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Water Resources Data Ohio Water Year 1998

Volume 2. St. Lawrence River Basin and Statewide Project Data

Water-Data Report OH-98-2

U.S. Department of the Interior
U.S. Geological Survey

Prepared in cooperation with the
State of Ohio
and with other agencies

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1999

PREFACE

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

Volume 1. Ohio River Basin Excluding Project Data
Volume 2. St. Lawrence River Basin and 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:

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13. ABSTRACT *(Maximum 200 words)*
Water-resources data for the 1998 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 127 gaging stations and 65 partial-record sites; water levels at 348 observation wells and 24 crest-stage gages; and water quality at 25 gaging stations, 317 observation wells, and 26 partial-record sites. Also included are data from miscellaneous and synoptic 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 Information System collected by the U.S. Geological Survey and cooperating Federal, State, and local agencies in Ohio.

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CONTENTS

ILLUSTRATIONS

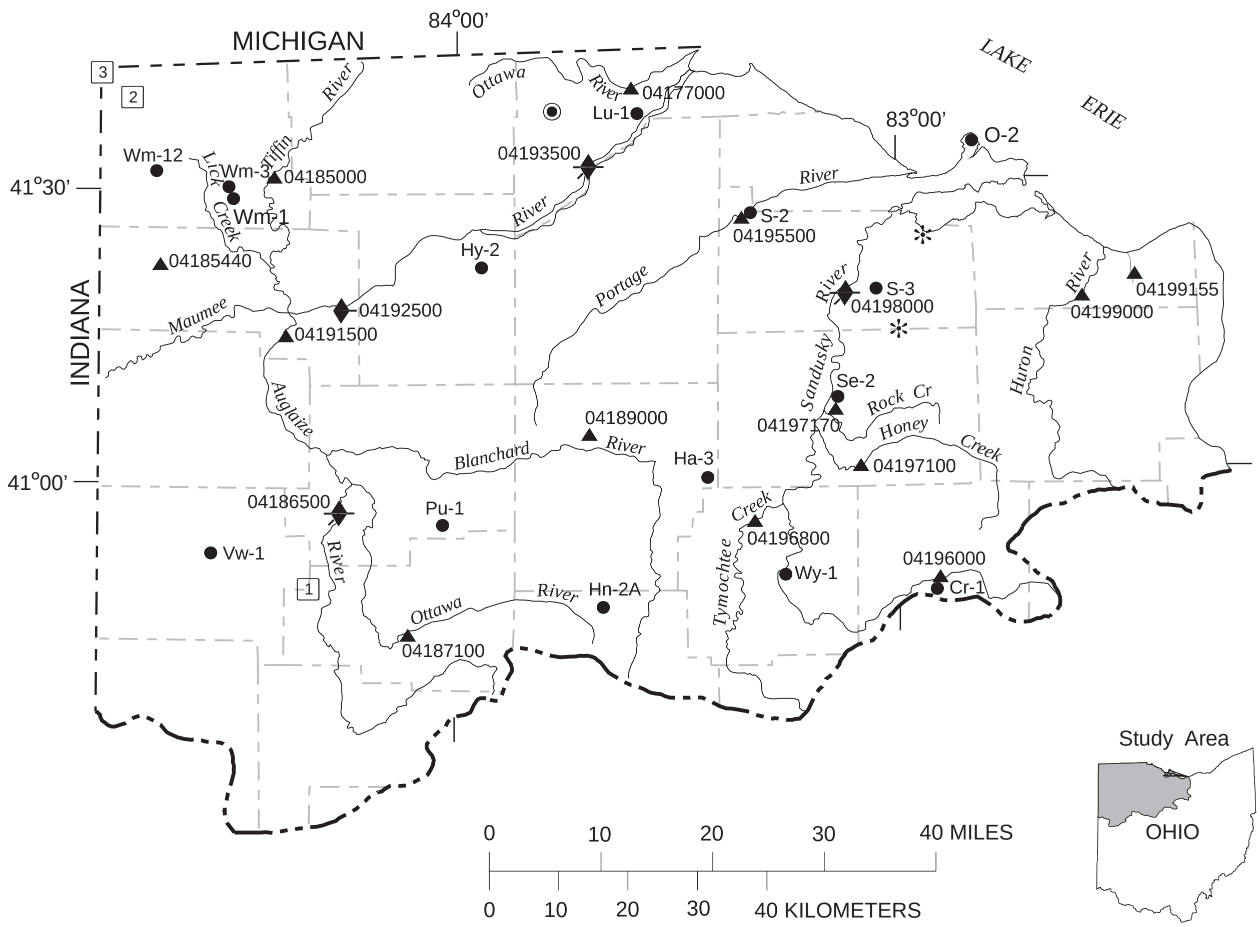
Page

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

[Letters after station names designate type of data: (c) chemical, (d) discharge, (e) contents and (or) elevation, (M) water-quality monitor, (m) microbiological, (NAWQA) National Water-Quality Assessment Program, (r) radiochemical, (S) daily suspended-sediment data, (s) miscellaneous sediment measurements, (t) temperature]

GROUND-WATER STATIONS FOR WHICH RECORDS ARE PUBLISHED

[Letters after station names designate type of data: (c) chemical, (l) water level]



EXPLANATION

SURFACE-WATER GAGING STATIONS--Eight-digit number is downstream-order number

▲ Daily discharge

▼ Water quality

Chemical measurement

Biological measurement

Sediment measurement

WELL AND LOCAL NUMBER--Letter preceding hyphen is county code; number following hyphen is sequence number

● Observation well

◉ HIGHWAY DEICING CHEMICALS PROJECT
1 ground-water-quality site
1 water-level site

