716081125400	GE-85	324PSVL	-----	-----	-----	-----	AUG 20, 1986	49.75
412748081143900	GE-91	324PSVL	JAN 30, 1986	44.70	MAY 08, 1986	44.21	AUG 20, 1986	43.74
412354081010400	GE-93	-----	FEB 05, 1986	9.77	MAY 08, 1986	10.67	AUG 18, 1986	11.73
412547081211500	GE-94	330CYHG	JAN 31, 1986	15.25	MAY 08, 1986	12.93	AUG 20, 1986	19.95
412547081211501	GE-94A	330CYHG	JAN 30, 1986	41.26	MAY 08, 1986	22.00	AUG 20, 1986	53.84
412212081043000	GE-95	330BERE	-----	-----	MAY 07, 1986	Flowing	-----	-----
412559081095200	GE-96	324PSVL	FEB 06, 1986	11.13	MAY 08, 1986	14.56	AUG 18, 1986	15.87
412559081095201	GE-96A	-----	FEB 06, 1986	22.08	MAY 08, 1986	24.03	AUG 18, 1986	25.23
412718081102400	GE-98	-----	FEB 06, 1986	6.38	MAY 08, 1986	6.86	-----	-----
412225081035600	GE-99	-----	FEB 06, 1986	31.60	MAY 08, 1986	31.61	AUG 18, 1986	31.16
413456081035600	GE-106	330CYHG	FEB 10, 1986	34.58	MAY 08, 1986	35.63	AUG 19, 1986	36.02
413249081173800	GE-107	1120TSH	FEB 13, 1986	62.20	MAY 09, 1986	58.78	AUG 21, 1986	59.03
413633081051800	GE-113	330CYHG	FEB 10, 1986	22.73	MAY 08, 1986	24.05	AUG 19, 1986	25.26
412901081070200	GE-114	324PSVL	FEB 06, 1986	42.73	MAY 08, 1986	42.70	AUG 18, 1986	43.43
412600081145800	GE-117	324PSVL	FEB 13, 1986	16.41	MAY 08, 1986	16.65	AUG 20, 1986	17.55
412915081045900	GE-118	330CYHG	FEB 06, 1986	15.61	MAY 08, 1986	15.68	AUG 18, 1986	18.83
412657081040500	GE-119	324PSVL	FEB 06, 1986	9.76	APR 30, 1986	11.34	AUG 19, 1986	11.27
412746081202000	GE-121	330CYHG	JAN 31, 1986	70.53	MAY 08, 1986	73.13	AUG 20, 1986	71.16
412703081181600	GE-123	330BERE	-----	-----	MAY 08, 1986	88.29	AUG 20, 1986	90.83
413052081153100	GE-124	330CYHG	JAN 30, 1986	24.36	MAY 09, 1986	22.73	AUG 21, 1986	27.24
413100081105500	GE-125	330BERE	-----	-----	MAY 09, 1986	68.51	AUG 21, 1986	88.41
412638081031100	GE-127	330BDFD	FEB 07, 1986	70.01	MAY 09, 1986	68.51	AUG 21, 1986	88.41
413821081060500	GE-129	330CYHG	FEB 06, 1986	113.98	MAY 07, 1986	135.45	-----	-----
413623081101000	GE-130	330BERE	FEB 11, 1986	95.28	MAY 08, 1986	103.97	AUG 21, 1986	99.30
412959081030700	GE-135	330BERE	FEB 07, 1986	89.78	MAY 08, 1986	88.54	AUG 21, 1986	87.74
412841081023200	GE-136	1120TSH	FEB 06, 1986	12.93	MAY 08, 1986	10.11	AUG 19, 1986	11.25
413318081004100	GE-137	330CYHG	FEB 06, 1986	14.39	MAY 08, 1986	13.31	AUG 19, 1986	15.73
413318081004300	GE-137A	330CYHG	FEB 06, 1986	12.17	MAY 08, 1986	12.41	AUG 19, 1986	13.09
412159081104100	GE-138	330BERE	FEB 06, 1986	36.00	MAY 08, 1986	36.36	AUG 19, 1986	42.10
412138081072000	GE-139	324PSVL	FEB 05, 1986	44.75	MAY 07, 1986	44.99	AUG 18, 1986	45.87
412318081073700	GE-140	324PSVL	FEB 05, 1986	35.23	MAY 07, 1986	35.21	AUG 18, 1986	35.70
412529081132000	GE-143	324PSVL	FEB 04, 1986	47.97	MAY 07, 1986	47.95	AUG 18, 1986	48.20
412211081183400	GE-144	324PSVL	FEB 04, 1986	7.88	MAY 07, 1986	7.79	AUG 18, 1986	8.89
413729081024700	GE-145	324PSVL	FEB 04, 1986	38.24	MAY 07, 1986	38.56	AUG 18, 1986	38.69
413155081214900	GE-150	330CYHG	FEB 10, 1986	49.41	MAY 08, 1986	48.40	AUG 19, 1986	49.88
413246081144000	GE-152	324PSVL	FEB 13, 1986	25.34	MAY 09, 1986	25.12	AUG 22, 1986	25.71
413415081160900	GE-153	324PSVL	JAN 30, 1986	26.10	MAY 09, 1986	30.37	AUG 21, 1986	32.19
412441081061400	GE-155	1120TSH	JAN 29, 1986	64.81	MAY 09, 1986	66.61	AUG 21, 1986	62.30
412835081185800	GE-156	-----	FEB 05, 1986	20.28	MAY 07, 1986	22.22	AUG 18, 1986	27.84
413628081060500	GE-157	324PSVL	FEB 13, 1986	61.92	MAY 08, 1986	61.70	AUG 20, 1986	61.90
412304081102300	GE-161	1120TSH	FEB 07, 1986	4.19	MAY 08, 1986	3.50	AUG 21, 1986	5.01
412511081032800	GE-162	324PSVL	FEB 05, 1986	21.48	MAY 07, 1986	22.21	AUG 18, 1986	23.39
412415081033500	GE-163	324PSVL	FEB 05, 1986	39.15	APR 30, 1986	41.78	AUG 18, 1986	39.99
412454081162400	GE-166	324PSVL	FEB 05, 1986	8.17	MAY 08, 1986	13.67	AUG 18, 1986	14.50
412138081113000	GE-167	324PSVL	FEB 04, 1986	50.92	MAY 07, 1986	52.31	AUG 18, 1986	53.22
412311081213000	GE-170	-----	FEB 05, 1986	9.10	MAY 07, 1986	9.67	AUG 18, 1986	10.24
412511081225900	GE-171	330CYHG	FEB 04, 1986	47.54	MAY 07, 1986	47.77	AUG 18, 1986	50.00
		330CYHG	FEB 04, 1986	54.55	MAY 07, 1986	55.13	AUG 18, 1986	55.39

GROUND-WATER RECORDS

229

GEAUGA COUNTY

Site Number	Local Number	Geologic Unit	Date	Water ¹ Level	Date	Water ¹ Level	Date	Water ¹ Level
413415081155100	GE-172	330CYHG	FEB 13, 1986	51.33	MAY 09, 1986	52.45	AUG 21, 1986	54.53
412142081212300	GE-173	324PSVL	FEB 04, 1986	4.94	----	----	AUG 18, 1986	6.05
413521081143100	GE-176	324PSVL	FEB 13, 1986	45.34	MAY 08, 1986	45.37	AUG 21, 1986	48.46 ²
413416081083000	GE-177	1120TSH	FEB 06, 1986	7.18	MAY 09, 1986	6.92	AUG 21, 1986	19.69 ²
413138081084200	GE-178	324PSVL	FEB 06, 1986	54.85	MAY 09, 1986	55.14	AUG 21, 1986	55.00
413414081214200	GE-179	330BERE	FEB 13, 1986	60.47	MAY 08, 1986	63.22	AUG 22, 1986	63.93
413118081193600	GE-181	324PSVL	JAN 29, 1986	5.63	MAY 08, 1986	7.31	AUG 20, 1986	9.65
413223081201900	GE-182	330CYHG	JAN 28, 1986	54.30	----	----	----	----
412429081045100	GE-183	324PSVL	FEB 05, 1986	39.86	MAY 08, 1986	40.16	AUG 18, 1986	40.55
413020081175400	GE-184	1120TSH	JAN 29, 1986	74.30	MAY 08, 1986	74.54	AUG 22, 1986	75.23
413630081145000	GE-185	330CYHG	FEB 13, 1986	29.57	MAY 08, 1986	28.80	AUG 21, 1986	39.25
413734081152100	GE-190	1120TSH	JAN 29, 1986	16.39	MAY 08, 1986	18.05	----	----
413506081161800	GE-193	324PSVL	JAN 30, 1986	49.14	MAY 09, 1986	51.73	AUG 21, 1986	52.18
413513081110700	GE-195	1120TSH	FEB 10, 1986	13.16	MAY 08, 1986	13.03	AUG 21, 1986	14.85
413808081034700	GE-196	324PSVL	FEB 10, 1986	66.62	MAY 08, 1986	66.87	AUG 19, 1986	67.12
413957081011800	GE-197	330BERE	FEB 11, 1986	45.24	MAY 08, 1986	60.85	AUG 19, 1986	62.53
414058081010000	GE-198	330BERE	FEB 11, 1986	14.00	MAY 08, 1986	13.89	AUG 19, 1986	14.59
414106081041400	GE-199	324PSVL	FEB 11, 1986	12.14	MAY 08, 1986	14.85	AUG 19, 1986	15.09
413256081045800	GE-204	324PSVL	FEB 06, 1986	9.81	MAY 08, 1986	10.45	AUG 19, 1986	10.43

Site Number	Local Number	Geologic Unit	Date	Water ¹ Level
-------------	--------------	---------------	------	--------------------------

ASHTABULA COUNTY

413206080595900	AB-125	330CYHG	FEB 11, 1986	16.80
413646080593100	AB-126	330BERE	FEB 11, 1986	14.59
413944080592600	AB-127	330BERE	FEB.11, 1986	10.26

LAKE COUNTY

414008081064400	L-86	330BERE	FEB 11, 1986	23.36
413919081075100	L-87	330CYHG	FEB 11, 1986	22.24
413841081085000	L-88	1120TSH	FEB 11, 1986	69.35
413830081135300	L-89	330BERE	FEB 14, 1986	7.78
413434081181300	L-90	1120TSH	FEB 13, 1986	20.74
413501081205500	L-91	1120TSH	FEB 13, 1986	22.43

PORTAGE COUNTY

411950081022700	PO-7	330CYHG	FEB 12, 1986	16.98
411939081030000	PO-8	324PSVL	FEB 12, 1986	36.40
411840081054100	PO-9	330CYHG	FEB 12, 1986	19.86
411858081054000	PO-10	324PSVL	FEB 12, 1986	26.91
411713081082300	PO-11	324PSVL	FEB 12, 1986	56.12
411743081094100	PO-12	330CYHG	FEB 12, 1986	41.40
411730081081500	PO-13	330CYHG	FEB 12, 1986	14.07
411915081131900	PO-14	324PSVL	FEB 12, 1986	9.20
411839081165600	PO-15	324PSVL	FEB 12, 1986	32.95
411524081165500	PO-16	1120TSH	FEB 12, 1986	22.13
41190408113500	PO-18	1120TSH	FEB 12, 1986	14.02

TRUMBULL COUNTY

412744080583100	T-4	330CYHG	FEB 11, 1986	37.72
412753080583100	T-5	330BERE	FEB 11, 1986	34.56
412333080582400	T-6	330BERE	FEB 11, 1986	16.80

Geologic Unit (Aquifer)

1120TSH - Outwash, Pleistocene Epoch
 324PSVL - Pottsville Formation, Pennsylvanian Age
 330CYHG - Cuyahoga Group, Mississippian Age
 330BERE - Berea Sandstone, Mississippian Age
 330BDFD - Bedford Shale, Mississippian Age

¹Depth of water level below land surface, in feet.
²Water level may have been affected by pumping.

GROUND-WATER RECORDS IN STRIP MINES

JEFFERSON COUNTY

The following tables contain ground water-level measurements, chemical analyses from observation wells located in a small watershed affected by coal mining. The data will be used to document ground-water flow and water quality during post-mining conditions.

401011080521602. Local number, J11 P1-1.

LOCATION.--Lat 40°10'11", long 80°52'16", Hydrologic Unit 05030106, near Harrisville

AQUIFER.--Overburden spoils, replaced after mining.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 5 in., depth 39 ft, cased to 39 ft, bottom 10 ft slotted.

DATUM.--Altitude of land-surface datum is 1,236.2 ft. Measuring point: Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--March 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 29.65 ft below land-surface datum, Feb. 19, 1986; lowest, measured, 37.40 ft Dec. 28, 1981.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.GROUND-WATER RECORDS IN STRIP MINES

JEFFERSON COUNTY

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 22, 1985	34.57	Dec 11, 1985	30.76	Feb 19, 1986	29.65	April 10, 1986	30.42
June 5, 1986	31.85	Jul 30, 1986	32.73	Sept 22, 1986	33.71		

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JUL 30...	1000	15.0	15.0	1950	6.80	291	330	85	32
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
JUL 30...		3.9	69	850	35	4	20	1610	1236

401011080521603. Local number, J11 P2-2.

LOCATION.--Lat 40°10'11", long 80°52'16", Hydrologic Unit 05030106, near Harrisville

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 187 ft, cased to 46 ft.

DATUM.--Altitude of land-surface datum is 1,236.2 ft. Measuring point: Top of casing, 2.7 ft above land-surface datum.

PERIOD OF RECORD.--March 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 31.95 ft below land-surface datum, May 24, 1983; lowest, measured, 46.65 ft below land-surface datum, July 30, 1986.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 22, 1985	42.60	Dec 11, 1985	41.24	Feb 19, 1986	43.45	Apr 10, 1986	44.40
Jun 5, 1986	45.58	Jul 30, 1986	46.65	Sept 22, 1986	46.60		

JEFFERSON COUNTY

401010080521801. Local number, J11 P3-1.

LOCATION.--Lat 40°10'10", long 80°52'18", Hydrologic Unit 05030106, near Harrisville

AQUIFER.--Overburden spoils, replaced after mining.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 7 in., depth 35.5 ft.

DATUM.--Elevation of land-surface datum is 1,236.70 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing 3.0 ft above land-surface datum.

PERIOD OF RECORD.--April 1981 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 30.80 ft below land-surface datum, February 19, 1986; lowest water level, dry many days.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 11, 1985	31.91	Feb 19, 1986	30.80	Apr 10, 1986	31.43	June 5, 1986	32.93
Jul 29, 1986	33.82						

401002080521800. Local number, W4-1.

LOCATION.--Lat 40°10'02", long 80°52'18", Hydrologic Unit 05030106, near Harrisville

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 60 ft., cased to 18.00 ft.

DATUM.--Altitude of land-surface datum is 1251.37 ft. Measuring point: Top of casing, 1.2 ft above land-surface datum.

PERIOD OF RECORD.--May 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 42.88 ft below land-surface datum, May 29, 1979; lowest, measured, 55.60 ft below land-surface datum, July 21, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 23, 1985	53.44	Dec. 11, 1985	47.95	Feb 19, 1986	44.27	Apr 10, 1986	47.79
June 5, 1986	50.59	Jul 30, 1986	51.44	Sep 22, 1986	52.94		

401002080521801. Local number, J11 W5-3.

LOCATION.--Lat 40°10'02", long 80°52'18", Hydrologic Unit 05030106, near Harrisville

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 280 ft., cased to 218 ft.

DATUM.--Altitude of land-surface datum is 1,251.74 ft. Measuring point: Top of casing, 1.76 ft.

REMARKS.--Dry since construction.

PERIOD OF RECORD.--June 1976 to current year.

401004080521900. Local number, J11 W6-1.

LOCATION.--Lat 40°10'04", long 80°52'19", Hydrologic Unit 05030106, near Harrisville

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 46 ft., cased to 17.8 ft.

DATUM.--Altitude of land-surface datum is 1237.36 ft. Measuring point: Top of casing, 3.2 ft above land-surface datum.

PERIOD OF RECORD.--May 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 28.60 ft below land-surface datum, Feb. 26, 1979; lowest, 45.21 ft below land-surface datum, Aug. 3, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 23, 1985	39.54	Dec 11, 1985	34.76	Feb 19, 1986	32.30	Apr 10, 1986	33.69
Jun 5, 1986	36.83	Jul 30, 1986	37.47	Sep 22, 1986	38.77		

401004080521901. Local number, J11 W7-2.

LOCATION.--Lat 40°10'04", long 80°52'19", Hydrologic Unit 05030106, near Harrisville

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 192 ft., cased to 53.8 ft.

DATUM.--Altitude of land-surface datum is 1237.25 ft. Measuring point: Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--May 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 60.45 ft below land-surface datum, Jan. 16, 1980; lowest, 170.11 ft below land-surface datum, Nov. 19, 1979.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 11, 1985	145.17	Feb 19, 1986	148.77	Apr 10, 1986	159.64	June 5, 1986	161.73
Jul 30, 1986	161.42	Sep 22, 1986	166.50				

GROUND-WATER RECORDS IN STRIP MINES

JEFFERSON COUNTY

401004080521901. Local number, J11 W8-2.

LOCATION.--Lat 40°10'07", long 80°52'24", Hydrologic Unit 05030106, near Harrisville

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 105 ft., cased to 20.43 ft.

INSTRUMENTATION.--Digital recorder--60 minute punch.

DATUM.--Altitude of land-surface datum is 1,156.67 ft. Measuring point: Top of casing, 0.57 ft above land-surface datum.

PERIOD OF RECORD.--May 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 24.45 ft below land-surface datum, July 13, 1986; lowest, 37.23 ft below land-surface datum, June 18, 1976.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JUL 29...	1400	12.5	26.0	1980	6.60	237	340	93	17
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
JUL 29...		3.0	32	790	34	5	30	1670	1157

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1					---	25.95	26.05		---	26.04	29.38	29.91
2					---	25.99	25.90		---	25.95	29.43	29.91
3					---	25.98	25.84		---	25.77	29.50	29.92
4					---	25.96	25.87		---	25.88	29.55	29.91
5					---	26.07	25.91		27.56	25.96	29.54	29.95
6					---	26.17	26.04		27.50	25.97	29.56	29.98
7					---	25.95	26.05		27.27	25.98	29.56	30.02
8					---	25.96	26.07		27.14	26.02	29.51	30.03
9					---	26.04	26.03		27.17	26.02	29.56	30.05
10					---	26.20	26.03		27.13	25.46	29.58	30.00
11					---	26.20	---		27.04	25.24	29.63	30.00
12					---	26.22	---		26.91	24.74	29.63	30.12
13					---	26.29	---		26.73	24.45	29.63	30.12
14					---	26.29	---		26.67	24.87	29.63	30.11
15					---	26.30	---		26.70	24.85	29.67	30.04
16					---	26.29	---		26.75	25.09	29.70	30.16
17					---	26.17	---		26.84	25.12	29.71	30.14
18					---	26.33	---		26.83	25.15	29.74	30.11
19					26.46	26.40	---		26.77	25.20	29.74	30.12
20					26.43	26.16	---		26.80	24.97	29.79	30.08
21					26.51	26.13	---		26.77	24.98	29.81	30.09
22					26.65	26.15	---		26.73	25.04	29.82	30.06
23					26.51	26.16	---		26.67	25.08	29.77	30.05
24					26.38	26.08	---		26.67	25.10	29.84	30.09
25					26.25	26.12	---		26.68	25.16	29.83	30.07
26					26.39	26.14	---		26.61	25.18	29.82	29.70
27					26.32	26.09	---		26.53	25.17	29.87	29.61
28					25.90	26.03	---		26.29	25.15	29.92	29.53
29					---	26.04	---		25.99	25.13	29.93	29.59
30					---	26.02	---		26.07	29.51	29.92	29.66
31					---	25.98	---		---	29.36	29.91	---
MAX					---	26.40	---		---	29.51	29.93	30.16
WTR YR 1986	MEAN	27.48		HIGH	24.45	JUL 13	LOW	30.16	SEP 16			

JEFFERSON COUNTY

401007080522401. Local number, W9-3.

LOCATION.--Lat 40°10'07", long 80°52'24", Hydrologic Unit 05030106, near Harrisville

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 122.3 ft. cased to 120 ft.

DATUM.--Altitude of land-surface datum is 1,154.60 ft. Measuring point: Top of casing, 1.6 ft above land-surface datum.

REMARKS.--Dry since construction. Well caved, original depth, 189.40 ft.

PERIOD OF RECORD.--June 1976 to current year.

401009080521500. Local number, J11 P10-1.

LOCATION.--LAT 40°10'09", long 80°52'15", Hydrologic Unit 05010306, near Harrisville.

AQUIFER.--Overburden spoils, replaced after mining.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 5 in, depth 39.3 ft, cased to 39.0 ft.

DATUM.--Altitude of land-surface datum is 1236.1 ft. Measuring point: Top of casing, 3.0 ft above land surface datum.