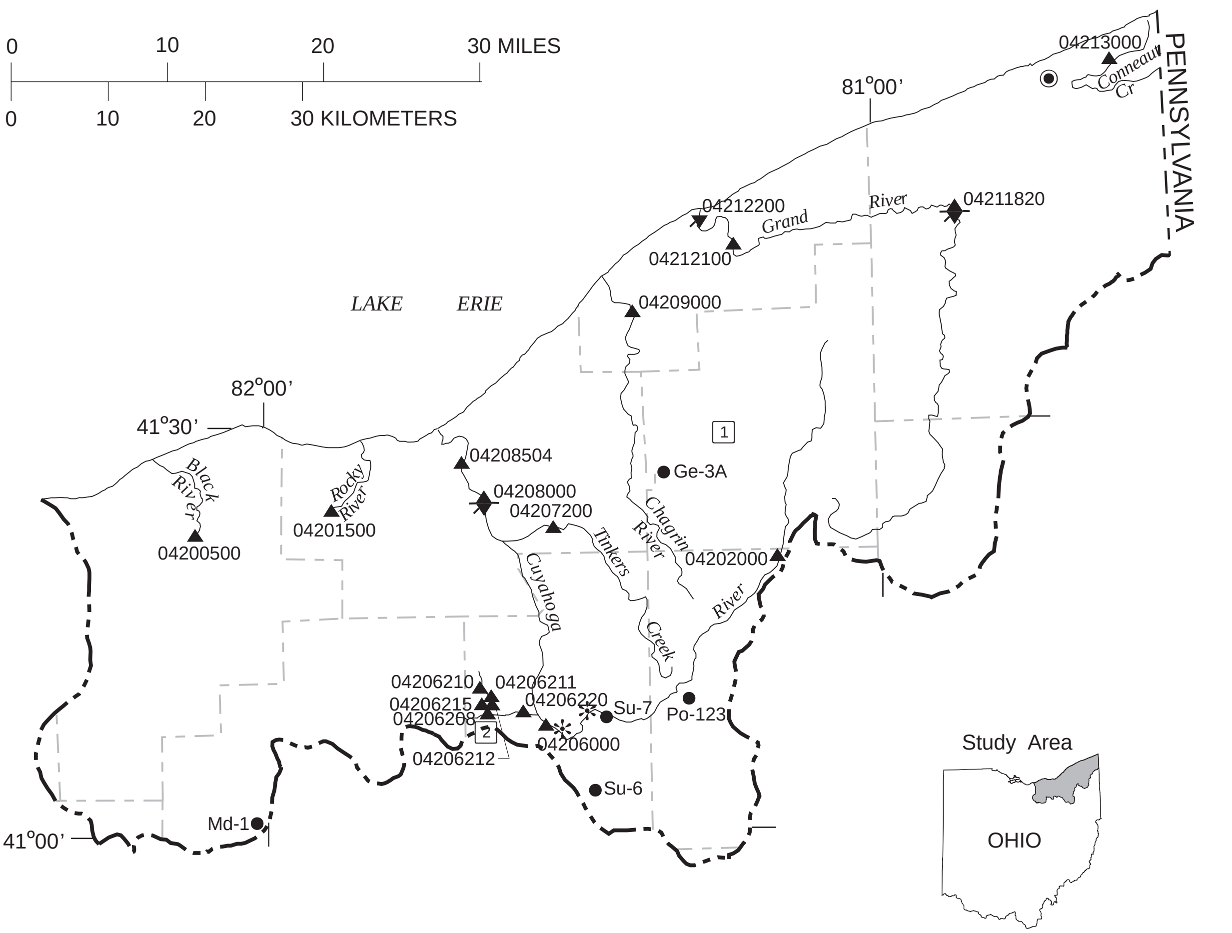
✻ AQUATIC BIOTA IN OHIO SPRINGS PROJECT
2 synoptic biological sites

1 DELPHOS AQUIFER PROJECT
9 ground-water quality sites
66 water-level sites

2 LAKE ERIE NAWQA PROJECT
11 ground-water-quality and water-level sites

3 HABITAT DESIGN FOR MUSSEL RESTORATION
12 synoptic water-quality sites

Figure 1a. Location of data-collection stations.



EXPLANATION

SURFACE-WATER GAGING STATIONS--Eight-digit number is downstream-order number

▲ Daily discharge

▼ Water quality

Chemical measurement

Biological measurement

Sediment measurement

WELL AND LOCAL NUMBER--Letter preceding hyphen is county code; number following hyphen is sequence number

● Observation well

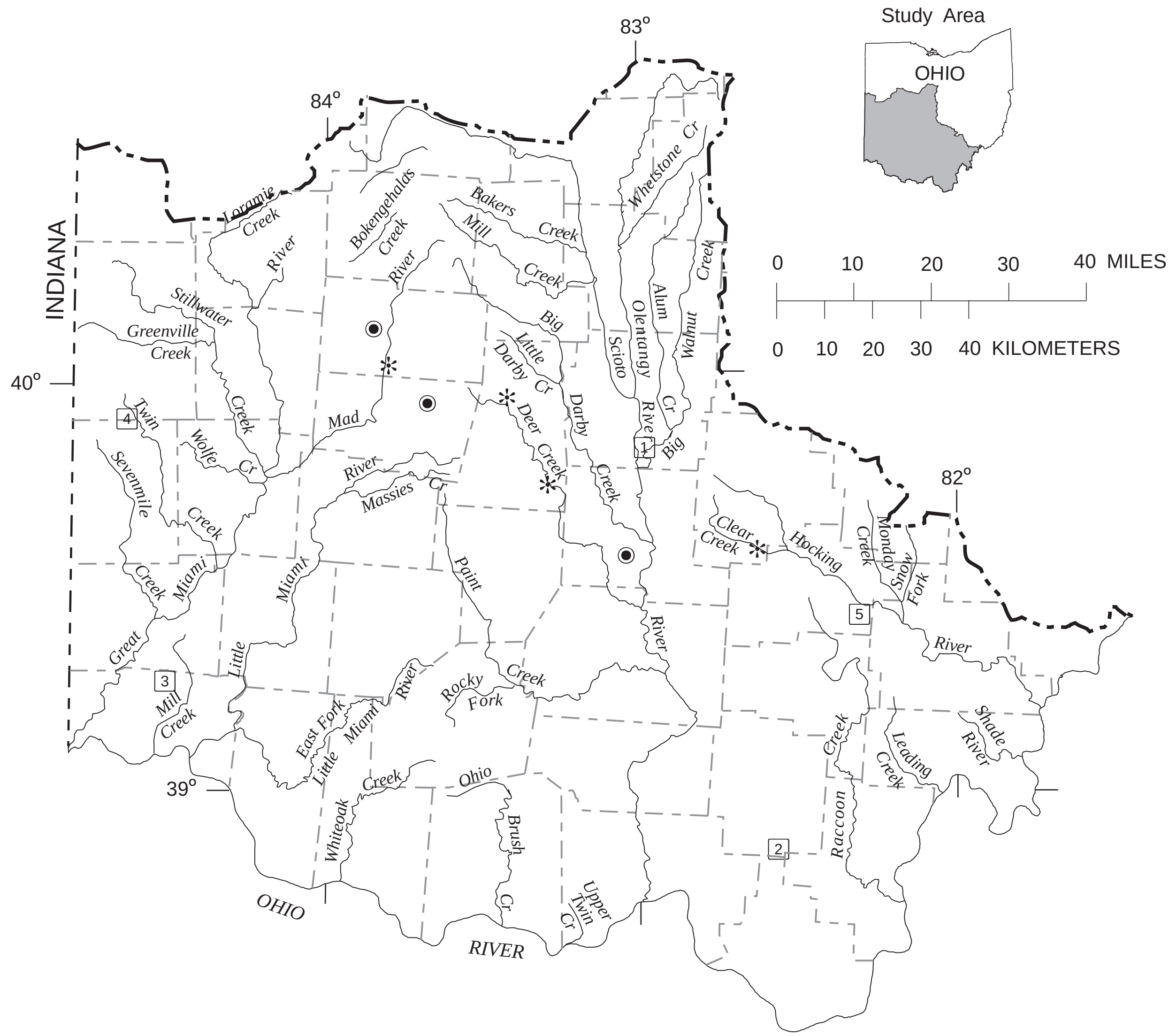
◉ HIGHWAY DEICING CHEMICALS PROJECT
1 ground-water-quality site
1 water-level site

✻ AQUATIC BIOTA IN OHIO SPRINGS PROJECT
2 synoptic biological sites

1 GROUND-WATER MONITORING, GEAUGA COUNTY PROJECT
32 observation wells

2 AKRON WATER DIVERSION PROJECT
3 surface-water sites

Figure 1b. Location of data-collection stations.



EXPLANATION

◉ HIGHWAY DEICING CHEMICALS PROJECT
3 ground-water-quality sites
3 water-level sites

⁎ AQUATIC BIOTA IN OHIO SPRINGS PROJECT
4 synoptic biological sites

1 COLUMBUS WELL FIELD PROJECT
77 periodic water-level sites
7 daily water-level sites
18 ground-water-quality sites
2 surface-water-quality sites

2 WAYNE NATIONAL FOREST PROJECT
14 synoptic water-quality sites

3 FORMER AIR FORCE PLANT 36 PROJECT
25 water-level sites
17 water-level and water-quality sites

4 SYNOPTIC WATER LEVELS NEAR LEWISBURG PROJECT
184 ground-water sites

5 UPPER DORR RUN WATERSHED PROJECT
7 surface-water-quality sites

Figure 1c. Location of data-collection stations for projects, Ohio River Basin.

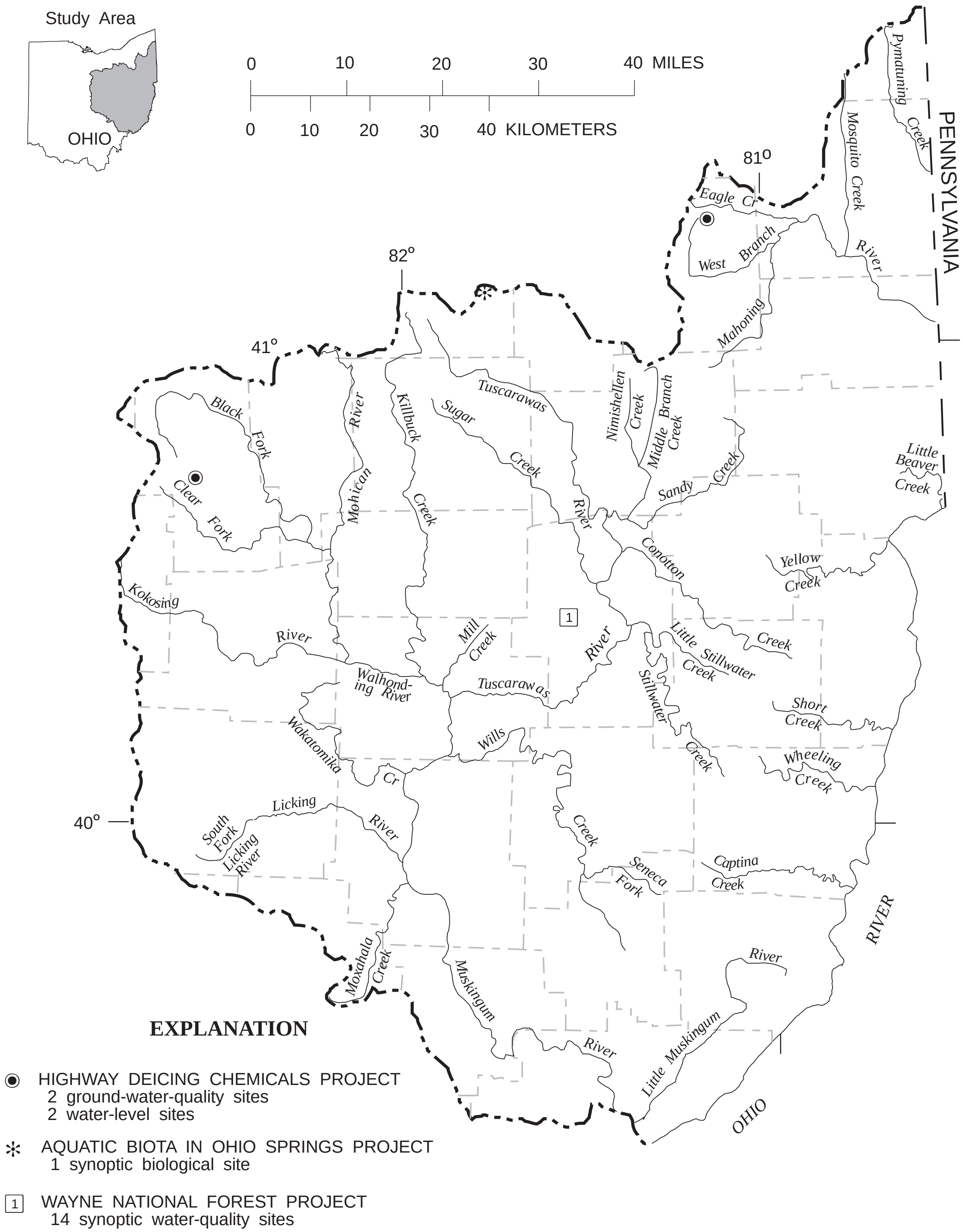


Figure 1d. Location of data-collection stations for projects, Ohio River Basin.