PERIOD OF RECORD.--March 1981 to August 1982, January 1984 to May 1984, Dec. 1985 to present.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 29.92 ft below land-surface datum, Jan. 18, 1986, lowest measured, dry, prior to January 1982.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	TEMPER- ATURE (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	ALKA- LINITY WH WAT TOTAL FIELD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	
JUL 29...	1530	16.5	1310	6.60	254	230	58	20	
DATE		POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
JUL 29...	2.9	38	480	32	870	20	1040	1236	

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1			---	30.99	30.04	30.80	31.03	31.92	32.55	33.22	34.82	34.78
2			---	30.91	30.01	30.78	31.02	31.95	32.59	33.24	34.81	34.77
3			---	30.85	29.98	30.75	31.02	31.98	32.61	33.27	34.81	34.78
4			---	30.78	30.16	30.72	31.01	31.99	32.63	33.30	34.82	34.77
5			---	30.74	30.29	30.69	31.01	32.02	32.63	33.33	34.81	34.77
6			---	30.69	30.52	30.68	31.04	32.07	32.64	33.36	34.80	34.78
7			---	30.63	30.60	30.66	31.06	32.08	32.65	33.36	34.79	34.78
8			---	30.50	30.61	30.57	31.09	32.11	32.69	33.38	34.77	34.80
9			---	30.43	30.70	30.55	31.10	32.17	32.73	33.38	34.78	34.80
10			---	30.40	30.69	30.61	31.10	32.18	32.74	33.40	34.78	34.78
11			31.40	30.37	30.68	30.60	31.13	32.19	32.74	33.41	34.78	34.79
12			31.54	30.33	30.66	30.61	31.18	32.21	32.76	33.40	34.80	34.79
13			31.63	30.30	30.60	30.68	31.23	32.24	32.81	33.38	34.80	34.81
14			31.62	30.23	30.52	30.78	31.27	32.26	32.83	33.37	34.78	34.84
15			31.61	30.18	30.48	30.88	31.30	32.27	32.85	33.37	34.77	34.82
16			31.61	30.07	30.37	30.92	31.33	32.28	32.86	33.37	34.77	34.84
17			31.59	30.01	30.33	30.95	31.40	32.30	32.89	33.37	34.75	34.84
18			31.57	29.95	30.42	31.05	31.46	32.32	32.92	33.37	34.76	34.83
19			31.54	29.92	30.47	31.10	31.48	32.33	32.93	33.37	34.76	34.83
20			31.51	30.04	30.50	31.09	31.49	32.34	32.97	33.37	34.77	34.83
21			31.48	30.10	30.61	31.06	31.51	32.35	33.00	33.38	34.77	34.84
22			31.45	30.12	30.75	31.06	31.58	32.41	33.01	33.40	34.77	34.88
23			31.42	30.13	30.79	31.08	31.62	32.43	33.03	33.41	34.76	34.89
24			31.40	30.16	30.83	31.08	31.65	32.45	33.07	33.42	34.76	34.93
25			31.37	30.20	30.84	31.06	31.67	32.46	33.09	33.42	34.76	34.97
26			31.30	30.22	30.89	31.07	31.71	32.48	33.12	33.43	34.76	35.00
27			31.25	30.24	30.90	31.07	31.75	32.49	33.14	33.44	34.75	35.03
28			31.22	30.21	30.85	31.05	31.77	32.51	33.14	33.45	34.77	35.05
29			31.13	30.18	---	31.05	31.83	32.52	33.16	34.84	34.79	35.08
30			31.10	30.15	---	31.05	31.85	32.53	33.20	34.84	34.78	35.11
31			31.03	30.10	---	31.04	---	32.54	---	34.83	34.78	---
MAX			---	30.99	30.90	31.10	31.85	32.54	33.20	34.84	34.82	35.11
WTR YR 1986	MEAN	32.32		HIGH	29.92	JAN 19	LOW	35.11	SEP 30			

GROUND-WATER RECORDS IN STRIP MINES

The following tables contain ground water-level measurements, chemical analyses from observation wells located in a small watershed affected by coal mining. The data will be used to document ground-water flow and water quality during post-mining conditions.

MUSKINGUM COUNTY

394859081462802. Local number, MQ9 P1-1.

LOCATION.--Lat 39°48'59", long 81°46'28", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Overburden spoils, replaced after mining.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 65 in., depth 24 ft, cased to 24.0 ft, bottom 10 ft slotted.

DATUM.--Altitude of land-surface datum is 1,038.46 ft. Measuring point: Top of casing, 2.5 ft above land-surface datum.

PERIOD OF RECORD.--September 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.19 below land-surface datum, Feb. 20, 1986; lowest measured, dry many days.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Dec 10, 1985	20.54	Apr 11, 1986	Dry	Jul 23, 1986	20.79	Sep 22, 1986	Dry
Feb 20, 1986	20.19	Jun 6, 1986	Dry				

394859081462803. Local number, MQ9 P2-2.

LOCATION.--Lat 39°48'59", long 81°46'28", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 7 in., depth 117 ft, cased to 40.0 ft.

DATUM.--Altitude of land-surface datum is 1,038.56 ft. Measuring point: Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--September 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 35.34 ft below land-surface datum, Feb 20, 1986; lowest, measured, 42.75 ft below land-surface datum, July 30, 1986.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 16, 1985	36.10	Feb 20, 1986	35.45	Jun 6, 1986	36.65	Sep 22, 1986	36.95
Dec 10, 1985	35.34	Apr 11, 1986	36.03	Jul 23, 1986	36.81		

394855081462702. Local number, MQ9 P3-1.

LOCATION.--Lat 39°48'55", long 81°46'27", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Overburden spoils, replaced after mining.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 7 in., depth 24 ft, cased to 24.0 ft, bottom 10 ft slotted.

DATUM.--Altitude of land-surface datum is 1023.06 ft. Measuring point: Top of casing, 2.5 ft above land-surface datum.

PERIOD OF RECORD.--September 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.27 ft below land-surface datum, Feb. 20, 1986; lowest measured, dry, Sept. 26, 1978 to Nov. 15, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 16, 1985	19.97	Feb 20, 1986	13.27	Jun 6, 1986	17.00	Sep 22, 1986	17.03
Dec 10, 1985	15.74	Apr 11, 1986	16.42	Jul 23, 1986	15.21		

GROUND-WATER RECORDS IN STRIP MINES

235

MUSKINGUM COUNTY

394845081462600. Local number, MQ9 W5-2.

LOCATION.--Lat 39°48'45", long 81°46'26", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 49 ft, cased to 17.3 ft.

DATUM.--Altitude of land-surface datum is 973.03 ft. Measuring point: Top of casing, 3.7 ft above land-surface datum.

PERIOD OF RECORD.--March 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 12.74 ft below land-surface datum, Feb 20, 1986; lowest, measured, 21.70 ft below land-surface datum, Jan. 4, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 9, 1985	14.92	Feb 20, 1986	12.74	Jun 6, 1986	13.97	Sep 22, 1986	14.03
Dec 10, 1985	13.97	Apr 11, 1986	13.00	Jul 24, 1986	14.00		

394845081462601. Local number, MQ9 P5-2a.

LOCATION.--Lat 39°48'45", long 81°46'26", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 50 ft., cased to 16.5 ft.

DATUM.--Altitude of land-surface datum is 974.17 ft. Measuring point: Top of casing, 3.0 ft.

PERIOD OF RECORD.--September 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 3.91 ft below land-surface datum, Aug. 19, 1980; lowest measured, 9.48 ft below land-surface datum, Sept. 26, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 9, 1985	7.55	Feb 20, 1986	4.01	Jun 6, 1986	6.16	Sep 22, 1986	5.98
Dec 10, 1985	4.62	Apr 11, 1986	4.99	Jul 24, 1986	5.58		

394845081462602. Local number, MQ9 P6-2b.

LOCATION.--Lat 39°48'45", long 81°46'26", Hydrologic Unit 05040004, near Chandlersville

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 50 ft., cased to 17.5 ft.

DATUM.--Altitude of land-surface datum is 973.98 ft. Measuring point: Top of casing, 2.0 ft above land-surface datum.

PERIOD OF RECORD.--September 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 13.67 ft below land-surface datum, Feb. 20, 1986; lowest, 18.68 ft below land-surface datum, Sept. 26, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 9, 1985	15.62	Feb 20, 1986	13.67	Jun 6, 1986	14.89	Sep 22, 1986	15.10
Dec 10, 1986	13.84	Apr 11, 1986	37.47	Jul 24, 1986	14.79		

394855081461603. Local number, MQ9 P6-1.

LOCATION.--Lat 39°48'55", long 81°46'16", Hydrologic Unit 05040004, near Chandlersville

AQUIFER.--Overburden spoils, replaced after mining.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 56 ft, cased to 56.0 ft, bottom 10 ft slotted.

DATUM.--Altitude of land-surface datum is 1059.91 ft. Measuring point: Top of casing, 3.0 ft above land-surface datum.

PERIOD OF RECORD.--October 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 45.87 ft below land-surface datum, Apr. 11, 1986; lowest measured, dry, Oct. 24, 1978 to Apr. 23, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 8, 1985	48.97	Dec 10, 1985	48.34	Apr 11, 1986	45.87	Jul 24, 1986	48.60
Oct 16, 1985	50.30	Feb 20, 1986	47.31	Jun 6, 1986	47.39	Sep 22, 1986	49.42

GROUND-WATER RECORDS IN STRIP MINES

MUSKINGUM COUNTY

394855081461604. Local number, MQ9 P7-2.

LOCATION.--Lat 39°48'55", long 81°46'16", Hydrologic Unit 05030106, near Chandlersville

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in, depth 170 ft, cased to 72.0 ft.

DATUM.--Altitude of land-surface datum is 1,060.54 ft. Measuring point: Top of casing, 2.5 ft above land-surface datum.

PERIOD OF RECORD.--November 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 94.80 ft below land-surface datum, Sept. 25 1980; lowest measured, 105.75 ft below land-surface datum, Sept 22, 1986.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 9, 1985	104.85	Dec 10, 1985	105.72	Apr 11, 1986	104.34	Jul 24, 1986	105.07
Oct 16, 1985	120.15	Feb 20, 1986	104.41	Jun 6, 1986	104.73	Sep 22, 1986	105.75

394852081462002. Local number, MQ9 P8-1

LOCATION.--Lat 39°48'52", long 81°46'20", Hydrologic Unit 05040004, near Chandlersville

AQUIFER.--Overburden spoils, replaced after mining.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 37 ft. cased to 37.0 ft, bottom 10 ft slotted..

DATUM.--Altitude of land-surface datum is 1,039.42 ft. Measuring point: Top of casing, 2.5 ft above land-surface datum.

PERIOD OF RECORD.--September 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 32.25 ft below land-surface datum, Aug. 19, 1980; lowest measured, intersittently dry.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 10, 1985	29.51	Dec 10, 1985	28.77	Apr 11, 1986	26.39	Jul 24, 1986	28.25
Oct 17, 1985	29.75	Feb 20, 1986	27.21	Jun 6, 1986	27.29	Sep 22, 1986	28.99

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JUL 24...	1100	14.5	29.5	1520	6.70	395	280	53	6.2

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
JUL 24...	2.2	2.6	560	9300	1300	<10	1230	1039

GROUND-WATER RECORDS IN STRIP MINES

237

MUSKINGUM COUNTY

394582081462003. Local number, MQ9 P9-2.

LOCATION.--LAT 39°48'52", long 81°46'20", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in, depth 119 ft, cased to 60.0 ft.

DATUM.--Altitude of land-surface datum is 1,039.24 ft. Measuring point: Top of casing, 3.0 ft above land surface datum.

PERIOD OF RECORD.--highest water level, 54.62 ft below land-surface datum, April 15, 1980; lowest measured, 67.45 ft below land-surface datum, Aug. 2, 1979.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 29.92 ft below land-surface datum, Jan. 18, 1986, lowest measured, dry, prior to January 1982.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 10, 1985	64.15	Dec 10, 1985	57.42	Apr 11, 1986	59.72	Jul 24, 1986	61.10
Oct 17, 1985	64.90	Feb 20, 1986	58.97	Jun 6, 1986	61.59	Sep 22, 1986	65.52

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JUL 24...	1145	12.5	30.5	800	7.40	463	62	25	88

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
JUL 24...	2.3	2.8	130	16	74	<10	519	1039

394841081463200. Local number, W10-3.

LOCATION.--LAT 39°48'41", long 81°46'32", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in, depth 190 ft, cased to 41 ft. After Sept. 29, 1976, slotted casing from 140 ft to bottom of well.

DATUM.--Altitude of land-surface datum is 941.51 ft. Measuring point: Top of casing, 0.98 ft above land surface datum. Prior to Sept. 29, 1976, top of casing, 2.8 ft above land-surface datum.

REMARKS.--Well redrilled September 29, 1976 because well collapsed.

PERIOD OF RECORD.--March 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 10.50 ft below land-surface datum, Feb. 20, 1986, lowest measured, 37.55 ft below land-surface datum, Dec. 21, 1976.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 10, 1985	32.07	Feb 20, 1986	10.50	Apr 11, 1986	12.95	Jun 6, 1986	19.71
Dec 10, 1985	21.22						

GROUND-WATER RECORDS IN STRIP MINES

MUSKINGUM COUNTY

394853081462803. Local number, M09 P11-2.

LOCATION.--LAT 39°48'53", long 81°46'28", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in, depth 97 ft, cased to 26.8 ft.

DATUM.--Altitude of land-surface datum is 1,022.15 ft. Measuring point: Top of casing, 2.5 ft above land surface

PERIOD OF RECORD.--September 1978 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 23.17 ft below land-surface datum, Feb. 20, 1986, lowest measured, 28.97 ft below land-surface datum, Sept. 27, 1978.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 16, 1985	25.21	Feb 20, 1986	23.17	Jul 23, 1986	24.38	Sep 22, 1986	24.62
Dec 10 1985	23.21	June 6, 1986	24.24				

394858081462801. Local number. M09 P12-1.

LOCATION.--LAT 39°48'58", long 81°46'28", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Overburden spoils, replaced after mining.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 4 in, depth 62.2 ft, cased to 62.0 ft. bottom 10 ft slotted.

DATUM.--Altitude of land-surface datum is 1,071.07 ft. Measuring point: Top of casing, 2.2 ft above land surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 54.32 ft below land-surface datum, Feb. 20, 1986; lowest water level measured, 60.76 ft below land-surface datum, Jan. 15, 1982.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 8, 1985	59.50	Dec 10, 1986	57.28	Apr 11, 1986	55.62	Sep 22, 1986	59.29
Oct 16, 1985	59.71	Feb 20, 1986	54.32	Jun 6, 1986	57.15		

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JUL 23...	1400	18.0	30.5	4530	6.60	610	520	560	57

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
JUL 23...	9.6	5.5	2900	1700	2100	20	4780	1071

GROUND-WATER RECORDS IN STRIP MINES

239

MUSKINGUM COUNTY

394855081462802. Local number, M09 P13-1.

LOCATION.--LAT 39°48'55", long 81°46'28", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Sand, shales and coals of Middle Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 4 in, depth 53.2 ft, cased to 53.2 ft. bottom 10 ft slotted.

DATUM.--Altitude of land-surface datum is 1,059.98 ft. Measuring point: Top of casing, 3.0 ft above land surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 43.70 ft below land-surface datum, July 23, 1986; lowest measured, 49.50 ft below land-surface datum, Jan. 15, 1982.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 8, 1985	48.51	Dec 10, 1986	46.24	Apr 11, 1986	45.00	Jul 23, 1986	43.70
Oct 16, 1985	48.58	Feb 20, 1986	45.24	Jun 6, 1986	46.07	Sep 22, 1986	48.21

394851081462803. Local number, M09 P14-1.

LOCATION.--LAT 39°48'51", long 81°46'28", Hydrologic Unit 05040004, near Chandlersville.

AQUIFER.--Overburden spoils, replaced after mining.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 4 in, depth 56.0 ft, cased to 56.0 ft. bottom 10 ft slotted.

DATUM.--Altitude of land-surface datum is 1,046.03 ft. Measuring point: Top of casing, 3.0 ft above land surface datum.

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

EXTREMES FOR PERIOD OF RECORD.--Highest water-level measured, 19.87 ft below land-surface datum, Feb. 25, 1981; lowest water level measured, 39.31 ft below land-surface datum, Oct. 16, 1985.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Oct 9, 1985	30.07	Dec 10, 1986	30.57	Apr 11, 1986	30.06	Jul 23, 1986	30.15
Oct 16, 1985	39.31	Feb 20, 1986	30.57	Jun 6, 1986	30.04	Sep 22, 1986	31.70

WATER-QUALITY DATA, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DATE	TIME	TEMPER- ATURE (DEG C)	TEMPER- ATURE, AIR (DEG C)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	ALKA- LITY WH WAT TOTAL FIELD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)
JUL 23...	1300	17.0	31.5	1520	6.70	969	240	61	18

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	SULFATE DIS- SOLVED (MG/L AS SO4)	IRON, DIS- SOLVED (UG/L AS FE)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	ALUM- INUM, DIS- SOLVED (UG/L AS AL)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD)
JUL 23...	1.1	11	13	35000	3300	<10	750	1046

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

The following tables contain ground-water levels from a network of 412 domestic, industrial, and observation water wells in Lucas, Wood, and Sandusky Counties. The well network has been established as part of an ongoing assessment of ground-water movement and ground-water quality in the regional Silurian and Devonian Carbonate aquifer and selected unconsolidated aquifers of Quaternary age.

Local well numbers are comprised of a county prefix and township and section number suffix. City and township abbreviations used for well identification in Lucas, Wood and Sandusky Counties are shown below:

Lucas		Sandusky		Wood	
City or township	Abbreviation	City or township	Abbreviation	City or township	Abbreviation
Jerusalem	J	Ballville	B	Bloom	B
City of Maumee	MA	Green Creek	GC	Center	C
Monclova	M	Jackson	J	Freedom	F
City of Oregon	O	Madison	M	Grand Rapids	GR
Providence	P	Rice	R	Henry	H
Richfield	R	Riley	RL	Jackson	J
Spencer	SP	Sandusky	S	Liberty	LI
Springfield	SF	Scott	SC	Lake	LK
Swanton	SW	Townsend	T	Middleton	MD
Sylvania	SY	Washington	W	Milton	ML
City of Toledo	T	Woodville	WO	Montgomery	MO
Washington	WA	York	Y	City of Northwood	N
Waterville	W			Perry	PE
				Perrysburg	PB
				Plain	PL
				Portage	PO
				City of Rossford	R
				Troy	T
				Washington	WA
				Webster	WB
				Weston	WS

The ground-water assessment is being conducted in cooperation with: Wood County; Sandusky County Department of Public Health; Lucas County; City of Toledo, Ohio; City of Oregon, Ohio; City of Sylvania, Ohio; and City of Maumee, Ohio.

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

241

GROUND-WATER LEVELS FOR LUCAS COUNTY

413728083393900. Local number, LU-110-T.

LOCATION.--Lat 41°37'28", long 83°39'39", Hydrologic Unit 04100001, 5020 Angola Rd. at Toledo, OH.

Owner: Gelco Truck Leasing.

AQUIFER.--Dolomite of Silurian Age.

WELL CHARACTERISTICS.--Drilled commercial water well converted for observation, diameter 4.25 in., depth, 342 ft., cased to 122 ft..

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 626 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Floor of instrument shelter, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--JUNE 10, 1986 To present.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	48.30	49.50	50.23
2									---	48.26	49.56	50.20
3									---	48.47	49.73	50.16
4									---	48.43	49.85	50.04
5									---	48.52	49.89	50.08
6									---	48.57	49.87	50.16
7									---	48.63	49.82	50.24
8									---	48.57	49.78	50.32
9									---	48.57	49.92	50.34
10									48.14	48.66	49.88	50.21
11									48.14	48.58	49.98	50.10
12									48.14	48.56	50.09	50.21
13									48.19	48.62	50.11	50.36
14									48.20	48.76	49.99	50.47
15									48.20	48.82	49.91	50.32
16									48.20	48.76	49.89	50.51
17									48.32	48.82	49.92	50.45
18									48.30	48.82	49.99	50.27
19									48.17	48.80	49.99	50.33
20									48.26	48.76	49.98	50.27
21									48.27	48.97	50.03	50.37
22									48.11	49.08	50.09	50.27
23									48.12	49.15	49.98	50.06
24									48.17	49.12	50.11	50.04
25									48.26	49.09	50.14	50.04
26									48.24	49.22	50.08	50.11
27									48.15	49.26	50.07	50.06
28									48.16	49.28	50.23	50.10
29									48.22	49.35	50.32	50.01
30									48.35	49.45	50.35	49.97
31									---	49.47	50.31	---
MAX									---	49.47	50.35	50.51
WTR YR 1986	MEAN	49.40		HIGH	48.11	JUN 22	LOW	50.51	SEPT 16			

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

GROUND-WATER LEVELS FOR LUCAS COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
<u>Wells completed in carbonate aquifer</u>					
413704083362200	LU- 1-T	413704	833622	Continuous recorder	
414007083403100	LU- 13-T	414007	834031	2/19/86 6/13/86 7/11/86	23.91 21.60 21.60
414127083424800	LU-100-SY16	414127	834248	2/10/86 6/13/86 7/10/86	55.79 54.47 55.97
414225083423500	LU-101-SY16	414225	834235	2/10/86 6/13/86 7/11/86	52.35 52.35 54.05
414132083423300	LU-102-SY16	414132	834233	2/10/86 6/13/86 7/11/86	54.65 55.00 55.80
414213083432000	LU-103-SY 9	414213	834320	2/10/86 6/13/86 7/10/86	22.45 22.85 22.37
414238083395700	LU-104-SY11	414238	833957	2/11/86 6/17/86 7/10/86	55.46 54.67 56.10
414209083405800	LU-105-SY14	414209	834058	2/11/86 6/04/86 6/16/86 7/11/86	42.69 45.43 44.72 46.32
413824083435100	LU-106-SF 5	413824	834351	2/11/86 6/13/86 7/09/86	19.46 19.23 19.78
414242083405700	LU-107-SY11	414242	834057	2/12/86	4
413914083441000	LU-108-SF32	413914	834410	2/12/86 6/13/86 7/ 9/86	39.69 33.40 37.30
413747083380900	LU-109-T ^b	413747	833809	2/12/86 6/13/86 7/ 9/86	55.40 52.15 54.12
413728083393900	LU-110-T	413728	833939	Continuous recorder	
413447083382500	LU-111-MA36	413447	833825	2/13/86 6/12/86 7/ 9/86	65.12 53.57 53.57
413328083410500	LU-112-MA 3	413328	834105	2/13/86 6/12/86 7/ 8/86	71.89 68.25 71.23
413246083415400	LU-113-M 10	413246	834154	2/13/86 6/12/86 7/ 9/86	47.65 45.04 45.12
413213083445000	LU-114-M 7	413213	834450	2/13/86 6/12/86 7/ 9/86	16.25 15.56 15.95
413332083440500	LU-115-M 5	413332	834405	2/13/86 6/ 4/86 6/12/86 7/ 9/86	22.46 17.22 15.77 16.96