Discontinued Surface-Water-Discharge Stations

The following continuous-record surface-water-discharge or stage-only stations (gaging stations) have been discontinued. Daily discharge or stage records were collected and published for the period of record, expressed in water years, shown for each station. Those stations with an asterisk (*) after the station number are currently operated as crest-stage partial-record stations. Discontinued project stations with less than 3 years of record have not been included. Information regarding these stations may be obtained from the District Office at the address given on the back side of the title page of this report.

Station name	Station number	Drainage area (mi^2)	Period of record
St. Joseph River near Blakeslee	04177500	394	1926-32
St. Marys River near Willshire	04181000	354	1926-32
Maumee River at Antwerp	04183500	2,129	1922-35
			1939-82
Maumee River near Sherwood	04184000	2,275	1903-06
Bean Creek at Powers	04184500	206	1941-81
Tiffin River near Brunersburg	04185500	736	1928-36
Miami and Erie Canal at Delphos	04186000	[a]-	1928-33
Ottawa River at Allentown	04187500	160	1924-36
			1943-82
Ottawa River at Kalida	04188000	309	1930-36
Eagle Creek near Findlay	04188500	55.0	1947-57
Blanchard River at Glandorf	04189500	644	1921-28
			1947-52
Blanchard River at Dupont	04190000	756	1928-35
Roller Creek at Ohio City	04190500	5.14	1946-48
Town Creek near Van Wert	04191000	21.2	1945-53
Miami and Erie Canal near Defiance	04192000	--	1925-29
			1953-69
Miami and Erie Canal at Waterville	04193000	--	1921-29
Swan Creek at Toledo	04194000	199	1945-48
Portage River near Pemberville	04194500	337	1930-35
North Branch Portage River near Bowling Green	04195000	45.1	1924-32
Lacarpe Creek near Oak Harbor	04195825	2.95	1988-92
Bayou Ditch near Oak Harbor	04195830	2.82	1964-82
			1988-92
Broken Sword Creek at Nevada	04196200	83.8	1976-82
Sandusky River near Upper Sandusky	04196500	298	1922-35
			1938-82
Tymochtee Creek near Marseilles	04196600	137	1970-74
Sandusky River near Mexico	04197000	774	1923-36
			1938-83
Honey Creek near New Washington	04197020	17	1976-90
Wolf Creek at Bettsville	04197300	66.2	1976-82
East Branch Wolf Creek near Bettsville	04197450	82.4	1976-82
Havens Creek at Havens	04197500	4.28	1946-49
East Branch Huron River near Norwalk	04198500	85.5	1924-35
Old Woman's Creek at U.S. Highway 6 at Huron	04199165	26.5	1980-94
Lake Erie at Ruggles Beach	04199175		1987-94
Vermilion River near Fitchville	04199287	112	1978-89
			1991-93
Vermilion River near Vermilion	04199500	262	1950-81

Discontinued Surface-Water-Discharge Stations—Continued

Station name	Station number	Drainage area (mi^2)	Period of record
East Branch Black River at Elyria	04200000	217	1922-36
West Branch Black River above Lake Street at Elyria	04200430	174	1980-85
Cuyahoga River near Kent	04202500	210	1934-35
Breakneck Creek near Kent	04203000	77.6	1927-35
Little Cuyahoga River at Mogadore	04204000	14.3	1946-79
Cuyahoga River at Massillon Road at Akron	04204500	31.6	1946-74
Springfield Lake Outlet at Akron	04205000	9.72	1946-49
			1961-74
Little Cuyahoga River at Akron	04205500	44.4	1920
			1928-34
Little Cuyahoga River Below Ohio Canal at Akron	04205700	59.2	1974-80
Cuyahoga River at Ira	04206250	478	1973-80
Ohio Canal Feeder at Brecksville	04207000	--	1923-24
Ohio Canal at Independence	04207500	--	1922-23
			1927-36
			1941
			1949-81
Big Creek at Cleveland	04208502	35.3	1973-86
Euclid Creek near Euclid	04208690	22.6	1977-80
			1983-86
Grand River near North Bristol	04209500	85.4	1942-47
Phelps Creek near Windsor	04210000	25.6	1942-59
Grand River near Rome	04210500	251	1942-47
Rock Creek near Rock Creek	04211000	69.2	1942-66
Mill Creek near Jefferson	04211500	82.0	1942-75
Grand River near Madison	04212000	581	1923-35
			1938-74
Ashtabula River near Ashtabula	04212500	111	1924-36
			1939-48
			1950-80

a. - Not determined for canals.

Discontinued Surface-Water-Quality Stations

The following continuous-record surface-water-quality stations have been discontinued. Daily records of temperature, specific conductance, pH, dissolved oxygen, or sediment were collected and published for the period of record, expressed in water years, shown for each station. Those stations with an asterisk (*) after the station number are currently operated as crest-stage partial-record stations. Discontinued project stations with less than 3 years of record have not been included. Information regarding these stations may be obtained from the District Office at the address given on the back side of the title page of this report.

[Letters designate type of record: (do) dissolved oxygen, (pH) pH, (s) sediment, (sc) specific conductance, (t) temperature]

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record
Maumee River at Antwerp	04183500	2,129	t	1939-82
Maumee River at Defiance	04184100	2,316	do, sc, t	1966-70
			pH	1973-78
Tiffin River at Evansport	04185300	541	do, pH, sc, t	1968-78
Auglaize River near Ft. Jennings	04186500	332	do, pH, sc, t	1969-78
Ottawa River at Allentown	04187500	160	sc, t	1969-82
			do, pH.	1977-82
Auglaize River at Cloverdale	04188200	713	do, pH, sc, t	1967-78
Blanchard River near Findlay	04189000	346	do, pH, sc, t	1968-80
Auglaize River near Defiance	04191500	2,318	s	1936
			do, pH, sc, t	1966-76
Maumee River near Waterville	04193490	6,313	do, pH, sc, t	1977-91
Miami River at Waterville	04193500	6,329	do, pH, sc, t	1963-77
Maumee River at Mouth at Toledo	04194023	6,608	do, pH, sc, t	1967-75
Middle Branch Portage River near Portage	04194310	217	sc, t	1969-75
Portage River at Railroad Bridge at Woodville	04195600	428	do, pH, sc, t	1968-80
Portage River at Elmore	04195800	432	t	1950-52
			s	1950-53
			do	1970-80
Sandusky River near Upper Sandusky	04196500	298	do, sc, t	1969-79
			pH	1977-79
Tymochtee Creek at Crawford	04196800	229	do, pH, sc, t	1968-75
Sandusky River at St. Johns Bridge near Mexico	04196990	711	do, sc, t	1969-76
Honey Creek at Melmore	04197100	141	s	1988-89
Sandusky River below Fremont	04198005	1,264	do, pH, sc, t	1966-80
West Branch Huron River near Willard	04198018	86.0	sc, t	1968-75
Huron River at Milan	04199000	371	s	1970-74
				1988-91
Huron River below Milan	04199100	385	do, pH, sc, t	1968-78
Vermilion River near Fitchville	04199287	112	s	1987-89
Vermilion River near Vermilion	04199500	262	sc, t	1969-76
			do, pH	1976-80
East Branch Black River at Grafton	04199900	170	sc, t	1969-75
West Branch Black River near Elyria	04200400	170	sc, t	1969-75
West Branch Black River above Lake Street at Elyria	04200430	174	s	1980-81
Black River at Elyria	04200500	396	t	1962-70
			sc	1964-70
			s	1980-81
Black River below Elyria	04200550	412	do, sc, t	1966-82
			pH	1976-82

Discontinued Surface-Water-Quality Stations—Continued

[Letters designate type of record: (do) dissolved oxygen, (pH) pH, (s) sediment, (sc) specific conductance, (t) temperature]

Station name	Station number	Drainage area (mi^2)	Type of record	Period of record
Cuyahoga River at Old Portage	04205700	59.2	do, pH, sc, t	1970-84
			s	1972-81
Cuyahoga River at Botzum	04206200	443	t	1947-49
Tinkers Creek at Bedford	04207200	83.9	s	1972-79
Cuyahoga River at Independence	04208000	707	do, sc, t	1965-72
			do, pH, sc, t	1972-91
Big Creek at Cleveland	04208502	35.3	s	1978
Cuyahoga River at Dupont Intake in Cleveland	04208505	794	sc	1964-75
Cuyahoga River at West Third Street Bridge	04208506	798	do, pH, sc, t	1966-87
Cuyahoga River at Superior Street Bridge in Cleveland	04208510	808	do, pH, sc, t	1964-66
Chagrin River at Willoughby	04209000	246	t	1950
			s	1969-74
Grand River at Painesville	04212200	701	do, pH, sc, t	1966-82
Fields Brook at Ashtabula	04212680	3.63	do, pH, sc, t	1983-91
Ashtabula River at Ashtabula	04212700	136	do, pH, sc, t	1968-79

INTRODUCTION

The Water Resources Division of the U.S. Geological Survey (USGS), in cooperation with state agencies, obtains a large amount of data each water year (a water year is the 12-month period from October 1 through September 30 and is identified by the calendar year in which it ends) pertaining to the water resources of Ohio. 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 interested parties outside the USGS, they are published annually in this report series entitled "Water Resources Data—Ohio."

This report (in two volumes) includes records on surface water and ground water in the State. Specifically, it contains (1) discharge records for streamflow-gaging stations, miscellaneous sites, and crest-stage stations, (2) stage and content records for streams, lakes, and reservoirs, (3) water-quality data for streamflow-gaging stations, wells, synoptic sites, and partial-record sites, and (4) water-level data for observation wells. Locations of lake- and streamflow-gaging stations, water-quality stations, and observation wells for which data are presented in this volume are shown in figures 1a through 1d. The data in this report represent that part of the National Water Data System collected by the USGS and cooperating State and Federal agencies in Ohio.

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 the introduction of this series, and for several years concurrent with it, water-resources data for Ohio were published in a series of USGS 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 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 can be found in libraries of the principal cities of the United States and can be purchased from the U.S. Geological Survey, Information Services, Box 25286, Denver, CO 80225.

Publications similar to this report are published annually by the USGS for all states. These official USGS reports are identified by means of a 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-98-1." 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, 5285 Port Royal Road, Springfield, VA 22161.

USGS water data can be accessed on the World Wide Web at http://water.usgs.gov. Data at this Web site include historical daily values and peaks, real-time water data, and spatial data. (The USGS Ohio District's Web site can be accessed at http://www-oh.er.usgs.gov.)

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) 430-7700.

COOPERATION

The USGS has had cooperative agreements for the collection of water-resources data since 1898. The following organizations assisted in collecting data in this report:

Cities of Akron, Canton, Cincinnati, Columbus (Water Division), Cortland, Delphos, Fremont, Lima, North Olmsted, and Warren

Counties of Clermont, Cuyahoga (Board of Health and Sanitary Engineering Division), Erie, Geauga, Madison, Ottawa, Ross, Summit, and Washington
Cuyahoga River Community Planning Organization
Eastgate Development and Transportation Agency
Federal Emergency Management Agency, Region V, Hazardous Branch
Miami Conservancy District
Northeast Ohio Regional Sewer District
Ohio Departments of Agriculture, Natural Resources (Mines and Reclamation, Oil and Gas, Real Estate and Land Management, and Water Division), and Transportation
Ohio Environmental Protection Agency
Ohio State University Research Foundation
State of Ohio Adjutant General's Department
U.S. Air Force, Air Force Materiel Command, Aeronautical Systems Center, Environmental Management Directorate, Restoration Branch
U.S. Army Corps of Engineers (Buffalo, Huntington, Louisville, and Pittsburgh Districts, and Industrial Operations)
U.S. Environmental Protection Agency (Drinking Water Standards Division, Great Lakes National Project Office, NERL-MICROBIAL and Chemical Exposure Assessment Research Division, and Superfund Division, Region V)
University of Toledo
Township of Vermilion
Wright-Patterson Air Force Base