GROUND-WATER LEVELS FOR LUCAS COUNTY

WATER LEVEL (FEET BELOW LAND SURFACE DATUM)	DATE	LONGITUDE	LATITUDE	LOCAL NO.	SITE NUMBER
					<u>Wells completed in carbonate aquifer</u>
18.42	2/13/86	413436	834413	LU-116-M 32	413436083441300
18.04	6/12/86				
18.42	7/ 9/86				
17.15	2/13/86	413614	834416	LU-117-SF19	413614083441600
16.67	6/12/86				
17.36	7/10/86				
20.80	2/14/86	413638	834532	LU-118-SF18	413638083453200
20.83	6/12/86				
21.20	7/ 9/86				
21.89	2/14/86	413728	834456	LU-119-SF18	413728083445600
22.24	6/12/86				
22.82	7/10/86				
43.14	2/14/86	413534	834709	LU-120-SF 1	413534083470900
44.03	6/12/86				
39.14	7/ 9/86				
38.96	2/18/86	413424	834214	LU-121-M 33	413424083421400
38.70	7/ 9/86				
34.28	2/18/86	413643	834211	LU-122-SF15 ^b	413643083421100
33.42	6/12/86				
33.83	7/10/86				
51.20	2/18/86	414126	833953	LU-123-SY23	414126083395300
49.01	6/17/86				
49.72	7/11/86				
65.84	2/18/86	413939	834207	LU-124-SY27	413939083420700
65.32	6/13/86				
65.96	7/10/86				
36.23	2/18/86	413922	833848	LU-125-T	413922083384800
34.20	6/13/86				
36.98	7/ 9/86				
19.67	2/19/86	413942	833644	LU-127-T	413942083364400
19.07	6/13/86				
20.13	7/ 9/86				
50.14	2/19/86	413819	833702	LU-128-T	413819083370200
49.57	6/ 5/86				
49.56	6/13/86				
44.64	2/19/86	413748	833216	LU-129-T	413748083321600
42.45	6/ 4/86				
41.93	7/ 9/86				
9.64	2/19/86	414321	833033	LU-130-T	414321083303300
45.30	6/ 5/86				
19.41	6/17/86				
31.93	7/ 9/86				
17.03	2/19/86	414317	834241	LU-131-SY 4	414317083424100
16.87	6/13/86				
17.25	7/10/86				
32.77	2/19/86	414315	834454	LU-132-SY 6	414315083445400
14.59	6/13/86				
37.15	7/10/86				
40.90	2/20/86	414024	834355	LU-133-SY29	414024083435500
38.12	6/ 5/86				
38.57	6/13/86				
41.20	7/10/86				
31.30	2/20/86	413429	835112	LU-134-SW 8	413429083511200
31.04	6/12/86				
31.40	7/ 9/86				

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

GROUND-WATER LEVELS FOR LUCAS COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
413535083502800	LU-135-SW 4	413535	835028	2/20/86 6/12/86 7/ 9/86	24.02 23.96 26.06
413303083492800	LU-136-SW22	413303	834928	2/20/86 6/12/86 7/ 9/86	45.38 44.68 46.52
413217083475300	LU-137-W 26	413217	834753	2/20/86 6/ 4/86 6/12/86 7/ 9/86	32.10 32.83 32.15 32.70
413327083470800	LU-138-M 24	413327	834708	2/20/86 6/12/86 7/ 9/86	32.06 31.95 32.52
413426083474800	LU-139-M 14	413426	834748	2/20/86 6/12/86 7/ 9/86	44.76 44.71 45.28
412952083444200	LU-140-W 30	412952	834442	3/ 3/86 6/12/86 7/ 9/86	38.09 26.80 26.98
413003083441300	LU-141-W 29	413003	834413	3/ 3/86 6/12/86 7/ 9/86	24.99 24.90 25.25
412803083454500	LU-142-W 19	412803	834545	3/ 3/86 6/12/86 7/ 9/86	37.24 41.29 37.80
412736083471500	LU-143-W 24	412736	834715	3/ 3/86 6/12/86 7/ 9/86	36.95 36.55 37.80
412843083474800	LU-144-P 14	412843	834748	3/ 3/86 6/12/86 7/ 9/86	25.85 25.03 25.58
412929083460300	LU-145-W 12	412929	834603	3/ 4/86 6/12/86 7/ 9/86	26.90 26.66 26.68
412945083485700	LU-146-W 10	412945	834857	3/ 4/86 7/ 9/86	28.20 28.83
412731083492100	LU-147-P 27	412731	834921	3/ 4/86 6/12/86 7/ 9/86	26.58 26.81 27.27
412633083482400	LU-148-P 34	412633	834824	3/ 4/86 6/12/86 7/ 9/86	36.23 36.21 37.17
412539083503800	LU-149-P 33	412539	835038	3/ 4/86 6/ 4/86 6/12/86 7/ 9/86	36.24 35.31 34.21 36.33
412704083511200	LU-150-P 29	412704	835112	3/ 4/86 6/ 4/86 6/12/86 7/ 9/86	27.45 28.46 28.05 28.66
412906083512200	LU-151-P 17	412906	835122	3/ 4/86 6/12/86 7/ 9/86	42.00 41.71 42.03
413102083504600	LU-152-SW32	413102	835046	3/ 4/86 6/12/86 7/ 9/86	44.93 45.51 45.22

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

245

GROUND-WATER LEVELS FOR LUCAS COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
413121083462300	LU-153-W 36	413121	834623	3/ 4/86 6/12/86 7/ 9/86	22.05 17.85 20.63
413927083221300	LU-154-J 33	413927	832213	3/ 5/86 6/ 5/86 6/16/86 7/ 9/86	28.31 29.44 30.23 33.49
414029083214100	LU-155-J 28	414029	832141	3/ 5/86 6/16/86 7/10/86	21.19 23.00 26.04
413909083195300	LU-156-J 2	413909	831953	3/ 5/86 6/16/86 7/10/86	25.89 24.24 26.21
413939083154200	LU-157-J 32	413939	831542	3/ 5/86 6/16/86 7/10/86	0.25 0.20 0.75
413820083181400	LU-158-J 1	413820	831814	3/ 5/86 6/16/86 7/10/86	17.10 18.00 17.94
413830083162800	LU-159-J 6	413830	831628	3/5/86 6/16/86 7/10/86	11.45 8.85 9.79
413727083190500	LU-160-J 11	413727	831905	3/ 5/86 6/ 5/86 6/16/86 7/10/86	20.35 20.75 20.30 21.01
414022083171800	LU-161-J 30	414022	831718	3/ 6/86 6/16/86 7/10/86	8.16 9.67 10.00
413734083210300	LU-162-J 10	413734	832103	3/ 6/86 6/16/86 7/10/86	34.09 37.32 39.00
413728083173500	LU-163-J 12	413728	831735	3/ 6/86 6/16/86 7/10/86	15.49 16.62 17.85
413719083221300	LU-164-J 17	413719	832213	3/ 6/86 6/16/86 7/10/86	40.92 41.03 43.94
413730083250200	LU-165-O 12	413730	832502	3/ 6/86 6/ 5/86 6/16/86 7/10/86	49.68 45.05 46.33 49.39
413749083234300	LU-166-O 7	413749	832343	3/12/86 6/16/86 7/10/86	40.72 42.85 46.15
413937083223700	LU-167-O 32	413937	832237	3/12/86 7/10/86	25.67 31.48
413931083274200	LU-168-O 34	413931	832742	3/13/86 6/16/86 7/10/86	40.50 41.72 44.98
414019083261400	LU-170-O 26	414019	832614	3/13/86 6/16/86 7/10/86	29.77 33.11 36.39
414723083280300	LU-171-O 9	413723	832803	3/13/86 6/16/86 7/10/86	53.82 56.18 59.55

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

GROUND-WATER LEVELS FOR LUCAS COUNTY

SITE NUMBER	LOCAL NO. CTY SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
413830083335200	LU-172-T	413830	833352	3/14/86 6/13/86 7/ 9/86	123 118 123
414314083351000	LU-173-T	414314	833510	6/17/86 7/ 8/86	35.48 34.98
414151083352200	LU-174-T	414151	833522	6/17/86 7/ 9/86	60.67 62.61
414142083290400	LU-175-T	414142	832904	6/17/86 7/11/86	13.65 16.64
413819083195600	LU-176-J 3	413819	831956	6/18/86 7/10/86	28.45 30.60
414029083201000	LU-177-J 27	414029	832010	6/18/86 7/10/86	21.08 22.93
413926083173300	LU-178-J 31	413926	831733	6/18/86 7/10/86	12.38 15.55
413915083144200	LU-179-J 33	413915	831442	6/18/86 7/10/86	4.80 4.80
413743083112300	LU-180-J 12	413743	831123	6/18/86 7/10/86	3.60 3.79
413742083111600	LU-181-J 12	413742	831116	6/18/86 7/10/86	4.70 5.17
413730083153500	LU-182-J 8	413730	831535	6/18/86 7/10/86	5.68 6.15
413747083265200	LU-183-O 10	413747	832652	6/18/86 7/10/86	50.60 53.33
413817083242700	LU-184-O 6	413817	832427	6/18/86 7/10/86	40.71 43.47
413912083221400	LU-185-J 33	413912	832214	6/ 5/86	28.95
413950083281300	LU-186-O 33	413950	832813	7/10/86	41.20 ^a
414109083265300	LU-187-O 23	414109	832653	7/10/86	35.48 ^a
414039083272400	LU-188-O 27	414039	832724	7/10/86	50.59 ^a
414015083280000	LU-189-O 27	414015	832800	7/10/86	40.31 ^a
414013083273700	LU-190-O 27	414013	832737	7/10/86	46.99 ^a
413959083280800	LU-191-O 27	413959	832808	7/10/86	40.35 ^a
413959083274200	LU-192-O 27	413959	832742	7/10/86	46.78 ^a
<u>Wells completed in shallow sand aquifer (112 LAKE)</u>					
413408083512400	LU-301-SW17	413408	835124	9/10/86	7.27
413212083514300	LU-302-SW29	413212	835143	9/11/86	5.35
413300083510500	LU-303-SW20	413300	835105	9/30/86	3.90
413328083501100	LU-304-SW21	413328	835011	9/30/86	8.75
414133083424800	LU-305-SY16	414133	834248	9/ 9/86	6.99
414314083403100	LU-306-SY 2	414314	834031	9/29/86	5.18

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

GROUND-WATER LEVELS FOR LUCAS COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
414203083411700	LU-307-SY15	414203	834117	9/ 9/86	9.07
414327083395100	LU-311-SY 1	414327	833951	2/11/86	6.22
414258083403100	LU-312-SY11	414258	834031	2/10/86	3.52
414235083420400	LU-313-SY10	414235	834204	2/10/86	3.10
414228083422800	LU-314-SY 9	414228	834228	2/10/86	5.64
414203083425500	LU-315-SY16	414203	834255	2/10/86	5.23
414202083422400	LU-316-SY16	414202	834224	2/10/86	7.32
414122083425700	LU-317-SY16	414122	834257	2/10/86	5.26
413858083432600	LU-318-SF 5	413858	834326	2/11/86	3.50
413815083424600	LU-319-SF 9	413815	834246	2/11/86	2.92

^aSource of data: reported by well owner, not measured by USGS personnel.

^bWell completed in sand and gravel of Quaternary age.

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

GROUND-WATER LEVELS FOR SANDUSKY COUNTY

411644082511600. Local number, S-129-Y25

LOCATION.--Lat 41°16'44", long 82°51'16", Hydrologic Unit 04100011, at France Stone Quarry at Bellevue, OH.

Owner: France Stone Company.

AQUIFER.--Dolomite of Upper Silurian and Lower Devonian Age.

WELL CHARACTERISTICS.--Drilled commercial water well converted for observation, diameter 5.62 in., depth, 130 ft., cased to 8 ft.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 730 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.40 ft above land-surface datum.

PERIOD OF RECORD.--July 8, 1986 To present.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1										--	50.40	
2										--	50.67	
3										--	50.97	
4										--	51.28	
5										--	51.43	
6										--	51.69	
7										--	51.83	
8										48.44	52.12	
9										48.32	52.34	
10										48.58	52.66	
11										48.61	52.80	
12										48.25	53.12	
13										47.52	53.42	
14										46.87	53.59	
15										46.72	53.96	
16										46.73	54.27	
17										46.86	54.56	
18										47.03	--	
19										47.20	--	
20										47.42	--	
21										47.68	--	
22										47.92	--	
23										48.15	--	
24										48.37	--	
25										48.61	--	
26										48.79	--	
27										49.09	--	
28										49.33	--	
29										49.63	--	
30										49.89	--	
31										50.17	--	
MAX										---	--	
WTR YR 1986	MEAN	49.93		HIGH	46.72	JUL 15	LOW	54.56	AUG 17			

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

249

GROUND-WATER LEVELS FOR SANDUSKY COUNTY

412409083110200. Local number, S-170-W12

LOCATION.--Lat 41°24'09", long 83°11'02", Hydrologic Unit 04100011, 2188 County Road 122 near Lindsey, OH.

Owner: Charles Wonderly

AQUIFER.--Lockport Dolomite of Middle Silurian Age.

WELL CHARACTERISTICS.--Drilled domestic water well converted for observation, diameter 4.25 in., depth, 61 ft., cased to 20.7 ft.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 630 ft above National Geodetic Vertical Datum of 1929, from topographic map. Measuring point: Top of casing, 1.00 ft above land-surface datum.

PERIOD OF RECORD.--June 19, 1986 To present.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1									---	7.57	8.07	---
2									---	7.53	8.35	---
3									---	7.69	8.52	---
4									---	7.70	8.62	---
5									---	7.77	8.60	---
6									---	7.82	8.62	---
7									---	7.82	8.66	10.68
8									---	7.82	8.69	10.78
9									---	7.81	8.79	10.83
10									---	7.81	8.78	10.81
11									---	7.73	---	10.75
12									---	7.61	---	10.95
13									---	7.41	---	11.16
14									---	7.20	---	11.25
15									---	7.19	---	11.24
16									---	7.14	---	11.38
17									---	7.11	---	11.37
18									---	7.12	---	11.32
19									6.76	7.11	---	11.40
20									6.89	7.16	---	11.46
21									6.96	7.33	---	11.55
22									6.90	7.45	---	11.50
23									6.99	7.56	---	11.43
24									7.09	7.51	---	11.52
51									7.24	7.52	---	11.64
26									7.30	7.65	---	11.70
27									7.25	7.71	---	11.74
28									7.31	7.85	---	11.78
29									7.43	7.85	---	11.78
30									7.54	8.00	---	11.78
31									---	8.05	---	---
MAX									---	8.05	---	---
WTR YR 1986	MEAN	8.80		HIGH	6.76	JUN 19	LOW	11.88	SEPT 30			

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

GROUND-WATER LEVELS FOR SANDUSKY COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
411914083045300	S - 3-B 12	411914	830453	Continuous recorder	
412355083212400	S - 11-M 15	412355	832124	5/ 7/86 7/11/86	3.50 2.82
412537083040100	S - 18-R 1	412537	830401	7/ 9/86	4.90
411531083044600	S - 23-B 36	411531	830446	3/27/86 4/ 6/86 7/ 9/86	8.15 8.38 9.10
412316083071300	S -100-S 15	412316	830713	3/24/86	28.05
412435083071800	S -101-S 10	412435	830718	3/24/86 7/ 9/86	16.82 18.11
412604083062100	S -102-R 35	412604	830621	3/24/86 7/ 9/86	4.17 5.41
412527083042300	S -103-R 1	412527	830423	3/24/86 7/ 9/86	6.70 7.90
412450083051000	S -104-R 12	412450	830510	3/ 5/86 7/ 9/86	8.10 9.45
412314083040600	S -105-RL18	412314	830406	3/25/86 7/ 9/86	18.87 20.91
412427083022800	S -106-RL 8	412427	830228	3/25/86 7/ 9/86	0.32 0.70
412123083012000	S -107-RL33	412123	830120	3/25/86 7/ 9/86	2.95 4.07
412214083025700	S -108-RL29	412214	830257	3/25/86 7/ 9/86	16.20 22.46
412032083041200	S -109-S 36	412032	830412	3/25/86 7/ 9/86	16.20 19.69
412143083053500	S -110-S 26	412143	830535	3/26/86 6/10/86 7/ 9/86	204 ^b 215 ^b 199 ^b
412128083054000	S -111-S 26	412128	830540	3/26/86 6/10/86 7/ 9/86	73 114 71
411918083040000	S -112-G 7	411918	830400	3/26/86 6/10/86 7/ 9/86	23.60 24.43 27.11
411927083010700	S -113-G 9	411927	830107	3/26/86 7/ 9/86	7.23 7.45
411731083001200	S -114-G 22	411731	830012	3/26/86 7/ 9/86	22.44 22.85
411615083001900	S -115-G 27	411615	830019	3/26/86 7/ 9/86	7.98 9.42
411652083031000	S -116-G 30	411652	830310	3/26/86 7/ 9/86	41.48 43.13
411751083041800	S -117-B 24	411751	830418	3/26/86 7/ 9/86	39.80 42.60
411920083071600	S -118-B 24	411920	830716	3/27/86 7/ 9/86	35.62 39.57
411729083061700	S -119-B 23	411729	830617	3/27/86 7/ 9/86	23 21

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

251

GROUND-WATER LEVELS FOR SANDUSKY COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
411549083064300	S -120-B 35	411549	830643	3/27/86 7/ 9/86	16.37 17.71
411711083075000	S -121-B 21	411711	830750	3/27/86 7/10/86	15.50 17.40
411755083111000	S -122-B 19	411755	831110	3/27/86 7/10/86	5.35 6.76
411547083093900	S -123-B 32	411547	830939	3/28/86 7/10/86	22.08 23.70
411536083124100	S -124-J 35	411536	831241	3/28/86 7/10/86	15.19 15.45
411656083130100	S -125-J 26	411656	831301	3/28/86 7/10/86	6.13 7.36
411602083145400	S -126-J 33	411602	831454	3/28/86 7/10/86	3.23 3.98
411622082502900	S -127-Y 25	411622	825029	5/15/86 6/10/86 7/ 8/86	74.42 61.28 59.48
411615082505100	S -128-Y 25	411615	825051	4/15/86 7/ 8/86	54.44 66.69
411644082511600	S -129-Y 25	411644	825116	4/15/86 6/10/86 Continuous recorder	37.37 41.81
411757082504300	S -130-Y 13	411757	825043	4/15/86 7/ 8/86	45.28 56.00
411851082521800	S -131-Y 11	411851	825218	4/15/86 7/ 8/86	42.03 47.10
412026082505000	S -132-Y 1	412026	825050	4/15/86 7/ 8/86	82.98 85.70
412153082514100	S -133-T 26	412153	825141	4/15/86 7/ 8/86	42.91 43.18
412052082531900	S -134-T 34	412052	825319	4/15/86 7/ 8/86	55.89 56.50
411935082560300	S -135-Y 8	411935	825603	4/15/86 7/ 8/86	23.64 24.72
411744082561600	S -136-Y 19	411744	825616	4/15/86	63.50
411835082550000	S -137-Y 16	411835	825500	4/15/86 7/ 8/86	27.90 29.90
411627082554200	S -138-Y 29	411627	825542	4/16/86 7/ 8/86	34.21 34.69

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

GROUND-WATER LEVELS FOR SANDUSKY COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
411526082564500	S -139-Y 31	411526	825645	4/16/86 7/ 8/86	25.44 23.68
411521082535700	S -140-Y 33	411521	825357	4/16/86 7/ 8/86	26.07 33.60
411722082540200	S -141-Y 21	411722	825402	4/16/86 7/ 8/86	35.79 37.45
411815082545900	S -142-Y 16	411815	825402	4/16/86 7/ 8/86	27.49 31.80
412115082560800	S -143-T 32	412115	825608	4/16/86 7/ 8/86	7.14 7.52
412102082585000	S -144-RL35	412102	825850	4/16/86 7/ 8/86	0.30 0.15
411938082592000	S -145-G 11	411938	825920	4/16/86 7/ 8/86	3.51 5.55
411729082585300	S -146-G 23	411729	825853	4/16/86 7/ 8/86	2.38 3.44
411632082580300	S -147-G 25	411632	825803	4/17/86 7/ 8/86	15.57 23.21
411627082584000	S -148-G 26	411627	825840	4/17/86 7/ 8/86	20.05 23.85
411534082585900	S -149-G 35	411534	825859	4/17/86 7/ 8/86	31.89 32.72
411831082575200	S -150-G 13	411831	825752	4/17/86 7/ 8/86	28.72 29.13
411831082575400	S -151-G 13	411831	825754	4/17/86 7/ 8/86	28.20 27.45
412055083073200	S -152-S 33	412055	830732	4/17/86 7/10/86	48.49 50.25
412055083073200	S -153-S 33	412055	830732	4/17/86 7/10/86	45.34 45.38
412150083083000	S -154-S 28	412150	830830	4/17/86 7/10/86	41.54 31.20
412050083083600	S -155-S 28	412050	830836	4/17/86 7/10/86	22.62 22.62
412050083091400	S -156-S 32	412050	830914	4/17/86 7/10/86	18.60 20.30
412226083102900	S -157-S 19	412226	831029	4/17/86 7/10/86	6.77 7.71
412003083081800	S -158-B 4	412003	830818	4/17/86 7/10/86	10.45 12.18

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

253

GROUND-WATER LEVELS FOR SANDUSKY COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
411855083085600	S -159-B 9	411855	830856	4/17/86 7/10/86	12.30 13.27
411806083145400	S -160-J 16	411806	831454	4/17/86 7/10/86	10.87 15.05
412013083142400	S -161-J 3	412013	831424	4/17/86 7/10/86	8.05 11.59
412146083124900	S -162-W 26	412146	831249	5/ 5/86 7/10/86	3.80 9.70
412241083131600	S -163-W 23	412241	831316	5/ 5/86 7/ 9/86	19.99 23.12
412404083143100	S -164-W 9	412404	831431	5/ 5/86 7/ 9/86	14.88 15.83
412241083080400	S -165-S 21	412241	830804	5/ 6/86 7/ 9/86	38.18 36.56
412420083081600	S -166-S 9	412420	830816	5/ 6/86 7/ 9/86	23.68 25.05
412636083080900	S -167-R 28	412636	830809	5/ 6/86 7/ 9/86	12.62 14.27
412455083094300	S -168-R 5	412455	830943	5/ 6/86 7/ 9/86	23.57 25.06
412410083110000	S -169-W 12	412410	831100	5/ 6/86 7/ 9/86	9.71 12.53
412409083110200	S -170-W 12	412409	831102	Continuous recorder	
412449083130400	S -171-W 11	412449	831304	5/ 6/86 7/ 9/86	14.5 16.43
412620083131700	S -172-W 35	412620	831317	5/ 6/86 7/ 9/86	14.21 17.26
412621083102400	S -173-R 31	412621	831024	5/ 6/86 7/ 9/86	18.55 19.74
412619083150400	S -174-W 33	412619	831504	5/ 6/86 7/11/86	8.48 12.78
412451083153600	S -175-W 5	412451	831536	5/ 6/86 7/11/86	5.25 7.36
412240083151400	S -176-W 21	412240	831514	5/ 7/86 7/11/86	2.62 2.29
412359083162800	S -177-W 8	412359	831628	5/ 7/86 7/11/86	2.28 1.72
412303083180500	S -178-M 24	412303	831805	5/ 7/86 7/11/86	3.52 6.17
412249083191400	S -179-M 23	412249	831914	5/ 7/86 7/11/86	41 50
412449083130400	S -171-W 11	412449	831304	5/ 7/86 7/ 9/86	6.90 6.62
412329083213200	S -181-M 16	412329	832132	5/ 7/86 7/11/86	2.82 2.71
412451083232500	S -182-WO 5	412451	832325	5/ 7/86 7/11/86	6.40 8.36
412318083244600	S -183-M 18	412318	832446	5/ 7/86 7/11/86	32.65 35.65

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

GROUND-WATER LEVELS FOR SANDUSKY COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
412241083224000	S -184-M 21	412241	832240	5/ 7/86 7/11/86	1.50 1.94
412627083230800	S -185-WO32	412627	832308	5/ 7/86 6/10/86 7/11/86	10.60 10.60 10.96
412537083181100	S -186-WO 1	412537	831811	5/ 8/86 7/11/86	7.70 10.99
412539083193700	S -187-WO 2	412539	831937	5/ 8/86 7/11/86	28.90 14.57
412722083221200	S -188-WO28	412722	832212	5/ 8/86 7/11/86 9/ 3/86	28.90 37.88 40.85
412909083214500	S -189-WO16	412909	832145	5/ 8/86	6.65
412909083245100	S -190-WO 7	412909	832451	5/ 8/86 7/10/86	3.82 6.07
412745083245300	S -191-WO19	412745	832453	5/ 8/86 7/11/86	6.08 7.09
412619083211900	S -192-WO34	412619	832119	5/ 9/86 7/11/86	37.27 38.45
412623083212600	S -193-WO34	412623	832126	5/ 9/86 7/11/86	37.20 34.30
411602083224900	S -194-SC32	411602	832249	5/19/86 7/11/86	11.58 12.74
411754083241600	S -195-SC18	411754	832416	5/19/86 7/11/86	11.58 8.30
412001083244500	S -196-SC 6	412001	832445	5/19/86	10.81
411951083224000	S -197-SC 4	411951	832240	5/19/86 7/11/86	4.57 5.43
412118083231400	S -198-M 32	412118	832314	5/19/86 7/11/86	2.89 3.06
412214083245600	S -199-M 19	412214	832456	5/20/86 7/11/86	9.28 9.80
412119083205800	S -200-M 34	412119	832058	5/20/86 7/10/86	4.94 5.59
412158083191700	S -201-M 26	412158	831917	5/20/86 7/10/86	1.05 3.63
412120083172400	S -202-W 31	412120	831724	5/20/86 7/11/86	8.91 11.08
412122083152600	S -203-W 28	412122	831526	5/20/86 7/11/86	3.66 4.29
411914083164200	S -204-J 8	411914	831642	5/20/86 7/10/86	2.76 4.45
411911083165100	S -205-J 8	411911	831651	5/20/86 7/10/86	26.60 28.12
411757083171100	S -206-J 18	411757	831711	5/20/86 7/10/86	3.01 5.39
411715083153200	S -207-J 21	411715	831532	5/20/86 7/10/86	4.37 7.13

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

255

GROUND-WATER LEVELS FOR SANDUSKY COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
411613083193300	S -208-SC26	411613	831933	5/21/86 7/10/86	2.22 2.32
411519083211800	S -209-SC34	411519	832118	5/21/86 7/10/86	2.31 3.62
411654083213400	S -210-SC27	411654	832134	5/21/86 7/10/86	13.02 14.39
412023083194900	S -211-SC 2	412023	831949	5/21/86 7/10/86	6.76 9.99
411921083202500	S -212-SC10	411921	832025	5/21/86 7/10/86	1.05 2.19
411959083181900	S -213-SC 1	411959	831819	5/21/86 7/10/86	2.59 2.80
411935083213900	S -214-SC 9	411935	832139	5/22/86 7/10/86	2.93 4.65
411754083185500	S -215-SC13	411754	831855	5/22/86 7/10/86	2.93 4.60
412311082510800	S -216-T 24	412311	825108	7/16/86	1.50
412505082512400	S -217-T 1	412505	825124	7/17/86	Flowing
412314082533000	S -218-T 15	412314	825330	7/17/86	Flowing
412431082580200	S -219-RL12	412431	825802	7/17/86	Flowing
411751082531000	S -220-Y 22	411751	825310	7/ 2/86	42.04
412219082585500	S -221-RL23	412219	825855	7/86	21.60 ^a
412219082592700	S -222-RL23	412219	825927	7/86	20.10 ^a
412222082583800	S -223-RL23	412222	825838	7/86	19.25 ^a
412206082590900	S -224-RL26	412206	825909	7/86	21.95 ^a
412204082584400	S -225-RL26	412204	825844	7/86	23.75 ^a
412217082592700	S -226-RL26	412217	825927	7/86	21.40 ^a

^a Source of data: Reported by well owner, not measured by USGS personnel.
^b Well pumping during measurement.

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

GROUND-WATER LEVELS FOR WOOD COUNTY

413629083304400. Local number, WQ-121-N.

LOCATION.--Lat 41°36'29", long 83°30'04", Hydrologic Unit 04100010, 6585 Wales Road near Northwood, OH.

Owner: Waste Management Inc.

AQUIFER.--Dolomite of Upper Silurian Age.

WELL CHARACTERISTICS.--Drilled domestic water well converted to observation well, diameter 6.0 in., depth, 188.5 ft., cased.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 616.47 ft above National Geodetic Vertical Datum of 1929, from levels.

Measuring point: Top of casing, 2.12 ft below land-surface datum.

PERIOD OF RECORD.--August 22 1984 to present.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 55.60 ft below land-surface datum, Jan. 8, 1986; lowest water level, 63.46 ft below land-surface datum, Nov. 21, 1984.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	60.60	56.58	56.51	56.60	57.07	57.54	58.02		---	58.77	59.49
2	---	60.49	56.44	56.51	56.50	57.49	57.33	57.88		58.23	58.79	59.49
3	---	60.58	55.77	56.51	56.47	57.37	57.31	57.74		58.48	58.95	59.46
4	---	60.64	55.69	56.63	56.99	57.14	57.39	57.85		58.47	59.13	59.29
5	---	60.64	56.18	56.83	56.93	57.50	57.62	58.01		58.55	59.08	59.31
6	---	60.60	55.96	56.40	56.72	57.58	57.64	58.24		58.61	58.97	59.39
7	---	60.60	55.80	55.94	57.03	57.31	57.81	58.24		58.68	58.81	59.48
8	---	60.60	56.12	55.60	56.64	57.19	57.80	---		58.58	58.73	59.57
9	---	60.76	56.16	56.17	56.58	57.36	57.79	---		58.48	58.89	59.60
10	---	60.77	55.95	56.22	56.79	57.79	57.84	---		58.54	58.86	59.47
11	---	61.06	56.22	56.38	56.59	57.47	57.84	---		58.39	58.99	59.22
12	---	61.05	56.08	56.77	56.55	57.49	57.77	---		58.31	59.19	59.40
13	---	61.04	56.21	56.37	56.61	57.48	57.65	---		58.39	59.19	59.60
14	---	61.04	56.04	56.41	56.88	57.57	57.85	---		58.61	59.09	59.84
15	---	61.05	56.10	56.09	56.85	57.52	57.85	---		58.71	58.98	59.66
16	---	61.05	56.19	56.19	56.90	57.35	57.79	---		58.65	58.99	59.92
17	61.27	60.99	56.13	56.31	57.41	57.15	57.72	---		58.71	59.08	59.85
18	61.21	61.06	56.04	56.52	57.22	58.06	57.54	58.09		58.73	59.22	59.59
19	61.05	60.75	55.75	56.73	57.52	58.12	57.64	---		58.68	59.27	59.66
20	61.06	61.10	55.99	56.72	57.63	57.38	58.16	---		58.56	59.26	59.66
21	61.03	61.10	55.95	56.83	57.19	56.89	58.18	---		58.80	59.31	59.75
22	61.02	61.10	56.57	56.68	57.37	57.03	57.87	---		58.94	59.36	59.67
23	60.95	61.09	56.64	56.06	57.60	57.15	57.60	---		58.98	59.19	59.38
24	60.89	61.09	56.76	56.19	57.25	56.92	57.67	---		58.84	59.29	59.37
25	61.08	61.09	56.27	56.55	57.24	57.15	57.82	---		58.76	59.31	59.39
26	61.03	60.64	56.52	56.80	57.65	57.55	57.82	---		58.74	59.22	59.55
27	61.07	55.81	56.56	56.74	57.56	57.19	57.85	---		58.73	59.19	59.56
28	61.18	56.05	56.23	56.69	57.15	57.26	57.99	---		58.68	59.42	59.65
29	61.19	55.82	56.44	56.79	---	57.42	57.99	---		58.69	59.59	59.58
30	60.94	56.22	56.41	56.37	---	57.42	57.98	---		58.79	59.63	59.55
31	60.84	---	57.67	56.22	---	57.36	---	---		58.78	59.59	---
MAX	---	61.10	57.67	56.83	57.65	58.12	58.18	---		---	59.63	59.92
WTR YR 1986 MEAN		58.19		HIGH	55.60	JAN 8	LOW	61.27	OCT 17			

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

257

GROUND-WATER LEVELS FOR WOOD COUNTY

411721083250900. Local number, WQ-200-M024

LOCATION.--Lat 41°17'21", long 83°25'09", Hydrologic Unit 04100010, on SR 23, 1.15 mi north of Risingsun, OH,
Owner: Cletus Brockschmidt.

AQUIFER.--Lockport Dolomite of Middle Silurian Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 265 ft. cased.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 704.66 ft above National Geodetic Vertical Datum of 1929, from levels.

Measuring point: Floor of shelter, 0.70 ft above land-surface datum.

PERIOD OF RECORD.--November 6, 1985 to present.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1		---	3.51	4.81	4.47	3.97	4.19	4.16	4.33	5.00	5.14	6.73
2		---	3.94	4.69	4.29	3.86	4.27	4.83	4.53	4.93	5.30	6.66
3		---	4.05	4.83	4.05	4.01	4.20	4.53	4.62	5.03	5.54	6.83
4		---	3.99	4.80	3.91	3.90	4.25	4.39	4.51	5.01	5.50	6.79
5		---	3.91	4.70	3.36	3.80	3.99	4.27	4.51	5.48	5.74	6.80
6		5.13	4.13	4.89	3.34	3.52	3.66	4.32	4.47	5.24	5.74	6.99
7		5.49	4.12	5.09	3.70	3.96	3.59	4.40	4.34	5.28	5.84	6.99
8		5.53	4.14	5.05	3.79	4.02	3.69	4.50	4.32	5.19	5.95	7.03
9		5.27	4.16	4.85	3.85	3.85	3.85	4.53	4.83	5.08	6.17	7.04
10		4.92	4.12	4.80	3.87	3.80	4.16	4.63	4.33	4.97	6.15	6.95
11		4.69	3.78	4.81	4.00	3.90	3.94	4.63	3.92	4.85	6.09	6.88
12		4.60	3.06	4.69	4.13	3.87	4.60	4.54	4.09	4.27	6.08	7.14
13		4.44	3.32	4.87	4.21	3.40	4.23	4.56	4.30	3.91	6.13	7.25
14		4.44	3.53	4.97	4.06	3.24	4.13	4.63	4.34	3.99	6.11	7.44
15		4.44	3.61	5.00	4.26	3.50	3.99	4.71	4.38	4.16	6.20	7.26
16		4.27	3.80	4.95	4.23	3.71	4.02	4.47	4.31	4.16	6.35	7.40
17		3.79	3.80	4.84	4.17	3.73	4.14	4.40	4.49	3.94	6.37	7.32
18		3.85	4.12	4.62	4.10	3.70	4.16	4.23	4.51	4.08	6.35	7.21
19		3.90	4.12	4.12	3.42	3.35	4.12	3.80	4.49	4.26	6.47	7.27
20		4.07	4.11	3.98	3.20	3.67	4.01	3.91	4.61	4.37	6.51	7.35
21		4.00	4.20	4.05	3.24	3.75	3.46	3.96	4.65	4.46	6.73	7.48
22		3.90	4.10	4.20	3.25	3.74	3.59	3.93	4.73	4.55	6.80	7.28
23		3.91	4.09	4.19	3.46	3.85	3.75	4.05	4.75	4.63	6.84	7.19
24		4.09	4.37	4.17	3.58	4.03	3.74	4.19	4.81	4.67	7.08	7.31
25		4.03	4.49	3.98	3.63	3.89	3.78	4.31	4.94	4.63	7.08	7.32
26		3.78	4.40	4.00	3.50	3.87	4.35	4.22	4.92	4.85	7.11	7.36
27		3.37	4.54	4.13	3.77	4.01	3.98	4.15	4.96	4.86	6.79	7.30
28		3.31	4.56	4.21	3.88	4.01	3.86	4.01	5.29	4.85	6.70	7.47
29		3.49	4.52	4.47	---	4.01	4.06	4.11	4.97	4.98	6.71	7.29
30		3.51	4.57	4.57	---	4.10	4.01	4.03	5.05	4.98	6.65	7.23
31		---	4.71	4.54	---	4.16	---	4.22	---	5.05	6.62	---
MAX		---	4.71	5.09	4.47	4.16	4.60	4.83	5.29	5.48	7.11	7.48
WTR YR 1986 MEAN		4.70		HIGH	3.06	DEC 12	LOW	7.48	SEP 21			

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT
GROUND-WATER LEVELS FOR WOOD COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
412031083480200	WO- 10-WS 2	412031	834802	6/ 4/86 7/ 1/86	5.21 5.31
411007083401600	WO- 11-H 35	411007	834016	10/10/85 7/ 8/86	15.14 14.54
411705083254100	WO- 12-MO24	411705	832541	11/ 6/85 11/14/85 12/19/85 2/13/86 7/ 8/86	4.18 3.63 3.61 3.49 4.47
412645083315800	WO- 13-WB25	412645	833158	7/ 2/86	2.46
412140083352700	WO- 23-C 27	412140	833527	11/13/85 7/ 1/86	4.88 5.15
413512083320900	WO-100-PB25	413512	833209	7/ 2/86	51.77
413631083314200	WO-101-N	413631	833142	7/ 2/86	57.79
413635083293400	WO-102-N	413635	832934	7/ 2/86	58.34
413551083293900	WO-103-N	413551	832939	7/ 2/86	61.79
413620083304100	WO-104-N	413620	833041	7/ 2/86	58.98
413532083295800	WO-105-N	413532	832958	7/ 2/86	60.82 ^a
413604083300100	WO-106-N	413604	833001	7/ 2/86	61.02 ^a
413626083302900	WO-107-N	413626	833029	7/ 2/86	62.72 ^a
413625083303500	WO-108-N	413625	833035	7/ 2/86	53.42 ^a
413616083302300	WO-109-N	413616	833023	7/ 2/86	60.09 ^a
413608083303400	WO-110-N	413608	833034	7/ 2/86	59.83 ^a
413614083302300	WO-111-N	413614	833023	7/ 2/86	62.66 ^a
413618083302300	WO-112-N	413618	833023	7/ 2/86	56.30 ^a
413515083304300	WO-118-LK 8	413515	833043	7/ 2/86	57.50
413515083313700	WO-119-LK 7	413515	833137	7/ 2/86	53.19
413629083304400	WO-121-N	413629	833044	Continuous recorder	
413655083305800	WO-124-N	413655	833058	7/ 2/86	58.64
413557083332300	WO-129-PB23	413557	833323	7/ 2/86	40.80
413540083322200	WO-131-PB24	413540	833222	7/ 2/86	56.08
413551083293900	WO-141-LK 4	413551	832939	7/ 2/86	53.77
411721083250900	WO-200-MO24	411721	832509	Continuous recorder	
411152083253900	WO-201-PE24	411152	832539	10/ 9/85 7/ 8/86	32.12 29.17
411130083253300	WO-202-PE23	411130	832533	10/ 9/85 6/30/86	10.90 6.32
411411083260600	WO-203-PE12	411411	832606	10/ 9/85 6/30/86	5.77 2.47
411209083273500	WO-204-PE22	411209	832735	10/ 9/85 6/30/86	11.34 9.30
411037083275300	WO-205-PE34	411037	832753	10/ 9/85 7/ 8/86	5.85 3.93

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

259

GROUND-WATER LEVELS FOR WOOD COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
411443083291500	WO-206-PE 4	411443	832915	10/ 9/85 6/30/86	21.15 14.52
411235083324000	WO-207-B 24	411235	833240	10/ 8/85 6/30/86	7.92 4.48
411036083320500	WO-208-PE31	411036	833205	10/ 9/85 6/30/86	6.65 4.46
411012083330900	WO-209-B 36	411012	833309	10/ 9/85 6/30/86	11.60 7.99
411050083333400	WO-210-B 35	411050	833334	10/ 8/85 6/30/86	8.15 4.04
411150083333200	WO-211-B 23	411150	833332	10/08/85 6/30/86	13.51 9.36
411429083362200	WO-212-B 4	411429	833622	10/08/85 6/30/86	5.90 1.92
411331083360600	WO-213-B 16	411331	833606	10/ 8/85 6/30/86	8.40 4.69
411031083364400	WO-214-B 32	411031	833644	10/ 8/85 6/ 3/86 6/30/86	7.33 5.59 5.97
411352083371800	WO-215-B 8	411352	833718	10/ 8/85 6/ 3/86 6/30/86	9.73 5.96 8.02
411428083395400	WO-216-H 1	411428	833954	10/10/85 6/30/86	4.15 4.36
411022083394000	WO-218-H 36	411022	833940	10/17/85 6/30/86	14.96 10.58
411336083411200	WO-219-H 11	411336	834112	10/10/85 6/30/86	11.06 7.39
411354083422700	WO-220-H 10	411354	834227	10/10/85 6/30/86	12.96 8.80
411339083430200	WO-221-H 9	411339	834302	10/16/85 6/30/86	17.05 13.10
411253083434000	WO-222-H 17	411253	834340	10/16/85 6/30/86 7/11/86	4.28 1.84 1.89
411250083434000	WO-223-H 17	411250	834340	10/ 9/85 6/30/86 7/11/86	5.57 3.70 3.48
411101083442900	WO-224-H 29	411101	834429	10/ 9/85 7/ 3/86	14.60 13.20
411425083441600	WO-225-H 8	411425	834416	10/16/85 6/30/86	12.28 10.92
411429083440800	WO-226-H 5	411429	834408	10/10/85 6/ 3/86 6/30/86	12.69 10.06 10.09
411256083453100	WO-228-H 18	411256	834531	10/10/85 6/30/86	17.57 16.60
411216083470300	WO-230-J 24	411216	834703	10/10/85 6/30/86	24.18 23.08
411207083481600	WO-231-J 22	411207	834816	10/10/85 7/ 3/86	18.37 17.61