SUMMARY OF HYDROLOGIC CONDITIONS

Ohio is part of three physiographic provinces. Each province has its own distinctive hydrologic characteristics. The topography of the Till Plains Section of the Central Lowlands Physiographic Province (fig. 2) consists of gently rolling ground moraine, bands of terminal moraine, and outwash-filled valleys. Glaciation altered the courses of most streams in this area. The Eastern Lake Section (fig. 2) 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 Plain Section of the Interior Low Plateaus Province (fig. 2) is characterized by rolling terrain and a few 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 Plateaus Province (fig. 2) 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. 2), 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 annual precipitation decreases from around 42 inches on the southern border to about 32 inches in the northwest. An anomalous area of high precipitation (as much as 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 and 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 eventually discharges to streams, and the rest is lost by evapotranspiration and consumptive use. Average runoff ranges from about 15 to 18 inches along the

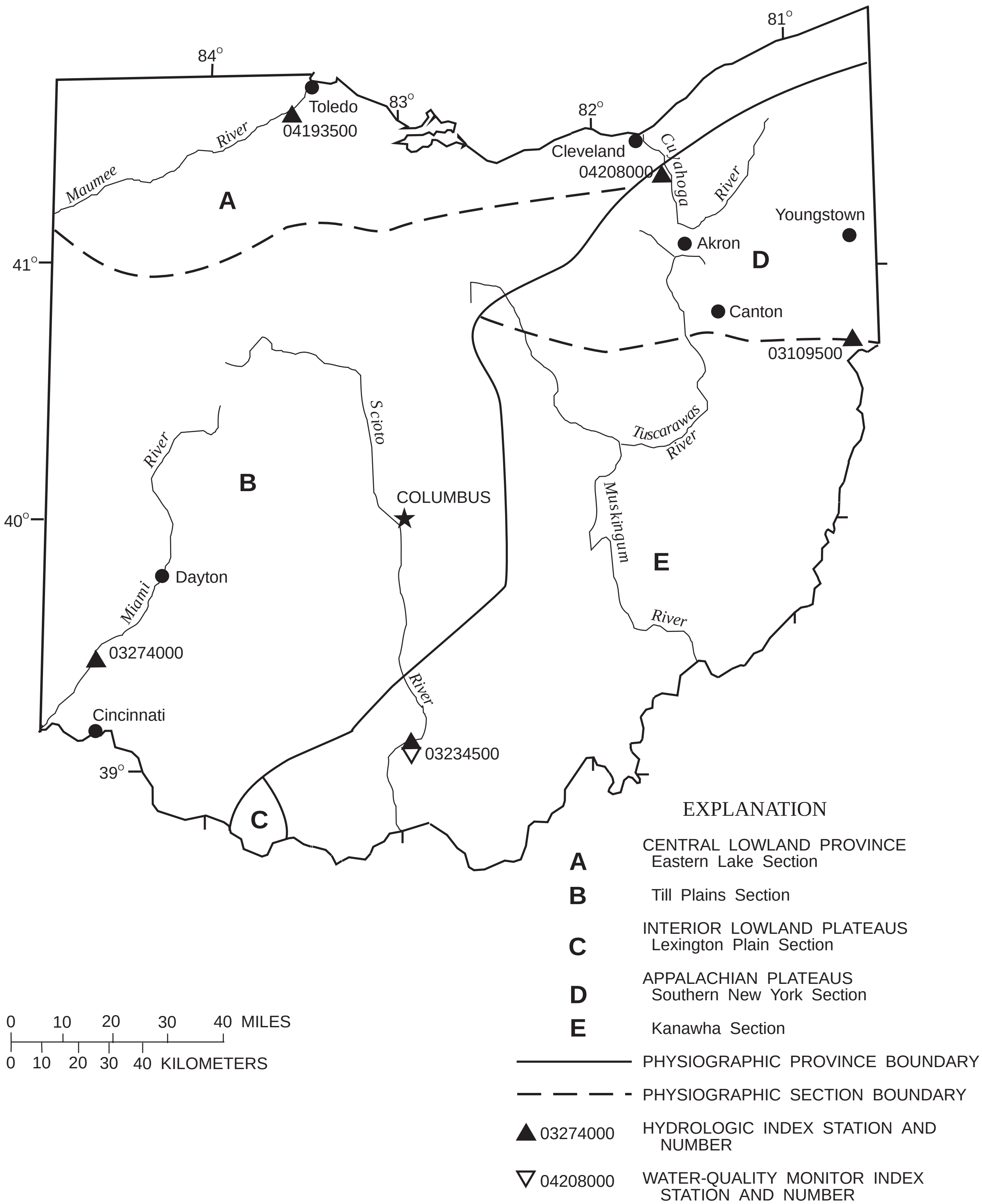


Figure 2. Physiographic divisions and location of Hydrologic Index Stations.

southern border to about 8 to 12 inches along most of the northern border, except in the northeast, where runoff is as much as 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 are used to sample a wide variety of conditions. The drainage areas range from 12 to 7,420 square miles and represent a wide diversity of topography and other physical characteristics. Streamflow ranges from unregulated to highly regulated.

Statewide Streamflow, Water Year 1998. At the beginning of water year 1998, streamflow was in the normal[1] range except for northwest and central Ohio, where flows were above normal. Streamflow for the period October to December was generally in the normal range statewide in response to normal precipitation.

Streamflow was in the above-normal range throughout the State in January due to above-normal precipitation. Flow returned to normal for most of the State in February and March.

In April, above-normal precipitation resulted in above-normal streamflow for much of the State. By May, seasonal declines returned streamflow to the normal range for most of Ohio.

In June, well above normal precipitation in southern Ohio produced excessive flow, although flows in the remainder of the State remained normal. A series of storms late in the month caused widespread flooding in southern and eastern Ohio. These floods caused loss of life and substantial damage; 23 counties were declared disaster areas. Peak discharge at two gages was in excess of the 100-year recurrence interval.

Streamflow was in the above-normal range statewide through July. Flows declined into the normal range in August, and by the end of the water year, streamflow was in the normal range statewide except for southwest Ohio, where it fell into the below-normal range.

A comparison of streamflows for 1998 with long-term median flows at four representative stations is shown in figure 3.