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

GROUND-WATER LEVELS FOR WOOD COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
411059083484900	WO-232-J 27	411059	834849	10/10/85 6/30/86	20.70 19.62
411025083514300	WO-233-J 31	411025	835143	10/10/85 6/30/86	23.38 27.98
411217083510900	WO-234-J 20	411217	835109	10/10/85 7/ 1/86	30.60 29.90
411217083515300	WO-235-J 19	411217	835153	10/10/85 7/ 1/86	31.00 30.47
411337083503800	WO-236-J 8	411337	835038	10/16/85 7/ 1/86	24.95 27.39
411520083520900	WO-237-ML31	411520	835209	10/16/85 6/ 3/86 7/ 1/86	24.48 23.71 23.89
411846083525300	WO-238-ML18	411846	835253	10/16/85 7/ 2/86	14.33 13.72
411944083525700	WO-239-ML 6	411944	835257	10/16/85 7/ 2/86	75.20 75.94
411940083511600	WO-240-ML 8	411940	835116	10/16/85 7/ 1/86	19.98 19.60
411706083503200	WO-241-ML21	411706	835032	10/17/85 6/ 3/86 7/ 1/86	17.95 17.17 17.33
411943083493200	WO-242-ML 4	411943	834932	10/17/85 7/ 1/86	9.35 8.67
413123083415800	WO-243-PB57	413123	834158	---	---
411733083482100	WO-244-ML22	411733	834821	10/16/85 7/ 1/86	18.00 17.27
411945083465700	WO-245-ML 1	411945	834657	10/17/85 7/ 1/86	10.10 9.36
411706083455600	WO-246-LI19	411706	834556	10/16/85 7 /1/86	10.86 9.77
411521083462500	WO-247-ML36	411521	834625	10/17/85 7/ 1/86	17.00 15.99
411609083441300	WO-248-LI32	411609	834413	10/29/85 7/ 1/86	7.12 5.42
411800083433900	WO-249-LI16	411800	834339	10/29/85 7/ 1/86	8.11 6.52
411945083410600	WO-250-LI 2	411945	834106	10/18/85 7/ 1/86	12.26 14.49
411749083401900	WO-251-LI23	411749	834019	10/29/85 7/ 1/86	7.24 6.27
411603083401200	WO-252-LI35	411603	834012	10/29/85 7/1/86	3.90 1.70
411752083384700	WO-253-PO18	411752	833847	10/29/85 7/ 1/86	13.34 11.60
411841083363900	WO-254-PO 9	411841	833639	10/28/85 7/ 1/86	10.07 7.59
411749083361000	WO-255-PO16	411749	833610	10/28/85 7/ 1/86	9.87 5.52
411535083361200	WO-256-PO33	411535	833612	10/29/85 6/30/86	11.02 7.22

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

261

GROUND-WATER LEVELS FOR WOOD COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
411516083360900	WO-257-PO33	411516	833609	10/29/85 6/30/86	16.31 12.71
411828083345200	WO-258-PO15	411828	833452	10/28/85 7/ 1/86	6.90 2.98
411658083323500	WO-259-PO24	411658	833235	10/28/85 7/ 1/86	11.96 7.00
411911083285300	WO-260-MO 9	411911	832853	10/30/85 7/ 8/86	10.80 7.55
411756083282500	WO-261-MO15	411756	832825	10/30/85 7/ 8/86	17.20 14.34
411533083284200	WO-262-MO33	411533	832842	10/30/85 6/30/86	7.66 5.24
411943083261300	WO-263-MO 1	411943	832613	10/30/85 7/ 8/86	2.90 2.68
411700083261100	WO-264-MO24	411700	832611	10/31/85 11/14/85 7/8/86	4.02 2.17 2.82
411616083251900	WO-265-MO25	411616	832519	10/30/85 7/ 8/86	12.87 11.07
412204083271800	WO-266-F 26	412204	832718	10/31/85 7/ 2/86	6.35 5.65
412524083252800	WO-267-F 1	412524	832528	10/31/85 7/ 2/86	10.20 8.63
412453083291700	WO-268-F 4	412453	832917	10/31/85 7/ 2/86	6.37 5.19
412237083301800	WO-269-F 20	412237	833018	10/31/85 7/ 2/86	9.04 7.77
412136083300300	WO-270-F 29	412136	833003	10/31/85 7/ 2/86	11.22 12.25
412316083334800	WO-271-WB14	412316	833348	10/31/85 7/ 2/86	11.55 11.29
412542083330700	WO-272-WB36	412542	833307	11/12/85 7/ 2/86	5.82 5.77
412721083333900	WO-273-WB26	412721	833339	11/12/85 7/ 2/86	15.80 6.55
412635083362700	WO-274-MD28	412635	833627	11/12/85 7/ 2/86	7.92 7.47
412114083380400	WO-275-C 31	412114	833804	11/13/85 7/ 1/86 7/ 8/86	3.85 8.13 6.73
412253083372400	WO-276-C 20	412253	833724	11/13/85 7/ 2/86	2.89 3.27
412357083371400	WO-277-C 17	412357	833714	11/13/85 7/ 2/86	4.89 4.81
412431083374500	WO-278-C 8	412431	833745	11/12/85 7/ 2/86	2.15 2.62
412438083375000	WO-279-C 7	412438	833750	11/12/85 7/ 2/86	13.38 16.17
412305083390900	WO-280-PL24	412305	833909	11/13/85 7/ 2/86	4.48 5.39

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

GROUND-WATER LEVELS FOR WOOD COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
412221083402300	WO-281-PL24	412221	834023	10/30/85 7/ 1/86	14.24 12.84
412117083410500	WO-282-PL35	412117	834105	10/30/85 7/ 2/86	14.88 16.31
412235083441200	WO-283-PL20	412235	834412	10/18/85 11/14/85 7/ 8/86	7.23 6.10 5.95
412236083435300	WO-284-PL20	412236	834353	10/18/85 11/ 4/85 7/ 1/86	7.67 6.40 6.83
412244083441400	WO-285-PL20	412244	834414	10/18/85 7/ 1/86	8.15 7.47
412350083444900	WO-286-PL17	412350	834449	11/13/85 7/ 2/86	14.56 13.42
412541083443000	WO-287-WA 5	412541	834430	11/14/85 7/ 3/86	37.84 36.22
412131083460500	WO-288-WS25	412131	834605	10/18/85 7/ 1/86	11.49 10.80
412218083463400	WO-289-WS25	412218	834634	10/17/85 6/ 3/86 7/ 1/86	8.16 8.03 7.30
412225083492700	WO-290-WS22	412225	834927	10/17/85 7/ 1/86	17.01 17.01
412457083482900	WO-291-GR 3	412457	834829	11/14/85 7/ 2/86	31.86 30.53
412630083465000	WO-292-WA36	412630	834650	11/13/85 7/ 2/86	35.30 37.20
412554083483200	WO-293-WA 3	412554	834832	11/13/85 6/ 4/86 7/ 2/86	35.96 36.49 36.79
412453083504600	WO-294-GR 9	412453	835046	11/14/85 7/ 2/86	20.00 18.78
412438083521000	WO-295-GR 7	412438	835210	11/14/85 6/ 4/86 7/ 2/86	19.21 22.42 19.15
412200083514800	WO-296-GR29	412200	835148	10/17/85 7/ 1/86	24.79 24.50
412144083515200	WO-297-GR30	412144	835152	10/17/85	24.04
412124083513000	WO-298-WS32	412124	835130	10/17/85 7/ 1/86	26.72 26.39
412735083460800	WO-299-WA24	412735	834608	11/13/85 7/ 2/86	16.87 13.10
412802083435700	WO-300-MD20	412802	834357	11/14/85 7/ 2/86	34.33 33.50
412804083435200	WO-301-MD20	412804	834352	11/14/85 7/ 2/86	34.17 32.42
413025083423000	WO-302-MD51	413025	834230	11/25/885 7/ 3/86	41.55 40.90
413026083420800	WO-303-MD23	413026	834208	11/25/85 7/ 3/86	37.90 38.69

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT

263

GROUND-WATER LEVELS FOR WOOD COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
411707083503200	WO-304-ML21	411707	835032	10/17/85 6/ 3/86 7/ 1/86	17.78 17.60 17.90
413210083380600	WO-305-PB18	413210	833806	11/26/85 7/ 3/86	42.14 40.03
413345083371500	WO-306-PB	413345	833715	11/26/85 7/ 8/86	44.61 44.86
412839083352000	WO-307-WB15	412839	833520	11/12/85 7/ 2/86	7.93 5.42
413117083303900	WO-308-LK32	413117	833039	7/ 8/86	6.25
413147083275800	WO-309-LK27	413147	832758	12/13/85 7/ 8/86	33.22 34.32
413302083260600	WO-310-LK23	413302	832606	12/13/85 7/ 8/86	36.86 36.78
413535083343800	WO-311-PB27	413535	833438	11/26/85 7/ 8/86	54.49 56.16
411949083330700	WO-312-PO1	411949	833307	10/29/85	4.30
413658083332900	WO-313-R	413658	833329	12/12/85 7/ 2/86	90 78
413656083333000	WO-314-R	413656	833330	12/12/85 7/ 2/86	132 118
413700083291000	WO-315-N 28	413700	832910	12/13/85 7/ 2/86	61 58
413542083282700	WO-316-LK 4	413542	832827	12/13/85 7/10/86	62.36 84.70
413515083271800	WO-317-LK10	413515	832718	12/13/85 7/10/86	62.04 61.80
413657083263000	WO-318-N 35	413657	832630	12/13/85 7/ 8/86	54.22 53.78
413628083260800	WO-319-N 35	413628	832608	12/13/85 7/ 8/86	56.64 55.84
413608083255500	WO-320-N 36	413608	832555	12/13/85 7/ 8/86	59.88 59.26
413455083260400	WO-321-LK12	413455	832604	12/13/85 7/ 8/85	64.26 63.28
412411083464100	WO-322-WA12	412411	834641	11/13/85 7/ 8/86	7.80 7.41
413123083420200	WO-323-PB57	413123	834202	11/26/85 7/ 3/86	43.52 44.13
411309083453500	WO-324-H 18	411309	834535	10/10/85 6/30/86	15.12 15.72
411250083452800	WO-325-H 18	411250	834528	10/10/85 6/30/86	17.50 18.63
412123083512900	WO-326-WS32	412123	835129	10/17/85 7/ 1/86	25.20 24.85
412220083441400	WO-327-PL20	412220	834414	10/18/85 11/14/85 7/ 1/86	7.03 6.72 6.49
413226083345200	WO-328-PB10	413226	833452	5/28/86 7/ 8/86	38.60 39.35

GROUND-WATER RECORDS FOR THE NORTHWEST OHIO PROJECT
GROUND-WATER LEVELS FOR WOOD COUNTY

SITE NUMBER	LOCAL NO. CO. SEC. ID NO.	LATI- TUDE	LONGI- TUDE	DATE	WATER LEVEL (FEET BELOW LAND- SURFACE DATUM)
413355083344100	WO-329-PB34	413355	833441	5/28/86 7/ 8/86	45.39 45.28
413345083314200	WO-330-PB 1	413345	833142	5/28/86 7/ 8/86	31.80 31.74
413101083325300	WO-331-PB23	413101	833253	5/28/86 7/ 8/86	8.05 10.13
413027083353300	WO-332-PB21	413027	833533	5/29/86 7/ 8/86	14.05 15.03
413025083374000	WO-333-PB19	413025	833740	5/29/86 7/ 3/86	34.83 35.89
413239083401500	WO-334-PB11	413239	834015	5/29/86 7/ 3/86	14.02 13.48
412935083392500	WO-335-MD25	412935	833925	5/29/86 7/ 2/86	33.05 33.36
412430083415200	WO-336-PL10	412430	834152	5/29/86 7/ 2/86	5.70 6.09
412847083313200	WO-338-T 18	412847	833132	5/29/86 7/ 2/86	4.80 4.35
412713083284000	WO-339-T 28	412713	832840	5/29/86 7/ 2/86	6.08 7.75
413331083283600	WO-340-LK16	413331	832836	5/30/86 7/ 8/86	44.09 44.80
413055083254300	WO-341-LK36	413055	832543	5/30/86 7/ 8/86	12.03 12.55
412950083282500	WO-342-T 9	412950	832825	5/30/86 7/ 2/86	12.06 12.47
412657083260200	WO-343-T 25	412657	832602	5/30/86 7/ 2/86	12.24 15.42
412202083423000	WO-344-PL27	412202	834230	6/19/86 7/ 2/86	4.75 5.87
412050083435700	WO-345-PL32	412050	834357	6/19/86 7/2/86	10.02 10.21
411913083445200	WO-346-LI 7	411913	834452	6/19/86 7/ 8/86	5.35 6.01
411354083322000	WO-347-B 12	411354	833220	6/19/86 6/30/86	3.18 3.12
411242083353200	WO-348-B 15	411242	833532	6/19/86 6/30/86	8.56 5.49
412451083280200	WO-349-F 3	412451	832802	7/11/86 9/ 2/86	23.08 36.90
412406083272400	WO-350-F 10	412406	832724	6/19/86 7/11/86	23.94 13.35
411003083302000	WO-352-B 36	411003	833020	9/ 3/86	21.22
412144083515100	WO-353-GR30	412144	835151	7/ 1/86	23.66

^aSource of data: Reported by well owner, not measured by USGS personnel.

The following tables contain water-level measurements and water-quality data from northeast Union county, in the vicinity of Richwood. The data was collected for the Ground-Water Flow and Water-Quality of Northeast Union County, Ohio project. Objectives of the study include examining ground-water flow direction, seasonal fluctuations, and variations in water-quality.

PERIOD OF RECORD.-- October 25, 1985 to June 30, 1986.
EXTREMES FOR PERIOD OF RECORD.-- Lowest daily maximum water-level elevation 933.75 feet, November 1,
1985; highest daily maximum water-level elevation 940.68 feet, March 14, 1986.

MAXIMUM VALUES									
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
1	---	933.75	938.29	937.40	937.88	938.46	938.73	938.13	937.69
2	---	933.87	937.98	937.42	937.97	938.79	938.55	937.97	937.52
3	---	933.90	937.98	937.25	938.09	938.65	938.62	937.92	937.56
4	---	933.99	938.00	937.25	938.35	938.71	938.55	937.95	937.51
5	---	934.30	937.78	937.26	939.79	938.39	938.49	937.96	937.48
6	---	933.96	937.79	937.10	939.98	938.80	938.45	937.92	937.48
7	---	934.37	937.79	936.96	940.02	938.78	938.40	937.56	937.88
8	---	933.92	937.77	936.88	939.78	938.81	938.35	937.68	938.05
9	---	933.98	937.39	937.02	939.59	938.98	938.27	937.61	937.89
10	---	934.42	937.39	937.04	939.47	939.04	938.28	937.62	937.89
11	---	934.74	937.75	937.03	939.21	939.55	938.15	937.62	937.90
12	---	934.85	939.87	937.06	939.05	939.61	938.04	937.53	937.70
13	---	935.03	939.59	936.92	938.63	940.19	937.93	937.50	937.56
14	---	934.93	939.38	936.80	938.88	940.68	937.93	937.39	937.56
15	---	935.04	939.22	936.78	938.67	940.07	938.01	937.38	937.60
16	---	935.49	939.04	936.82	938.67	939.98	937.93	937.41	937.47
17	---	935.77	938.95	936.85	938.74	939.59	937.79	937.43	937.35
18	---	935.99	938.40	937.01	938.76	939.68	937.76	937.44	937.33
19	---	936.05	938.34	937.55	938.83	940.03	937.79	937.48	937.30
20	---	935.96	938.29	938.22	938.83	939.90	937.90	937.60	937.18
21	---	935.96	938.09	938.22	938.81	939.69	938.59	937.59	937.17
22	---	935.94	938.24	938.09	939.03	939.78	938.71	937.59	937.16
23	---	935.99	938.03	938.11	938.93	939.55	938.65	937.64	937.17
24	---	935.98	937.74	938.17	938.91	939.40	938.65	937.61	937.02
25	933.86	935.97	937.60	938.29	939.14	939.40	938.62	937.55	936.98
26	933.86	936.10	937.66	938.36	939.03	939.33	938.49	937.59	936.96
27	933.97	937.28	937.47	938.18	938.91	939.17	938.45	937.74	936.97
28	933.79	937.96	937.34	938.13	938.83	939.16	938.34	937.87	937.12
29	933.94	938.21	937.58	937.90	---	939.08	938.25	937.54	936.89
30	933.89	938.27	937.58	937.82	---	938.95	938.23	937.87	937.08
31	933.90	---	937.44	937.79	---	938.56	---	937.81	---
MAX	---	938.27	939.87	938.36	940.02	940.68	938.73	938.13	938.05
WTR YR 1986	MEAN	937.71		LOW	933.75	NOV 1	HIGH	940.68	MAR 14

GROUND-WATER RECORDS FOR THE NORTHEAST UNION COUNTY GROUND-WATER MOVEMENT AND WATER QUALITY STUDY

GROUND-WATER LEVELS

59083180300. Richwood Lake in Richwood, Ohio

LOCATION.-- Lat 40°25'59", long 83°18'03", Hydrologic Unit 05060001, in Richwood.

SURFACE AREA.-- 16 acres.

GAGE.-- Water-stage recorder. Datum of gage is 937.34 ft above NGVD of 1929.

PERIOD OF RECORD.-- October 30, 1985 to June 30, 1986. Periods of missing record in January, February and March are due to ice.

EXTREMES FOR PERIOD OF RECORD.-- Maximum daily mean water-level elevation 940.76 feet, April 1, 1986; minimum daily mean water-level elevation 937.36, November 1 and 2, 1985.

DAILY MEAN VALUES OF WATER LEVEL ELEVATIONS (in feet above NGVD of 1929),
from October 1985 to September 1986.

MEAN VALUES									
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN
1	---	937.36	938.45	939.56		---	940.76	940.17	939.74
2	---	937.36	938.49	939.55		---	940.74	940.14	939.71
3	---	937.43	938.51	939.53		---	940.68	940.11	939.69
4	---	937.46	938.55	939.51		---	940.64	940.08	939.66
5	---	937.46	938.59	939.51		940.28	940.60	940.05	939.65
6	---	937.46	938.64	939.51		940.30	940.56	940.03	939.68
7	---	937.46	938.67	939.51		940.32	940.52	940.02	939.72
8	---	937.45	938.70	939.51		940.31	940.47	940.00	939.72
9	---	937.45	938.73	939.50		940.31	940.44	939.97	939.69
10	---	937.52	938.76	939.47		940.33	940.39	939.94	939.67
11	---	937.61	938.95	939.46		940.39	940.35	939.91	939.66
12	---	937.64	939.12	939.43		940.42	940.32	939.88	939.65
13	---	937.67	939.21	939.43		940.60	940.29	939.86	939.62
14	---	937.71	939.28	939.43		940.74	940.27	939.83	939.60
15	---	937.73	939.28	---		940.81	940.28	939.82	939.60
16	---	937.80	939.35	---		940.84	940.26	939.84	939.59
17	---	937.83	939.42	---		940.86	940.24	939.83	939.56
18	---	937.84	939.42	---		940.87	940.22	939.81	939.53
19	---	937.87	939.42	---		940.89	940.20	939.85	939.50
20	---	937.88	939.42	---		940.89	940.23	939.84	939.48
21	---	937.89	939.42	---		940.90	940.30	939.81	939.46
22	---	937.90	939.46	---		940.90	940.30	939.81	939.44
23	---	937.91	939.55	---		940.90	940.28	939.80	939.45
24	---	937.92	939.56	---		940.90	940.27	939.78	939.42
25	---	937.93	939.56	---		940.90	940.25	939.76	939.38
26	---	938.02	939.56	---		940.90	940.24	939.75	939.35
27	---	938.17	939.56	---		940.90	940.23	939.80	939.33
28	---	938.27	939.57	---		940.90	940.22	939.79	939.38
29	---	938.33	939.57	---		940.90	940.20	939.78	939.36
30	937.38	938.39	939.57	---		940.90	940.18	939.78	939.34
31	937.38	---	939.57	---		940.88	---	939.76	---
MEAN	---	937.76	939.16	---		---	940.36	939.89	939.55
MAX	---	938.39	939.57	---		---	940.76	940.17	939.74
MIN	---	937.36	938.45	---		---	940.18	939.75	939.33

WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

The following table contains water-level measurements from wells in the vicinity of Richwood. All wells are completed in the Bass Islands dolomite of Silurian age.

Site Number	Local Number	Location		Land surface Elevation (feet above NGVD of 1929)	Date Measured	Water-level Elevation (feet above NGVD of 1929)
402313083163300	U-35	Lat 402313	long 831633	940	12/10/85 3/06/86 6/17/86	933.0 933.9 932.8
402303083192900	U-36	Lat 402303	long 831805	953	12/09/85 3/05/86 6/17/86	939.5 939.9 939.3
402330083192900	U-37	Lat 402330	long 831929	972	12/10/85 3/05/86 6/17/86	951.5 952.4 951.4
402411083204000	U-38	Lat 402411	long 832040	957	12/10/85 3/05/86 6/17/86	943.2 943.9 942.9
402402083182800	U-39	Lat 402402	long 831828	945	12/09/85 3/03/86 6/17/86	938.0 938.6 937.7
402429083194900	U-42	Lat 402429	long 831949	959	12/10/85 3/05/86 6/17/86	947.0 947.8 946.7
402452083172900	U-43	Lat 402452	long 831729	941	12/10/85 3/06/86 6/17/86	932.5 933.5 932.0
402507083161900	U-44	Lat 402507	long 831619	937	12/10/85 3/05/86 6/18/86	929.4 930.0 929.0
402516083151100	U-45	Lat 402516	long 831511	932	12/10/85 3/05/86	924.0 924.7
402529083164100	U-46	Lat 402529	long 831641	937	12/09/85 3/05/86 6/18/86	933.3 933.9 932.8
402536083173300	U-47	Lat 402536	long 831733	941	12/09/85 3/05/86 6/18/86	937.3 938.0 936.9
402522083180900	U-48	Lat 402522	long 831809	942	12/09/85 3/06/86 6/17/86	937.5 938.5 937.0
402529083190000	U-49	Lat 402529	long 831900	948	12/10/85 3/06/86 6/17/86	942.8 944.3 942.6
402505083202600	U-50	Lat 402505	long 832026	974	6/17/86	954.5
402535083205600	U-51	Lat 402535	long 832056	975	12/10/85 3/06/86 6/17/86	955.5 957.3 955.9
402547083180300	U-52	Lat 402547	long 831803	946	12/09/85 3/05/86 6/17/86	938.7 940.0 938.9
402554083164400	U-53	Lat 402554	long 831644	939	12/09/85 3/05/86 6/18/86	935.6 936.7 935.4
402602083195600	U-54	Lat 402602	long 831956	964	12/09/85 3/06/86 6/20/86	952.1 953.7 952.1
402616083172200	U-55	Lat 402616	long 831722	948	12/10/85 3/05/86 6/17/86	938.8 940.4 938.6

GROUND-WATER RECORDS FOR THE NORTHEAST UNION COUNTY GROUND-WATER MOVEMENT AND WATER QUALITY STUDY
WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

Site Number	Local Number	Location	Land surface Elevation (feet above NGVD of 1929)	Date Measured	Water-level Elevation (feet above NGVD of 1929)
402607083170900	U-56	Lat 402607 long 831709	954	12/09/85 3/05/86 6/18/86	937.8 939.2 937.4
402631083160300	U-57	Lat 402631 long 831603	938	12/09/85 3/05/86 6/18/86	933.8 935.2 933.9
402654083152700	U-58	Lat 402654 long 831527	940	12/10/85 3/05/86 6/18/86	930.8 932.2 930.8
402629083174700	U-59	Lat 402629 long 831747	955	12/09/85 3/05/86 6/17/86	938.9 940.6 938.9
402638083190100	U-60	Lat 402638 long 831901	948	12/09/85 3/06/86 6/17/86	940.5 941.8 940.2
402635083220800	U-61	Lat 402635 long 832208	981	12/10/85 3/06/86 6/17/86	971.6 973.4 971.4
402703083223000	U-62	Lat 402703 long 832230	980	12/10/85 3/06/86 6/17/86	967.4 969.3 967.3
402737083203100	U-63	Lat 402737 long 832031	960	12/09/85 3/10/86 6/17/86	947.6 950.4 947.4
402726083181500	U-64	Lat 402726 long 831815	951	12/09/85 3/05/86 6/17/86	936.2 942.3 940.5
402555083174200	U-65	Lat 402555 long 831742	949	12/09/85 3/05/86 6/17/86	937.7 938.4 937.5
402508083183500	U-66	Lat 402508 long 831835	946	12/09/85 3/05/86 6/17/86	941.0 941.6 940.5
402601083173800	U-70	Lat 402601 long 831738	946	12/09/85 3/05/86 6/17/86	939.7 941.2 939.4
402559083173800	U-71	Lat 402559 long 831738	947	12/09/85 3/05/86 6/17/86	938.6 939.4 938.3
402558083173700	U-72	Lat 402558 long 831737	946	12/09/85 3/05/86 6/17/86	938.8 940.2 938.5
402317083204000	U-73	Lat 402317 long 832040	976	3/03/86	965.3
402300083150400	U-74	Lat 402300 long 831504	930	3/06/86 6/17/86	921.5 920.2
402429083152800	U-76	Lat 402429 long 831528	930	6/18/86	919.7

GROUND-WATER RECORDS FOR THE NORTHEAST UNION COUNTY GROUND-WATER MOVEMENT AND WATER QUALITY STUDY 269

WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

WATER-QUALITY RECORDS

The following table contains water-quality data collected from 14 wells and one surface-water site, Richwood Lake.

STATION NUMBER	LOCAL IDENTI- FIER	DATE	DEPTH OF WELL, TOTAL (FEET)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET)	SPE- CIFIC CON- DUCT- ANCE (US/CM)	PH (STAND- ARD UNITS)	TEMPER- ATURE (DEG C)	OXYGEN, DIS- SOLVED (MG/L)	HARD- NESS (MG/L AS CaCO3)
402313083163300	U-35	10-31-85	63.00	10.12	852	7.10	11.5	4.0	480
		04-03-86	63.00	6.80	935	7.30	12.0	5.0	510
402402083182800	U-39	10-31-85	--	9.73	810	7.10	13.0	0.3	480
		04-03-86	--	6.74	785	7.20	11.0	0.1	470
402443083193300	U-75	04-02-86	42.00	--	850	7.30	11.5	0.1	490
402508083183500	U-66	10-31-85	114.00	7.40	765	7.00	12.0	0.3	440
		04-09-86	114.00	5.03	860	7.30	11.0	0.1	440
402529083164100	U-46	11-01-85	--	6.93	498	7.40	12.0	0.3	290
		04-02-86	--	3.31	495	7.20	12.0	0.1	280
402547083180300	U-52	10-30-85	44.00	9.47	730	7.20	14.0	4.0	390
		04-09-86	44.00	5.92	800	7.30	12.0	1.5	410
402554083164400	U-53	11-01-85	--	6.52	514	7.40	12.5	0.3	290
		04-03-86	--	2.30	525	7.20	12.5	0.1	300
402555083174200	U-65	10-30-85	49.00	15.05	1020	7.10	12.0	0.6	480
		04-01-86	49.00	10.12	1020	7.10	13.5	0.2	540
402558083173900	U-69	10-31-85	120.00	0.0	836	7.50	11.0	5.8	430
		04-02-86	120.00	--	840	7.20	11.5	3.2	460
402559083173800	U-68	10-31-85	151.00	--	1180	7.10	12.0	2.1	490
		04-09-86	151.00	--	1100	7.30	12.0	--	470
		06-20-86	151.00	--	1060	7.00	12.5	0	--
402559083180300	LAKE	10-31-85	--	--	335	9.60	11.5	9.3	170
		04-02-86	--	--	360	8.80	14.0	10.8	230
402601083173800	U-70	10-30-85	36.00	11.25	860	7.00	14.0	0.3	470
		04-01-86	36.00	4.42	755	7.10	12.0	0.1	430
402602083195600	U-54	11-01-85	68.00	14.38	730	7.30	12.0	0.4	410
		04-09-86	68.00	10.96	823	7.30	11.5	<0.1	440
		06-20-86	68.00	11.93	789	7.20	12.5	0	--
402654083152700	U-58	10-30-85	36.00	12.73	730	7.30	12.0	0.4	360
		04-01-86	36.00	7.86	735	7.30	12.5	0.1	380
402726083181500	U-64	10-31-85	78.00	14.78	700	7.30	12.0	0.2	380
		04-03-86	78.00	8.78	685	7.40	12.0	0.1	410

270 GROUND-WATER RECORDS FOR THE NORTHEAST UNION COUNTY GROUND-WATER MOVEMENT AND WATER QUALITY STUDY

WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION NUMBER	DATE	HARD- NESS NONCARB WH WAT TOT FLD MG/L AS CACO3	CALCIUM DIS- SOLVED (MG/L AS CA)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG)	SODIUM, DIS- SOLVED (MG/L AS NA)	Per- cent Sod- ium	SO- DIUM AD- SORP- TION RATIO	POTAS- SIUM, DIS- SOLVED (MG/L AS K)	ALKA- LINITY WH WAT TOTAL FIELD MG/LAS CACO3	SUL- FIDE TOTAL (MG/L AS S)	SUL- FATE DIS- SOLVED (MG/L AS SO4)
402313083163300	10-31-85	110	120	43	12	5	0.2	2.4	370	0.3	190
	04-03-86	76	120	50	15	6	0.3	4.1	428	0.2	170
402402083182800	10-31-85	48	110	50	13	6	0.3	1.9	433	<0.1	110
	04-03-86	89	110	48	13	6	0.3	2.0	386	<0.1	100
402443083193300	04-02-86	110	110	52	16	7	0.3	2.3	374	0.1	130
402508083183500	10-31-85	81	110	41	13	6	0.3	1.8	363	0.7	120
	04-09-86	92	110	41	13	6	0.3	2.0	350	0.3	130
402529083164100	11-01-85	8	75	24	3.1	2	0.1	1.3	278	<0.1	19
	04-02-86	37	75	23	3.0	2	0.1	1.5	241	<0.1	18
402547083180300	10-30-85	32	95	37	15	8	0.3	3.0	358	<0.1	93
	04-09-86	110	100	39	14	7	0.3	2.7	293	<0.1	110
402554083164400	11-01-85	6	78	24	3.4	2	0.1	1.3	288	<0.1	17
	04-03-86	4	80	24	3.4	2	0.1	1.5	296	<0.1	16
402555083174200	10-30-85	81	120	44	34	13	0.7	3.7	400	<0.1	130
	04-01-86	150	140	47	35	12	0.7	4.0	383	<0.1	150
402558083173900	10-31-85	71	110	38	21	10	0.5	3.1	360	0.3	150
	04-02-86	120	120	39	19	8	0.4	3.7	335	<0.1	150
402559083173800	10-31-85	--	120	46	39	14	0.8	15	505	<0.1	96
	04-09-86	110	120	42	32	13	0.7	10	361	<0.1	97
	06-20-86	--	--	--	--	--	--	--	--	--	--
402559083180300	10-31-85	72	21	29	8.0	9	0.3	1.7	100	<0.1	58
	04-02-86	17	44	29	7.5	7	0.2	1.8	208	--	54
402601083173800	10-30-85	120	120	42	15	6	0.3	4.1	395	<0.1	110
	04-01-86	150	110	38	9.8	5	0.2	2.6	274	0.2	83
402602083195600	11-01-85	0	100	39	11	5	0.2	2.0	411	<0.1	92
	04-09-86	90	110	39	12	6	0.3	2.1	344	0.2	100
	06-20-86	--	--	--	--	--	--	--	--	--	--
402654083152700	10-30-85	--	90	34	11	6	0.3	1.7	411	<0.1	92
	04-01-86	66	97	34	11	6	0.3	1.9	312	<0.1	97
402726083181500	10-31-85	24	99	33	10	5	0.2	1.8	359	<0.1	70
	04-03-86	110	110	33	10	5	0.2	1.9	305	<0.1	76

GROUND-WATER RECORDS FOR THE NORTHEAST UNION COUNTY GROUND-WATER MOVEMENT AND WATER QUALITY STUDY 271

WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION NUMBER	DATE	CHLO- RIDE, DIS- SOLVED (MG/L AS CL)	FLUO- RIDE, DIS- SOL- VED (MG/L AS F)	SIL- ICA, DIS- SOLVED (MG/L AS SIO ₂)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N)	NITRO- GEN, NO ₂ +NO ₃ DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS NH ₄)	NITRO- GEN,AM- MONIA + ORGANIC DIS- SOLVED (MG/L AS N)	NITRO- GEN, DIS- SOLVED (MG/L AS N)
402313083163300	10-31-85	5.4	1.4	13	610	<0.01	<0.10	0.20	0.26	0.3	0.1
	04-03-86	20	1.4	15	650	<0.01	0.12	0.15	0.19	0.3	0.15
402402083182800	10-31-85	8.9	1.0	17	570	0.01	<0.10	0.18	0.23	0.3	0.12
	04-03-86	6.8	0.9	16	530	<0.01	<0.10	0.14	0.18	0.3	0.16
402443083193300	04-02-86	10	1.0	16	560	<0.01	<0.10	0.25	0.32	0.4	0.15
402508083183500	10-31-85	3.9	1.3	16	530	<0.01	<0.10	0.26	0.33	0.3	0.04
	04-09-86	3.8	1.3	16	530	<0.01	0.12	0.44	0.57	0.7	0.26
402529083164100	11-01-85	3.0	0.5	12	310	<0.01	1.50	0.15	0.19	0.2	0.05
	04-02-86	2.3	0.5	12	280	<0.01	<0.10	0.15	0.19	0.3	0.15
402547083180300	10-30-85	29	0.3	9.9	500	0.01	<0.10	1.60	2.1	1.6	0.0
	04-09-86	21	0.4	11	480	0.02	<0.10	0.65	0.84	0.7	0.05
402554083164400	11-01-85	2.8	0.7	12	310	<0.01	<0.10	0.15	0.19	<0.2	--
	04-03-86	2.4	0.6	13	320	<0.01	<0.10	0.15	0.19	0.4	0.25
402555083174200	10-30-85	77	0.3	11	660	<0.01	<0.10	0.13	0.17	<0.2	--
	04-01-86	72	0.3	12	690	<0.01	<0.10	0.13	0.17	0.3	0.17
402558083173900	10-31-85	33	1.1	11	590	<0.01	<0.10	2.00	2.6	2.0	0.0
	04-02-86	36	1.0	12	590	<0.01	<0.10	2.90	3.7	3.1	0.2
402559083173800	10-31-85	84	0.4	10	720	<0.01	<0.10	0.15	0.19	0.2	0.05
	04-09-86	67	0.3	10	620	<0.01	<0.10	15.0	19	16	1.0
	06-20-86	--	--	--	--	--	--	--	--	--	--
402559083180300	10-31-85	24	0.2	0	200	<0.01	<0.10	0.03	0.04	0.6	0.57
	04-02-86	21	0.2	0.2	280	<0.01	0.10	0.03	0.04	0.4	0.37
402601083173800	10-30-85	44	0.2	7.1	580	<0.01	<0.10	0.45	0.58	0.7	0.25
	04-01-86	30	0.2	6.5	440	0.01	2.80	0.10	0.13	0.4	0.3
402602083195600	11-01-85	2.9	1.0	14	510	<0.01	<0.10	0.21	0.27	0.4	0.19
	04-09-86	2.7	0.9	15	490	<0.01	<0.10	0.23	0.3	0.3	0.07
	06-20-86	--	--	--	--	--	--	--	--	--	--
402654083152700	10-30-85	6.2	1.5	18	500	<0.01	<0.10	0.32	0.41	0.4	0.08
	04-01-86	6.2	1.5	19	460	<0.01	<0.10	0.32	0.41	0.4	0.08
402726083181500	10-31-85	39	0.5	14	480	<0.01	<0.10	0.17	0.22	0.2	0.03
	04-03-86	36	0.5	15	470	<0.01	<0.10	0.18	0.23	0.5	0.32

WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION NUMBER	DATE	PHOS- PHORUS, DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS, ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ALUM- INUM, DIS- SOLVED (UG/L AS AL) (01106)	ANTI- MONY, DIS- SOLVED (UG/L AS SB) (01095)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
402313083163300	10-31-85 04-03-86	<0.01 0.02	<0.01 0.01	<100 10	-- --	<1 1	-- --	-- --	-- --	-- --
402402083182800	10-31-85 04-03-86	<0.01 0.03	<0.01 0.01	<100 10	-- --	5 3	-- --	-- --	-- --	-- --
402443083193300	04-02-86	--	0.01	20	--	<1	--	--	--	--
402508083183500	10-31-85 04-09-86	0.02 0.01	<0.01 0.01	<100 10	-- --	2 3	-- --	-- --	-- --	-- --
402529083164100	11-01-85 04-02-86	0.01 0.03	<0.01 0.01	<100 10	-- --	<1 1	-- --	-- --	-- --	-- --
402547083180300	10-30-85 04-09-86	<0.01 0.03	<0.01 0.01	<100 10	-- --	<1 1	-- --	-- --	-- --	-- --
402554083164400	11-01-85 04-03-86	<0.01 0.02	<0.01 0.01	<100 10	-- --	2 1	-- --	-- --	-- --	-- --
402555083174200	10-30-85 04-01-86	0.02 0.01	<0.01 0.01	<100 10	-- --	<1 1	-- --	-- --	-- --	-- --
402558083173900	10-31-85 04-02-86	0.01 0.02	0.01 0.01	<100 10	-- --	<1 1	-- --	-- --	-- --	-- --
402559083173800	10-31-85 04-09-86 06-20-86	0.05 0.01 --	<0.01 -- --	-- 20 --	-- 1 1	<1 1 1	-- 0.5 0.5	-- 1 1	-- 10 10	-- 1 1
402559083180300	10-31-85 04-02-86	0.01 0.03	<0.01 0.01	<100 20	-- --	3 1	-- --	-- --	-- --	-- --
402601083173800	10-30-85 04-01-86	0.01 0.03	<0.01 0.01	<100 20	-- --	3 1	-- --	-- --	-- --	-- --
402602083195600	11-01-85 04-09-86 06-20-86	<0.01 0.05 --	<0.01 -- --	<100 10 --	-- 1 1	<1 1 1	-- 0.5 0.5	-- 1 1	-- 10 10	-- 1 2
402654083152700	10-30-85 04-01-86	<0.01 0.01	<0.01 0.01	<100 10	-- --	3 4	-- --	-- --	-- --	-- --
402726083181500	10-31-85 04-03-86	<0.01 0.01	<0.01 0.01	<100 10	-- --	<1 1	-- --	-- --	-- --	-- --

GROUND-WATER RECORDS FOR THE NORTHEAST UNION COUNTY GROUND-WATER MOVEMENT AND WATER QUALITY STUDY 273

WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986

STATION NUMBER	DATE	IRON, DIS- SOLVED (UG/L AS FE)	LEAD, DIS- SOLVED (UG/L AS PB)	MANGA- NESE, DIS- SOLVED (UG/L AS MN)	MERCURY DIS- SOLVED (UG/L AS HG)	NICKEL, DIS- SOLVED (UG/L AS NI)	SELE- NIUM, DIS- SOLVED (UG/L AS SE)	SILVER, DIS- SOLVED (UG/L AS AG)	ZINC, DIS- SOLVED (UG/L AS ZN)	CARBON, ORGANIC TOTAL (MG/L AS C)
402313083163300	10-31-85	310	<10	23	<0.1	--	--	--	--	1.5
	04-03-86	190	<10	32	<0.1	--	--	--	--	1.8
402402083182800	10-31-85	2700	<10	46	<0.1	--	--	--	--	1.2
	04-03-86	1300	<10	130	<0.1	--	--	--	--	2.4
402443083193300	04-02-86	2300	<10	12	<0.1	--	--	--	--	1.5
402508083183500	10-31-85	1400	<10	11	<0.1	--	--	--	--	1.7
	04-09-86	1200	<10	14	<0.1	--	--	--	--	1.6
402529083164100	11-01-85	810	<10	5	<0.1	--	--	--	--	2.1
	04-02-86	720	<10	3	<0.1	--	--	--	--	2.7
402547083180300	10-30-85	620	<10	33	0.1	--	--	--	--	3.3
	04-09-86	850	<10	24	<0.1	--	--	--	--	2.6
402554083164400	11-01-85	400	<10	8	0.1	--	--	--	--	2.1
	04-03-86	390	<10	8	<0.1	--	--	--	--	3.2
402555083174200	10-30-85	1800	<10	32	<0.1	--	--	--	--	1.6
	04-01-86	1900	<10	34	<0.1	--	--	--	--	1.9
402558083173900	10-31-85	1100	<10	18	<0.1	--	--	--	--	1.6
	04-02-86	910	<10	21	<0.1	--	--	--	--	4.2
402559083173800	10-31-85	2200	<10	74	<0.1	--	--	--	--	6.6
	04-09-86	1700	1	91	<0.1	2	<1	<1	6	2.6
	06-20-86	--	<5	28	<0.1	2	<1	<1	9	--
402559083180300	10-31-85	18	<10	2	<0.1	--	--	--	--	7.4
	04-02-86	13	<10	<1	<0.1	--	--	--	--	4.2
402601083173800	10-30-85	220	<10	230	<0.1	--	--	--	--	8.2
	04-01-86	18	<10	140	<0.1	--	--	--	--	2.8
402602083195600	11-01-85	430	<10	3	<0.1	--	--	--	--	1.8
	04-09-86	400	1	4	<0.1	1	<1	<1	8	3.4
	06-20-86	--	<5	3	<0.1	<1	<1	<1	75	--
402654083152700	10-30-85	1300	<10	5	<0.1	--	--	--	--	1.2
	04-01-86	1300	<10	6	<0.1	--	--	--	--	3.3
402726083181500	10-31-85	1400	--	7	0.1	--	--	--	--	1.7
	04-03-86	1600	<10	6	<0.1	--	--	--	--	5.2

WAYNE COUNTY

The following tables contain water-level measurements and results of a seepage investigation in Wayne County. The data was collected for the Northeast Glacial Aquifers Regional Aquifer Systems Analysis (RASA) project. Objectives of the study include investigation of the hydraulic properties of stream-bed materials and of the nature of ground-water flow from streams to pumping wells.

404801081583500. Local number, WN-T1.

LOCATION.--Lat 40°48'01", long 81°58'35", Hydrologic Unit 05040003, at Wooster Water Plant near Wooster.

AQUIFER.--Glacial outwash sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 71 ft, finish is 5 ft of 0.010 in. wellscreen.

INSTRUMENTATION.--Water-level measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 856 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.98 ft above land-surface datum.

PERIOD OF RECORD.--July 1984 to April 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 21.05 ft below land-surface datum, Apr. 10, 1986; lowest, 27.50 ft below land-surface datum, Oct. 25, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
Apr. 10	21.05

404802081583102. Local number, WN-T2.

LOCATION.--Lat 40°48'02", long 81°58'31", Hydrologic Unit 05040003, at Wooster Water Plant near Wooster. Doublet with WN-T3.

AQUIFER.--Glacial outwash sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 61 ft, finish is 5 ft of 0.010 in. wellscreen.

INSTRUMENTATION.--Digital recorder -- 60-minute punch.

DATUM.--Elevation of land-surface datum is 858.66 ft above National Geodetic Vertical Datum of 1929. Measuring point: Floor of instrument shelter, 2.62 ft above land-surface datum.

REMARKS.--Water levels affected by pumping of nearby wellfield.