Water Quality

Water-quality data in Ohio are collected on a short-term basis in conjunction with local or regional studies. On a long-term basis, water-quality data in Ohio are collected at fixed stations. From 1974 to 1995, collection of long-term water-quality data was done as part of the National Stream Quality Accounting Network (NASQAN). With the redesign of the program in 1996 to concentrate on evaluation of large river basins, collection of water-quality data at fixed stations for NASQAN was discontinued in Ohio. The only active long-term monitoring program in Ohio is the National Water-Quality Assessment (NAWQA) Program, a program designed to assess the status and trends in the quality of ground- and surface-water resources in major hydrologic systems (study units) of the United States. Sampling in NAWQA began in 1991 in the Nation and in March 1996 at some sites in Ohio as part of the Lake Erie-Lake St. Clair (LERI) study unit. One of the LERI fixed stations, the Maumee River at Waterville, was also a fixed station in NASQAN. Whereas water-quality sampling in the NASQAN program was done quarterly, sampling in the NAWQA program is done much more frequently. For example, during 1998, 15 samples

[1]For streamflow, "normal" is defined as being between the 25th and 75th percentiles as measured during the base period, water years 1961-90.

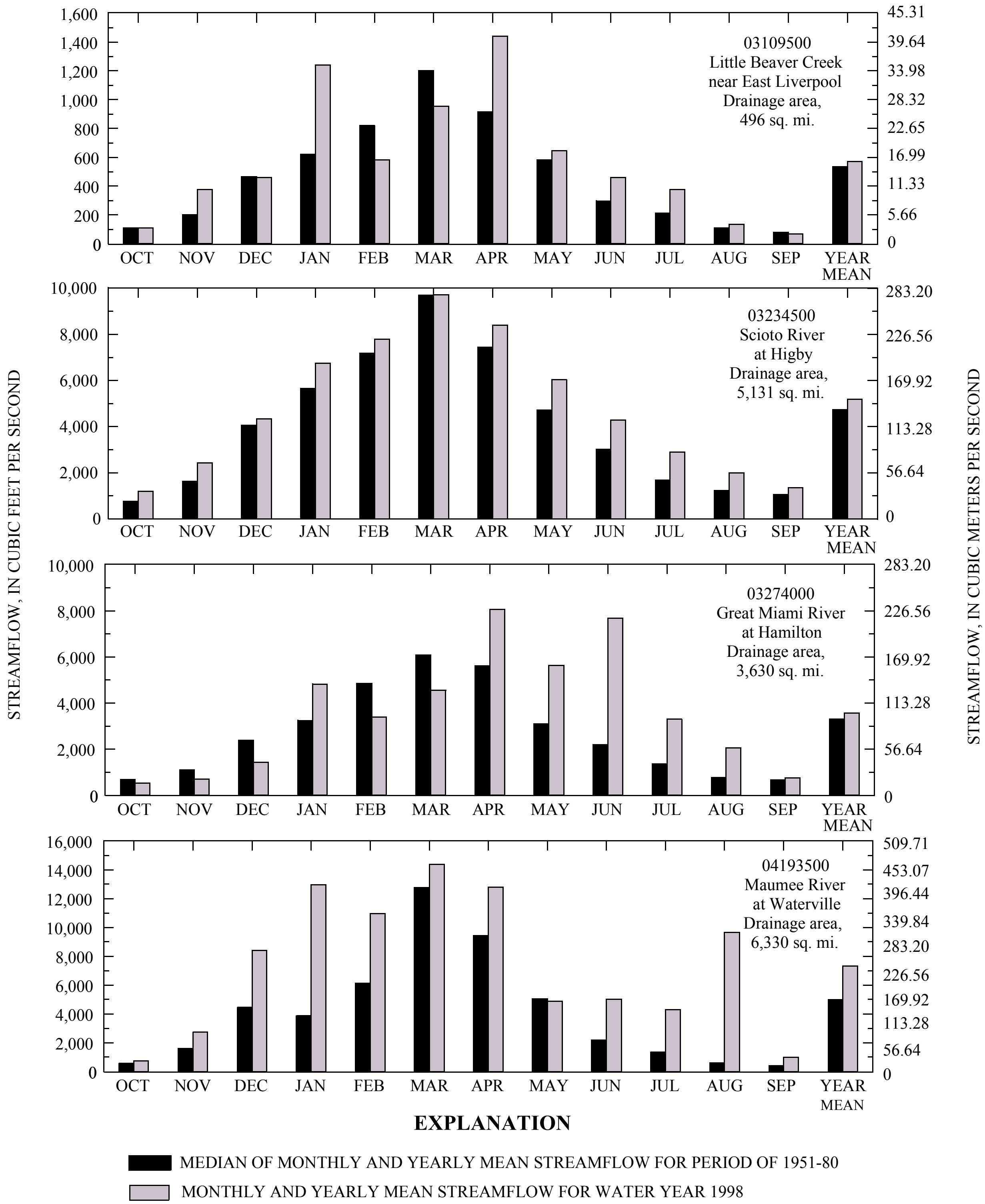


Figure 3. Streamflow during water year 1998 compared with median streamflow for period 1951-80 for four representative gaging stations.

were collected at the Maumee River at Waterville. Sampling time was monthly to biweekly during 1998, depending on the season, so that samples were collected over a range of streamflows. Samples from this site are analyzed for major anions and cations, nutrients, trace elements, suspended sediment, selected physical properties, and *Escherchia coli*.

Box plots of streamflow and concentrations of selected constituents measured during the previous 10-year period (1988-95 as part of NASQAN and 1996-97 as part of NAWQA) are shown in figures 4 and 5 for the Maumee River at Waterville. Land use in the basin is mixed and consists of row-crop agriculture upstream and urban and industrial areas downstream. Results of analysis of samples collected in water year 1998 as part of the NAWQA program are superimposed on the box plots and are represented by dark circles.

For the Maumee River, the values for streamflow measured at the time of water-quality sampling were more extreme during 1998 than for the previous 10-year period. Nine out of twelve streamflows measured during 1998 were outside the 75th or 25th percentiles of streamflows measured during the previous 10-year period. Five samples were collected at low flow; these values were below the 25th percentile, with streamflows ranging from 419 to 1,300 cubic feet per second.