PERIOD OF RECORD.--July 1984 to September 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 24.57 ft below land-surface datum, March 29, 1986; lowest, 37.16 ft below land-surface datum, Nov. 8, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	36.92	30.14	26.62	29.89	27.33	26.84	28.60	29.51	28.91	29.53	30.28
2	---	36.92	31.12	27.86	29.60	27.57	26.91	28.50	29.85	29.55	28.83	30.84
3	---	36.08	31.14	27.24	30.57	27.96	26.98	28.48	29.85	29.20	28.92	30.89
4	---	36.80	31.17	26.84	30.70	28.39	27.25	28.88	30.30	28.88	29.25	30.89
5	---	36.88	31.10	26.92	30.39	28.36	26.09	29.39	30.00	28.91	29.02	30.88
6	---	37.09	31.01	27.34	30.39	28.51	26.72	29.24	29.86	28.37	29.26	30.78
7	34.85	37.09	30.72	27.70	28.82	28.85	27.34	29.40	29.46	28.45	28.65	30.71
8	34.86	37.16	30.30	27.48	27.50	28.11	27.31	29.32	29.14	28.46	28.30	31.12
9	36.08	36.79	30.92	27.46	26.56	27.72	27.92	29.54	29.06	28.45	28.79	31.12
10	36.09	36.00	30.87	29.06	26.86	28.57	27.85	29.54	29.42	28.64	28.82	31.27
11	---	36.31	30.78	28.43	27.12	29.04	27.68	29.13	29.51	28.58	29.12	31.29
12	---	36.31	30.78	28.54	27.35	29.01	27.73	29.58	30.59	28.53	29.39	31.34
13	---	36.31	29.25	29.27	27.23	28.74	27.31	29.94	30.78	28.25	29.52	31.27
14	---	36.31	28.09	29.47	27.43	27.90	27.98	30.21	30.52	28.51	29.99	30.99
15	36.31	36.31	26.48	29.58	26.84	26.12	28.29	30.25	29.87	28.60	30.03	31.44
16	36.31	36.09	27.48	29.78	26.05	25.63	28.23	30.25	30.67	29.44	30.11	31.47
17	36.48	34.99	27.56	29.83	26.84	25.66	28.24	30.17	30.67	28.68	29.57	31.54
18	36.51	34.85	27.71	29.22	27.34	25.75	28.29	30.13	29.92	28.72	29.85	31.70
19	36.21	34.85	27.78	28.88	27.60	25.97	28.22	29.90	29.83	28.39	30.05	31.62
20	35.54	34.49	27.71	29.85	27.68	26.30	27.82	30.23	29.79	28.41	30.14	31.49
21	36.30	34.14	27.19	29.89	27.92	26.21	28.52	30.61	29.45	28.51	30.34	31.44
22	36.38	33.93	27.13	30.22	27.76	26.08	28.76	30.58	29.49	28.57	30.36	31.52
23	36.38	33.94	27.36	30.17	27.00	25.74	28.84	30.26	29.37	28.72	30.22	31.75
24	36.39	32.31	27.28	30.23	27.62	26.36	28.84	29.67	29.52	28.94	30.26	31.85
25	36.39	32.96	25.95	29.39	27.66	26.43	28.95	29.78	30.44	29.25	30.49	32.08
26	---	33.11	27.41	29.41	27.66	26.78	28.38	29.32	31.08	29.58	30.72	32.01
27	---	33.20	27.78	29.93	27.93	26.68	28.37	29.88	30.30	28.57	30.84	32.51
28	36.37	32.80	27.12	30.24	27.92	25.42	28.74	30.12	29.78	29.94	30.87	32.07
29	36.40	31.36	26.21	30.41	---	24.57	28.84	30.23	29.65	30.31	30.80	31.96
30	---	31.11	27.83	30.55	---	24.85	29.17	30.19	29.31	29.23	30.57	32.89
31	---	---	27.91	30.58	---	25.00	---	29.89	---	28.60	30.50	---
MAX	---	3										

GROUND-WATER RECORDS FOR THE NORTHEAST GLACIAL AQUIFERS RASA PROJECT

275

WAYNE COUNTY

404802081583103. Local number, WN-T3.

LOCATION.--Lat 40°48'02", long 81°58'31", Hydrologic Unit 05040003, at Wooster Water Plant near Wooster. Doublet with WN-T2.

AQUIFER.--Glacial outwash sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 34 ft, finish is 5 ft of 0.010 in. wellscreen.

INSTRUMENTATION.--Water-level measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 858.70 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.58 ft above land-surface datum.

REMARKS.--Water levels affected by pumping of nearby wellfield.

PERIOD OF RECORD.--July 1984 to July 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 24.70 ft below land-surface datum, Feb. 26, 1985.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Apr. 10	27.85	May 30	30.02	July 10	28.24

404800081584500. Local number, WN-T4.

LOCATION.--Lat 40°48'00", long 81°58'45", Hydrologic Unit 05040003, at intersection of Rt 302 and West Old Lincoln Way near Wooster. Doublet with WN-T5.

AQUIFER.--Glacial outwash sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 78 ft, finish is 5 ft of 0.010 in. wellscreen.

INSTRUMENTATION.--Water-level measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 856 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.26 ft above land-surface datum.

PERIOD OF RECORD.--July 1984 to April 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.67 ft below land-surface datum, Apr. 10, 1986; lowest, 24.19 ft below land-surface datum, Oct. 25, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
Apr. 10	17.67	Apr. 21	18.58

404800081584501. Local number, WN-T5.

LOCATION.--Lat 40°48'00", long 81°58'45", Hydrologic Unit 05040003, at intersection of Rt 302 and West Old Lincoln Way near Wooster. Doublet with WN-T4.

AQUIFER.--Glacial outwash sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 78 ft, finish is 5 ft of 0.010 in. wellscreen.

INSTRUMENTATION.--Water-level measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 856 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.26 ft above land-surface datum.

PERIOD OF RECORD.--July 1984 to April 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.65 ft below land-surface datum, Apr. 10, 1986; lowest, 24.19 ft below land-surface datum, Oct. 25, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL
Apr. 10	17.65	Apr. 21	18.52

GROUND-WATER RECORDS FOR THE NORTHEAST GLACIAL AQUIFERS RASA PROJECT

WAYNE COUNTY

404839081590900. Local number, WN-T6.

LOCATION.--Lat 40°48'39", long 81°59'09", Hydrologic Unit 05040003, on Silver Road, 900 ft east of Route 302 near Wooster. Doublet with WN-T6A.

AQUIFER.--Glacial outwash sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 61 ft, finish is 5 ft of 0.010 in. wellscreen.

INSTRUMENTATION.--Water-level measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 857 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.65 ft above land-surface datum.

PERIOD OF RECORD.--July 1984 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 1.73 ft below land-surface datum, Feb. 26, 1985; lowest, 5.94 ft below land-surface datum, Sep. 23, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Apr. 10	3.71	July 8	3.96	Aug. 6	4.45	Aug. 14	4.60

404839081590901. Local number, WN-T6A.

LOCATION.--Lat 40°48'39", long 81°59'09", Hydrologic Unit 05040003, on Silver Road, 900 ft east of Route 302 near Wooster. Doublet with WN-T6.

AQUIFER.--Glacial outwash sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Driven observation point, diameter 1.25 in., depth 11.7 ft, finish is 0.5 ft of 0.0165 in. wellscreen.

INSTRUMENTATION.--Water-level measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 857 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.70 ft above land-surface datum.

PERIOD OF RECORD.--May 1985 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 2.46 ft below land-surface datum, June 6, 1985; lowest, 5.13 ft below land-surface datum, Sep. 23, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Apr. 10	2.55	July 8	2.75	Aug. 6	3.58	Aug. 14	3.82

404807081582000. Local number, WN-T7.

LOCATION.--Lat 40°48'07", long 81°58'20", Hydrologic Unit 05040003, along Old Mansfield Road, 980 ft east of Killbuck Creek near Wooster.

AQUIFER.--Glacial outwash sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 23 ft, finish is 5 ft of 0.010 in. wellscreen.

INSTRUMENTATION.--Water-level measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 857 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.15 ft above land-surface datum.

PERIOD OF RECORD.--July 1984 to April 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 15.62 ft below land-surface datum, Apr. 10, 1986; lowest, well dry.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
Apr. 10	15.62

WAYNE COUNTY

404805081582600. Local number, WN-T8.

LOCATION.--Lat 40°48'05", long 81°58'26", Hydrologic Unit 05040003, along Old Mansfield Road, 100 ft east of Killbuck Creek near Wooster. Doublet with WN-T9.

AQUIFER.--Glacial outwash sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 33 ft, finish is 5 ft of 0.010 in. wellscreen.

INSTRUMENTATION.--Water-level measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 857 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.58 ft above land-surface datum.

PERIOD OF RECORD.--July 1984 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.82 ft below land-surface datum, Apr. 10, 1986; lowest, 27.67 ft below land-surface datum, Feb. 22, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Apr. 10	19.82	Aug. 14	21.89	Aug. 15	21.89

404805081582601. Local number, WN-T9.

LOCATION.--Lat 40°48'05", long 81°58'26", Hydrologic Unit 05040003, along Old Mansfield Road, 100 ft east of Killbuck Creek near Wooster. Doublet with WN-T8.

AQUIFER.--Glacial outwash sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 61 ft, finish is 5 ft of 0.010 in. wellscreen.

INSTRUMENTATION.--Water-level measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 857 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.46 ft above land-surface datum.

PERIOD OF RECORD.--July 1984 to August 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 25.03 ft below land-surface datum, Apr. 17, 1985; lowest, 33.98 ft below land-surface datum, Feb. 22, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Apr. 10	25.15	Aug. 14	27.06	Aug. 15	27.33

404752081583400. Local number, WN-T10.

LOCATION.--Lat 40°47'52", long 81°58'34", Hydrologic Unit 05040003, on levee for Cashey Creek, 600 ft south of West Old Lincoln Way near Wooster. Doublet with WN-T11.

AQUIFER.--Glacial outwash sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 61 ft, finish is 5 ft of 0.010 in. wellscreen.

INSTRUMENTATION.--Water-level measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 857 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 2.97 ft above land-surface datum.

PERIOD OF RECORD.--July 1984 to May 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 24.42 ft below land-surface datum, Mar. 5, 1985; lowest, 33.96 ft below land-surface datum, Feb. 21, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Apr. 10	25.33	Apr. 15	25.10	Apr. 23	26.51	May 30	28.10
Apr. 14	25.54	Apr. 21	26.18	May 14	27.74		

WAYNE COUNTY

404752081583401. Local number, WN-T11.

LOCATION.--Lat 40°47'52", long 81°58'34", Hydrologic Unit 05040003, on a levee for Cashey Creek 600 ft south of West Old Lincoln Way near Wooster. Doublet with WN-T10.

AQUIFER.--Glacial outwash sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 31 ft, finish is 2 ft of 0.010 in. wellscreen.

INSTRUMENTATION.--Water-level measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 857 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 3.02 ft above land-surface datum.

PERIOD OF RECORD.--July 1984 to May 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 22.65 ft below land-surface datum, Mar. 5, 1985; lowest, well dry.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Apr. 10	23.25	Apr. 21	24.24	May 14	25.79	May 30	26.47
Apr. 14	23.54						

404744081582100. Local number, WN-T12.

LOCATION.--Lat 40°47'44", long 81°58'21", Hydrologic Unit 05040003, on levee for Cashey Creek, 1440 ft south of West Old Lincoln Way near Wooster.

AQUIFER.--Glacial outwash sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 59 ft, finish is 5 ft of 0.010 in. wellscreen.

INSTRUMENTATION.--Water-level measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 857 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 4.04 ft above land-surface datum.

PERIOD OF RECORD.--July 1984 to May 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 19.86 ft below land-surface datum, Mar. 5, 1985; lowest, 29.21 ft below land-surface datum, Feb. 21, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL	DATE	WATER LEVEL
Apr. 10	21.53	Apr. 15	21.76	Apr. 21	22.58	May 14	24.16
Apr. 14	21.89	Apr. 18	22.41	Apr. 22	22.74	May 30	24.80

404806081590200. Local number, WN-T13.

LOCATION.--Lat 40°48'06", long 81°59'02", Hydrologic Unit 05040003, 2403 West Old Lincoln Way, 480 ft north of highway at edge of log yard near Wooster.

AQUIFER.--Glacial outwash sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 23 ft, finish is 10 ft of 0.010 in. wellscreen.

INSTRUMENTATION.--Water-level measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 857 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 4.38 ft above land-surface datum.

PERIOD OF RECORD.--July 1984 to April 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 5.34 ft below land-surface datum, Feb. 26, 1985; lowest, 9.69 ft below land-surface datum, Oct. 15, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
Apr. 10	6.05

GROUND-WATER RECORDS FOR THE NORTHEAST GLACIAL AQUIFERS RASA PROJECT

279

WAYNE COUNTY

404736081585500. Local number, WN-15.

LOCATION.--Lat 40°47'36", long 81°58'55", Hydrologic Unit 05040003, northeast corner Fry Road and Route 30 near Wooster.

Owner: Church of The Savior.

AQUIFER.--Sandstone and shale of Mississippian Age.

WELL CHARACTERISTICS.--Drilled commercial water well, diameter 5 in., depth 150 ft. Cased to 43 ft.

INSTRUMENTATION.--Water-level measurements with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 910 ft above National Geodetic Vertical Datum of 1929. Measuring point: Top of casing, 1.5 ft above land-surface datum.

PERIOD OF RECORD.--November 1984 to April 1986.

EXTREMES FOR PERIOD NOVEMBER 1984 TO AUGUST 1985.--Highest water level, 25.02 ft below land-surface datum, March 5, 1985; lowest, 26.54 ft below land-surface datum, August 28, 1985.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM.

DATE	WATER LEVEL
Apr. 15	25.66

404742081583300. Local number, WN-31.

LOCATION.--Lat 40°47'42", long 81°58'33", Hydrologic Unit 05040003, 2000 ft east of Fry Road and 700 ft north of SR 30 median near Wooster.

OWNER: Church of the Savior

AQUIFER.--Glacial outwash sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled commercial water well, diameter 12 in., depth 49 ft, finish is 9 ft of 0.100 well screen with gravel pack.

INSTRUMENTATION.--Digital recorder--60-minute punch.

DATUM.--Elevation of land-surface datum is 852.63 ft above National Geodetic Vertical Datum of 1929, from levels. Measuring point: Top of casing, 3.78 ft above land-surface datum.

REMARKS.--Data prior to May 30, 1986 are single measurements with chalked tape by USGS personnel.

PERIOD OF RECORD.--April 1986 to September 1986.

EXTREMES FOR PERIOD OF RECORD.--Highest water level, 17.54 ft below land-surface datum, April 14, 1986; lowest, 22.48 ft below land-surface datum, September 30, 1986.

WATER LEVEL, IN FEET BELOW LAND SURFACE DATUM, WATER YEAR OCTOBER 1985 TO SEPTEMBER 1986
MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1							---	---	20.25	20.32	19.83	21.29
2							---	---	20.32	20.27	19.86	21.33
3							---	---	20.34	20.24	19.91	21.39
4							---	---	20.34	20.20	19.94	21.43
5							---	---	20.36	20.16	19.98	21.48
6							---	---	20.36	20.11	20.02	21.53
7							---	---	20.34	20.05	20.03	21.57
8							---	---	20.28	20.02	20.02	21.61
9							---	---	20.25	19.98	20.02	21.65
10							---	---	20.20	19.88	20.04	21.69
11							---	---	20.15	19.74	20.09	21.74
12							---	---	20.15	19.73	20.15	21.79
13							---	---	20.22	19.71	20.21	21.85
14							17.54	19.89	20.27	19.59	20.26	21.87
15							---	---	20.29	19.48	20.34	21.89
16							---	---	20.32	19.46	20.42	21.95
17							---	---	20.38	19.47	20.47	21.99
18							18.09	---	20.39	19.42	20.52	22.04
19							---	---	20.37	19.38	20.57	22.10
20							---	---	20.37	19.35	20.64	22.14
21							---	---	20.37	19.35	20.69	22.15
22							---	---	20.33	19.38	20.75	22.16
23							---	---	20.28	19.40	20.82	22.19
24							---	---	20.27	19.43	20.88	22.23
25							---	---	20.27	19.47	20.93	22.28
26							---	---	20.35	19.52	20.98	22.34
27							---	---	20.40	19.54	21.05	22.38
28							---	---	20.42	19.58	21.14	22.42
29							---	---	20.37	19.69	21.21	22.45
30							---	20.64	20.35	19.77	21.26	22.48
31							---	20.64	---	19.79	21.28	---
MAX							---	---	20.42	20.32	21.28	22.48
WTR YR 1986 MEAN	20.60											
HIGH				17.54		APR 14						
LOW							22.48	SEP 30				

WAYNE COUNTY

The following discharge measurements were made in duplicate on August 14, 1986 to study stream gain/loss relationships in the Killbuck and Little Killbuck Valleys near Wooster. Precipitation amounts at Wooster were normal for July (3.99 in). The rainfall distribution was favorable for good low flow conditions. Total precipitation was 0.02 inches for the period July 16 to Aug. 5. Thunderstorms on Aug. 6, 8, and 10 supplied 0.09, 0.20, and 0.39 inches of precipitation, respectively.

Site Number Latitude/ longitude	Station	Discharge (cfs)	
		Measurement 1	Measurement 2
<u>Little Killbuck Creek</u>			
404911082003600	Little Killbuck Creek west of Rt. 302-539 Fork	1.68 ± 0.03	1.67 ± 0.03
404907082003100	Rathburn Run at bedrock contact	.621 ± .012	.651 ± .013
404906081595600	Little Killbuck Creek at mid valley	2.25 ± .113	2.20 ± .110
404901081593300	Little Killbuck Creek at Rt. 302 bridge	0.85 ± .017	.86 ± .017
404903081590400	Little Killbuck Creek above confluence of Killbuck Creek	0.32 ± 0.006	.30 ± .006
<u>Clear Creek</u>			
404819081582100	Clear Creek at bedrock valley wall	1.31 ± 0.105	1.28 ± .102
404810081583400	Clear Creek at confluence of Killbuck Creek	.457 (flume)	.464 (meas.)
<u>Killbuck Creek</u>			
404839081585200	Killbuck Creek above Silver Rd. bridge	6.75 ± .34	6.84 ± 0.34
404832081585000	Killbuck Creek below Silver Rd. bridge	6.97 ± .35	6.91 ± 0.35
404825081584900	Killbuck Creek at WNK3, WNK4	7.01 ± .35	7.45 ± .37
404805081583200	Killbuck Creek at Old Mansfield Road	6.29 ± .32	6.30 ± .32
404759081582700	Killbuck Creek at Wellfield (WN-P7)	7.05 ± .14	6.92 ± .14
404755081582400	Killbuck Creek at Rt. 30A bridge	6.97 ± .14	7.26 ± .14
404744081582300	Cashy Creek tributary to Killbuck Creek at WNT12	2.37 ± .12	2.38 ± .12
404735081580200	Killbuck Creek at SR 30	9.41 ± .19	9.40 ± .19
404853081591200	Spring north of Silver Road	8/15/86	Poor section (estimate) = 2.3

281

5

Local well no.	Site number	Owner	Depth of well (ft) ¹	Altitude (ft)	Date	Water level (ft) ¹
WM-2-B5	412711084424400	ODNR	119	835	11/05/85 05/13/86 11/13/86	39.65 38.67 39.40
WM-20-D14	412842084321300	City of Bryan		748	11/06/85 05/13/86 14109/86	26.80 25.50 23.70
WM-21-E15	412930084320900	City of Bryan	174	770	11/06/85 05/13/86 11/13/86	20.60 18.60 19.00
WM-22-E16	412929084304900	City of Bryan	133	720	11/06/85 05/14/86 11/12/86	-3.00 -3.00 -3.00
WM-23-C15	412742084313600	City of Bryan		730	11/04/85 05/13/86 11/13/86	5.50 5.15 4.70
WM-24-B15	412632084312500	A. Rupp	108	730	11/05/85 05/14/86 11/14/86	7.40 4.10 5.80
WM-25-D18	412820084274600	J. Livengood		720	11/06/85 05/14/86 11/14/86	16.70 16.10 16.60
WM-26-C17	412729084295000	N. Martin	104	720	11/07/85 05/14/86 11/14/86	11.80 10.90 11.60
WM-27-C14	412723084325300	N. McBride	138	740	11/07/85 05/14/86 11/12/86	8.70 8.90 9.40
WM-28-O13	412906084341800	R. Rataiczak	123	795	11/06/85 05/13/86 11/12/86	24.18 27.20 28.60
WM-29-E15	412913084313800	W. Timerman	71	745	11/06/85 05/14/86 11/12/86	20.50 17.00 15.70
WM-30-B21	412630084241500	B. Woolace	100	710	11/07/85 05/14/86 11/14/86	28.00 27.00 28.90
WM-31-E23	412935084222300	W. Nafziger	128	715	11/06/85	31.15
WM-32-D21	412840084244300	R. Coy	95	720	11/06/85 05/12/86 11/12/86	18.05 16.00 18.00
WM-33-D15	412840084310800	F. Meek	117	740	11/07/85 05/14/86 11/12/86	25.95 23.10 22.20
WM-34-C14	412740084320700	G. Vincent	115	735	11/07/85 05/14/86 11/12/86	6.00 6.40 6.10
WM-35-D12	412842084352800	R. Hetz	91	790	11/06/85 05/13/86 11/12/86	17.50 15.40 16.50

GROUND-WATER RECORDS FOR THE WILLIAMS COUNTY PROJECT

<u>Local well no.</u>	<u>Site number</u>	<u>Owner</u>	<u>Depth of well (ft)</u> ¹	<u>Altitude (ft)</u>	<u>Date</u>	<u>Water level (ft)</u> ¹
WM-36-B10	412629084371600	S. Davis		815	11/05/85	25.10
					05/13/86	22.60
					11/13/86	24.70
WM-37-D9	412814084384300	A. Stuble		840	11/06/85	39.10
					05/13/86	42.60
					11/12/86	39.90
WM-38-I15	413240084311400	R. Opdycke	43	795	11/06/85	17.25
					05/14/86	16.70
					11/12/86	17.00
WM-39-H17	413208084291300	W. Oberlin	144	765	11/06/85	10.10
					05/14/86	9.30
					11/12/86	9.60
WM-40-J16	413417084302600	R. Miller	69	815	11/06/85	26.85
					05/14/86	25.60
					11/12/86	28.90
WM-41-M17	413604084290100	D. Borton		830	11/06/85	22.30
					05/12/86	21.20
					11/12/86	21.60
WM-42-613	413541084331700	J. Seto	84	890	11/06/85	58.80
					05/14/86	58.40
					11/13/86	58.00
WM-43-J14	413418084330300	J. Niday	94	875	11/06/85	64.39
					05/14/86	64.00
					11/13/86	63.70
WM-44-E8	412958084394700	M. Smith	143	880	11/05/85	71.26
					05/13/86	70.00
					11/13/86	71.20
WM-45-B8	412720084400700	G. McCool	89	860	11/05/85	59.40
					05/13/86	58.20
					11/13/86	62.30
WM-46-E11	412912084361400	R. Pickering	74	820	11/06/85	33.50
					05/13/86	33.90
					11/12/86	32.40
WM-47-E12	412957084342900	G. Martin	120	815	11/06/85	28.00
					05/14/86	26.60
					11/12/86	26.90
WM-48-D12	412820084342500	T. Ringer	146	790	11/07/85	37.35
					05/13/86	34.10
					11/13/86	33.80
WM-49-G20	413055084255800	D. Clemens	120	720	11/06/85	14.10
					05/12/86	11.75
					11/12/86	12.50
WM-50-E19	412952084262100	R. Rosebrook	92	715	11/06/85	11.40
					05/12/86	8.80
					11/12/86	10.90
WM-51-B20	412722084261000	Oak Grove Church	103	710	11/07/85	10.80
					05/14/86	10.40
					11/14/86	10.20
WM-52-B24	412719084211000	M. Niese	98	715	11/07/85	35.06
					05/12/86	35.30
					11/12/86	35.80
WM-53-H11	413233084353700	Bethesda Church		8.70	11/06/85	58.42
					05/14/86	53.90
					11/13/86	57.70
WM-54-L12	413557084342200	V. Boardner	84	880	11/06/85	42.60

GROUND-WATER RECORDS FOR THE WILLIAMS COUNTY PROJECT

283

Local well no.	Site number	Owner	Depth of well (ft) ¹	Altitude (ft)	Date	Water level (ft) ¹
WM-55-L10	413512084371800	R. Whetro	45	860	11/05/85	21.11
					05/13/86	20.40
					11/13/86	20.80
WM-56-L7	413556084401600	D. Gulick	60	890	11/05/85	18.61
					05/13/86	17.80
					11/13/86	18.20
WM-57-J9	413417084381400	L. Zigler	62	850	11/05/85	13.40
					05/13/86	13.00
					11/13/86	10.00
WM-58-J12	413403084342100	P. Ruble	215	870	11/06/85	45.00
					05/14/86	43.80
					11/13/86	43.60
WM-59-G12	413122084342300	R. Rigg	85	820	11/06/85	33.60
					05/14/86	31.60
					11/13/86	32.80
WM-60-F12	413056084344700	Smith-Hurley		830	11/06/86	42.20
					05/14/86	40.50
					11/13/86	41.40
WM-61-G12	413056084350400	Williams Co. Landfill		840	11/19/85	48.80
					05/14/86	42.60
					11/13/86	44.00
WM-62-K10	413458084372200	City of Montpelier		850	11/05/85	16.10
					05/13/86	16.10
					11/13/86	11.20
WM-63-K10	413525084364200	M. DeGroff	58	850	11/05/85	21.45
					05/13/86	20.70
					11/13/86	19.80
WM-64-L5	413604084423800	R. Gilbert	85	910	11/05/85	34.32
					05/13/86	33.70
					11/13/86	34.55
WM-65-I5	413315084423800	M. Tingley	45	865	11/05/85	34.32
					05/13/86	33.70
					11/13/86	34.55
WM-66-G4	413139084435400	L. Gearhart	65	875	11/05/85	39.20
					05/13/86	38.60
					11/13/86	39.10
WM-67-L1	413526084481300	J. Hadix	76	940	11/05/85	21.60
					05/13/86	20.00
					11/13/86	21.10
WM-68-M3	413635084453800	Patterson	63	950	11/05/85	38.95
					05/13/86	38.70
					11/13/86	39.00
WM-69-J2	413325084470700	M. Meyers	63	905	11/05/85	28.25
					05/13/86	25.90
					11/13/86	24.80
WM-70-I3	413313084470700	Village of Edon	137	900	11/05/85	16.60
					05/13/86	18.00
					11/13/86	18.00
WM-71-F13	413050084355200	G. Beucler	52	810	11/06/85	24.69
					05/14/86	22.30
					11/13/86	22.10
WM-72-F21	413040084250800	City of Bryan		715	11/06/85	28.50
					05/12/86	13.80
					11/12/86	20.70
WM-73-A6	412536084413300	E. Hahn	247	850	11/05/85	53.40
					05/13/86	52.60
					11/13/86	56.00

GROUND-WATER RECORDS FOR THE WILLIAMS COUNTY PROJECT

Local well no.	Site number	Owner	Depth of well (ft) ¹	Altitude (ft)	Date	Water level (ft) ¹
WM-74-A5	412535084432200	D. Hamman	124	850	05/13/85 11/13/86	44.80 45.50
WM-75-A4	412613084445300	L. Mason	74	835	11/05/85 05/13/86 11/13/86	24.40 23.30 23.70
WM-76-E1	412903084474200	K. Dietsch	76	870	11/05/85 05/13/86 11/12/86	27.86 27.40 27.70
WM-77-E6	412944084420700	J. Hug	108	860	11/05/85 05/13/86 11/13/86	45.72 44.20 45.80
WM-78-B4	412707084442600	Village of Edgerton		835	11/05/85 05/13/86 11/13/86	26.10 26.30 40.80
WM-79-M14	413637084331800	Holiday Inn		900	11/06/85 05/14/86 11/13/86	64.60 69.50 64.50
WM-80-D14	412907084321800	K. Pettit		755	11/06/85 05/14/86 11/12/86	31.40 31.20 26.50
WM-81-K11	413452084363100	City of Montpelier		875	11/05/85 05/13/86 11/13/86	72.00 72.00 74.00
WM-82-Q7	414043084405900	F. Boyer	93	955	11/05/85 05/13/86 11/13/86	29.20 28.90 29.50
WM-84A-H21	413209084242801	E. Graber		725	11/06/85 05/12/86 11/12/86	15.50 15.50 15.80
WM-85-N21	413730084255400	W. Grau	75	815	11/06/85 05/12/86 11/12/86	20.70 18.70 19.80
WM-86-P17	413936084283500	B. Clark	112	905	11/06/85 05/12/86 11/12/86	36.80 39.00 39.60
WM-87-S14	414150084331000	K. Becker	82	895	11/06/85 05/14/86 11/13/86	13.32 12.30 12.50
WM-88-N14	413746084323800	Sauder	93	890	11/06/85 05/14/86 11/13/86	51.90 47.40 51.00
WM-89-J7	413355084403700	Overberg	41	865	11/05/85 05/13/86 11/13/86	13.70 13.60 14.40
WM-90-F7	413048084403900	L. Keesbury	70	855	11/05/85 05/13/86 11/13/86	31.22 29.90 30.90
WM-91-F7	413043084400100	O. Wolf	118	860	11/05/85	36.30
WM-92-G12	413141084344400	Culler	78	840	11/06/85 05/14/86 11/13/86	36.86 35.20 36.80
WM-93-C14	412802084321400	City of Bryan	122	735	11/05/85 05/13/86 11/12/86	25.70 29.30 25.70
WM-95-D14	412851084322000	City of Bryan	137	755	11/06/85 11/13/86	34.05 25.70

GROUND-WATER RECORDS FOR THE WILLIAMS COUNTY PROJECT

285

<u>Local well no.</u>	<u>Site number</u>	<u>Owner</u>	<u>Depth of well (ft)</u> ¹	<u>Altitude (ft)</u>	<u>Date</u>	<u>Water level (ft)</u> ¹
WM-96-D14	412853084322000	City of Bryan	147	755	11/06/85	34.75
					05/13/86	34.40
					11/13/86	25.80
WM-98-G12	413053084343400	Williams County		820	11/06/85	37.30
					05/14/86	37.10
					11/13/86	37.00
WM-99-B2	412651084464100	B. Blaylock	177	840	11/05/85	25.40
					05/13/86	24.00
					11/13/86	25.70
WM-100-P1	413910084473500	R. Dunlap	76	975	11/05/85	23.90
					05/13/86	22.80
					11/13/86	22.50
WM-101-Q5	414029084433000	F. Dean	203	950	11/05/85	0.05
					05/13/86	2.50
					11/13/86	0.60
WM-102-K20	413450084251200	P. Bleikamp	76	780	11/06/85	30.80
					05/12/86	28.90
					11/12/86	29.30
WM-103-S21	414144084242500	D. Shaffner	71	850	11/06/85	23.00
					05/12/86	22.90
					11/12/86	23.70
WM-105-A15	412556084320900	R. Sinder	90	730	11/05/85	7.30
WM-107-Q9	413957084380300	Waldron	83	910	11/05/85	8.18
					05/13/86	7.30
					11/13/86	7.70
WM-108-Q13	414044084333500	Village of Pioneer	120	880	11/06/85	17.66
					05/14/86	17.20
					11/12/86	17.10

¹Feet below land-surface datum. All wells cased and completed in glacial sand and gravel.

	Page		Page
Access to WATSTORE	13	Fecal coliform, definition of	14
Accuracy of records	8	Fecal streptococcal, definition of	14
Acknowledgments	III	Fields Brook at Ashtabula	95
Acre-foot, definition of	14	Findlay, Blanchard River near	31
Adenosine triphosphate (ATP), definition of ..	14	Fort Jennings, Auglaize River near	30
Algae, definition of	14	Franklin County Ground Water project	164
Algal growth potential (AGP), definition of ..	14	Fremont, Sandusky River near	50
Aquifer, definition of	14	Gage height, definition of	15
Artificial substrate, definition of	19	Gaging station, definition of	15
Artesian, definition of	14	Gaging stations, in downstream order, for which records are published	27
Ash mass, definition of	14	Geauga County Ground-water project	190
Ashtabula, Fields Brook at	95	Grand River at Painesville (NASQAN)	93
Auglaize River near Defiance	32	near Painesville	90
near Fort Jennings	30	Green algae, definition of	17
Bacteria, definition of	14	Ground Water Records	
Bed load, definition of	18	Data Collection and Computation, explanation of	6
Bed load discharge, definition of	18	Data presentation, explanation of	6
Bed material, definition of	14	Ground Water Records, network stations	106
Bedford, Tinkers Creek at	72	Ground-water records for	
Berea, Rocky River near	59	Coal mining areas	158
Big Creek at Cleveland	82	Franklin County project	164
Biochemical oxygen demand, definition of	14	Geauga County project	190
Biomass, definition of	14	Northeast Glacial Aquifers RASA project ..	274
Black River, at Elyria	58	Northeast Union County project	265
Blanchard River near Findlay	31	Northwest Ohio project	240
Blue-green algae, definition of	17	Lucas County	241
Bottom material (See bed material)	15	Sandusky County	248
Cells/volume, definition of	15	Wood County	256
Cfs-day, definition of	15	Williams County project	281
Chemical oxygen demand, definition of	15	Ground-water records in strip mines	230
Chlorophyll, definition of	15	Hardness, definition of	16
Cleveland, Big Creek at	82	Hiram Rapids, Cuyahoga River at	60
Cuyahoga River at West Third Street Bridge in	83	Honey Creek at Melmore	48
Coal mining areas, water quality	148	near New Washington	47
Color unit, definition of	15	Huron:	
Conneaut Creek at Conneaut	103	Old Woman's Creek above U.S. 6 near	55
Conneaut, Conneaut Creek at	103	Old Woman's Creek at U.S. 6 near	56
Contents, definition of	15	Lake Erie at	57
Control, definition of	15	Hydrologic bench-mark stations, definition of	16
Control structure, definition of	15	Hydrologic conditions for 1986 water year ...	1
Cooperation	1	Hydrologic index stations, definition of	16
Crawford, Tymochtee Creek at	46	Hydrologic unit, definition of	16
Crest-stage partial record stations	104	Independence, Cuyahoga River at	73
Cubic feet per second per square mile, definition of	15	Instantaneous discharge, explanation of	15
Cubic foot per second, definition of	15	Introduction	1
Cuyahoga River, at Hiram Rapids	60	Lake Erie at Huron	57
at Independence (NASQAN)	73	at Reno Beach	44
at Old Portage	64	Latitude-longitude system	5
at West Third Street Bridge, Cleveland ..	83	List of gaging stations, in downstream order, for which records are published	VI
Defiance, Auglaize River near	32	List of ground water stations for which records are published	VII
Maumee River near	33	Lucas County, ground-water records (Northwest Ohio project)	241
Definition of terms	14	Maumee River, at Waterville	41
Diatoms, definition of	17	near Defiance	33
Discharge, definition of	15	near Waterville	34
Dissolved, definition of	15	Mean concentration, definition of	18
Dissolved-solids concentration, definition of ..	15	Mean discharge, definition of	15
Downstream order and station number	15	Measuring point (MP), definition of	16
Drainage area, definition of	15	Melmore, Honey Creek at	48
Drainage basin, definition of	15	Metamorphic stage, definition of	16
Dry mass, definition of	14	Methylene blue active substance, definition of	16
Elyria, Black River at	58	Micrograms per gram, definition of	16
Explanation of ground-water level records ...	11	Micrograms per kilogram, definition of	16
of stage and water-discharge records	5	Micrograms per liter, definition of	16
of stage and water-quality records	9	Milligrams of carbon per acre or volume per unit time, definition of	18
Explanation of the records	4	Milligrams of oxygen per area or volume per unit time	18
Factors for converting inch-pound units to International System (SI) units	Inside back cover	Milligrams per liter, definition of	16
Farmer, Unnamed Tributary to Lost Creek	29		

	Page		Page
National Geodetic Vertical Datum of 1929 (NGVD).....	16	Stage-discharge relation, definition of	19
National stream-quality accounting network, (NASQAN), definition of.....	16	Streamflow, definition of	19
Natural substrate, definition of	19	Stryker, Tiffin River at	28
New Washington, Honey Creek near.....	47	Substrate, definition of	19
Northeast Glacial Aquifers RASA project	274	Surface area, definition of	19
Northwest Ohio Ground-Water project	240	Surface Water Records	
Numbering system for wells and miscellaneous sites.....	4	Data Collection and Computation, explanation of	6
Old Portage, Cuyahoga River at.....	64	Data Presentation, explanation of	6
Old Woman's Creek above U.S. 6 near Huron ...	55	Surface Water records for network stations ..	27
Old Woman's Creek at U.S. 6 near Huron	56	Surface-water records for	
Organic mass, definition of	14	Coal mining areas	148
Organism, definition of.....	16	Franklin County Ground Water project	187
count/area, definition of.....	16	Northeast Glacial Aquifers RASA project .	280
count/volume, definition of.....	16	Raccoon Creek Basin	126
Other Records available.....	9	Surface Water Quality Records	
Ottawa River (tributary to Lake Erie) at Toledo University, Toledo.....	27	Classification of records, explanation of	9
Painesville, Grand River at (NASQAN).....	93	Arrangement of records, explanation of ..	9
Grand River near.....	90	Onsite measurement and sample collection, explanation of	9
Parameter code, definition of	17	Water temperature, explanation of	10
Partial-record station, definition of.....	17	Sediment, explanation of	10
Partial-record stations and miscellaneous sites	104	Laboratory measurements, explanation of .	10
Particle size, definition of.....	17	Data presentation, explanation of	10
Particle size classification, definition of..	17	Surficial bed material, definition of	19
Percent composition, definition of.....	17	Suspended, definition of.....	19
Periphyton, definition of.....	17	Suspended, recoverable, definition of.....	18
Pesticides, definition of.....	17	Suspended sediment, definition of.....	18
Pesticides program, definition of	17	Suspended-sediment concentration, definition of.....	18
Phytoplankton, definition of.....	17	Suspended-sediment discharge, definition of..	18
Picocurie, definition of.....	17	Suspended-sediment load, definition of.....	18
Plankton, definition of.....	17	Suspended, total, definition of.....	19
Portage River, at Woodville.....	45	Taxonomy, definition of	19
Preface.....	III	Terms, definition of.....	14
Primary productivity, definition of	18	Thermograph, definition of	20
Projects:		Tiffin, Rock Creek at	49
Active coal mining areas	148	Tiffin River, at Stryker.....	28
Franklin County Ground Water.....	164	Time-weighted average, definition.....	20
Geauga County Ground Water	190	Tinkers Creek, at Bedford.....	72
Ground water in strip mines	223	Toledo,	
Northeast Glacial Aquifers RASA	274	Ottawa River at Toledo University.....	27
Northeast Union County Ground Water	265	Tons per acre foot, definition of	20
Northwest Ohio	240	Tons per day, definition of.....	20
Raccoon Creek Basin	126	Total, definition of.....	20
Williams County	281	Total coliform bacteria, definition of.....	14
Publications on Techniques of water-resources investigations.....	21	Total discharge, definition of	20
Raccoon Creek project	126	Total in bottom material, definition of.....	20
Records of Surface-Water Quality	9	Total load, definition of.....	20
Records of Ground-Water Quality	13	Total organism count, definition of	16
Radiochemical program, definition of	18	Total recoverable, definition of.....	20
Records of stage and water discharge	5	Total sediment discharge, definition of.....	18
Recoverable from bottom material, definition of.....	18	Tymochtee Creek at Crawford.....	46
Regional Aquifer Systems Analysis (RASA)	274	Union County, Ground-water records for Northeast	265
Reno Beach, Lake Erie at	44	Unnamed Tributary to Lost Creek near Farmer .	29
Return period, definition of	18	Water-quality records for	
Rock Creek at Tiffin	49	Raccoon Creek Basin project	265
Rocky River near Berea	59	Water temperature.....	10
Runoff in inches, definition of.....	18	Water year, definition of	20
Sandusky County, ground-water records (Northwest Ohio project)	248	Waterville, Maumee River at.....	41
Sandusky River near Fremont.....	50	Maumee River near.....	34
Sediment.....	10	Wayne County, ground-water records (Northeast Glacial Aquifers RASA project)..	274
Sediment, definition of.....	18	Weighted average, definition of	20
Seven day/10-year, definition of	18	Wet mass, definition of	15
Sodium adsorption ratio (SAR), definition of..	19	Williams County Ground Water project	281
Solute, definition of.....	19	Wood County, Ground Water records (Northwest Ohio project)	256
Special networks and program	4	Woodville, Portage River at.....	45
Specific conductance, definition of.....	19	WDR, definition of.....	20
Station identification numbers	4	WRD, definition of.....	20
		WSP, definition of.....	20
		Zooplankton, definition of	17

October 1, 1978

FACTORS FOR CONVERTING INCH-POUND UNITS TO INTERNATIONAL SYSTEM UNITS (SI)

The following factors may be used to convert the inch-pound units published herein to the International System of Units (SI). This report contains both the inch-pound and SI unit equivalents in the station manuscript descriptions.

Multiply inch-pound units	By	To obtain SI units
<i>Length</i>		
inches (in)	2.54×10^1	millimeters (mm)
	2.54×10^{-2}	meters (m)
feet (ft)	3.048×10^{-1}	meters (m)
miles (mi)	1.609×10^0	kilometers (km)
<i>Area</i>		
acres	4.047×10^3	square meters (m ²)
	4.047×10^{-1}	square hectometers (hm ²)
	4.047×10^{-3}	square kilometers (km ²)
square miles (mi ²)	2.590×10^0	square kilometers (km ²)
<i>Volume</i>		
gallons (gal)	3.785×10^0	liters (L)
	3.785×10^0	cubic decimeters (dm ³)
	3.785×10^{-3}	cubic meters (m ³)
million gallons	3.785×10^3	cubic meters (m ³)
	3.785×10^{-3}	cubic hectometers (hm ³)
cubic feet (ft ³)	2.832×10^1	cubic decimeters (dm ³)
	2.832×10^{-2}	cubic meters (m ³)
cfs-days	2.447×10^3	cubic meters (m ³)
	2.447×10^{-3}	cubic hectometers (hm ³)
acre-feet (acre-ft)	1.233×10^3	cubic meters (m ³)
	1.233×10^{-3}	cubic hectometers (hm ³)
	1.233×10^{-6}	cubic kilometers (km ³)
<i>Flow</i>		
cubic feet per second (ft ³ /s)	2.832×10^1	liters per second (L/s)
	2.832×10^1	cubic decimeters per second (dm ³ /s)
	2.832×10^{-2}	cubic meters per second (m ³ /s)
gallons per minute (gal/min)	6.309×10^{-2}	liters per second (L/s)
	6.309×10^{-2}	cubic decimeters per second (dm ³ /s)
	6.309×10^{-5}	cubic meters per second (m ³ /s)
million gallons per day	4.381×10^1	cubic decimeters per second (dm ³ /s)
	4.381×10^{-2}	cubic meters per second (m ³ /s)
<i>Mass</i>		
tons (short)	9.072×10^{-1}	megagrams (Mg) or metric tons

USGS LIBRARY - RESTON



3 1818 00453569 4

POSTAGE AND FEES PAID
U.S. DEPARTMENT OF THE INTERIOR
INT 413

U.S. DEPARTMENT OF THE INTERIOR
Geological Survey
975 West Third Avenue
Columbus, OH 43212



OFFICIAL BUSINESS
PENALTY FOR PRIVATE USE \$300
SPECIAL 4TH CLASS BOOK RATE