Fecal-coliform bacteria were monitored as part of the NASQAN program. The LERI replaced monitoring for fecal coliforms with another bacterial indicator, *Escherichia coli* (*E. coli*), in 1997. *Escherichia coli* is the preferred and most useful indicator of the quality of freshwater recreational water for body contact. Because only one year of *E. coli* data before 1998 is available for the Maumee River and because fecal-coliform concentrations are no longer determined at this site, a comparison of bacterial indicator concentrations could not be done for data collected during 1998 to the previous 10-year period.

Chloride concentrations, commonly associated with municipal or industrial point sources of wastewater, tended to be higher or lower in 1998 than the 75th and 25th percentiles of concentrations measured during the previous 10-year period. This pattern reflects the extremes of streamflow measured during 1998. The range of dissolved-solids concentrations in 1998, however, was evenly distributed among those determined during the previous 10-year period.

One sample collected during 1998 for nitrate plus nitrite concentrations exceeded the U.S. Environmental Protection Agency maximum contaminant level for finished drinking water (10 milligrams per liter, as N). In Ohio, fertilizers are a major source of nitrate. Concentrations in the Maumee River in 1998 were distributed evenly among the concentrations found during the previous 10-year period and were highly variable, ranging from 0.67 to 13.8 milligrams per liter.

Agricultural runoff and municipal and industrial point sources are the principal sources of phosphorus in Ohio. Increased phosphorus concentrations may lead to a high rate of production of plant materials in water and eutrophication of the receiving water. During 1998, total phosphorus concentrations ranged from 0.096 to 0.512 milligrams per liter, and the extremely high concentrations for total phosphorus found during the previous 10-year period were not found in 1998.

Ground Water

Ground water serves the needs of 46 percent of Ohio's population. An estimated 800 million gallons of ground water per day is withdrawn for public-supply, domestic, industrial, and agricultural purposes. Many people in Ohio depend on ground water as the only practical source of supply.

Ohio's unconsolidated aquifers are composed of either coarse- or fine-grained sediments. Both types are composed mainly of materials of glacial origin. The coarse-grained unconsolidated aquifers generally consist of highly permeable sand and gravel. Much of the sand and gravel is alluvium derived from glaciofluvial outwash along the courses of some modern streams; thus, these aquifers sometimes are referred to as "watercourse" aquifers. Coarse-grained unconsolidated aquifers in the northwestern corner of the State (fig. 6) underlie glacial till, are locally confined under artesian pressure, and are highly productive. Extensive kame-terrace deposits of

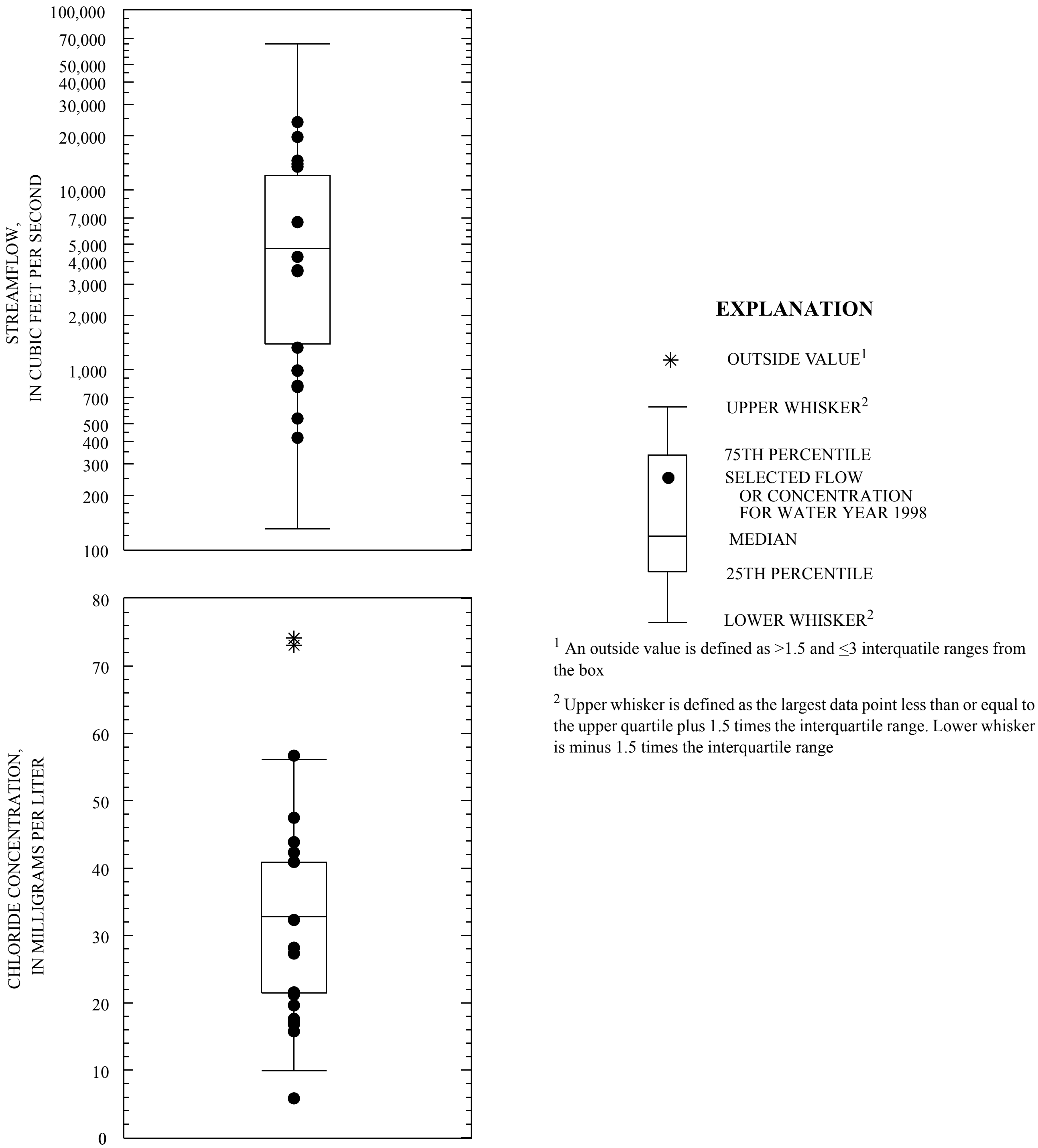


Figure 4. Streamflow and concentration of chloride measured in water year 1998 and the distribution of those characteristics from measurements made during water years 1988-97 for the Maumee River at Waterville.

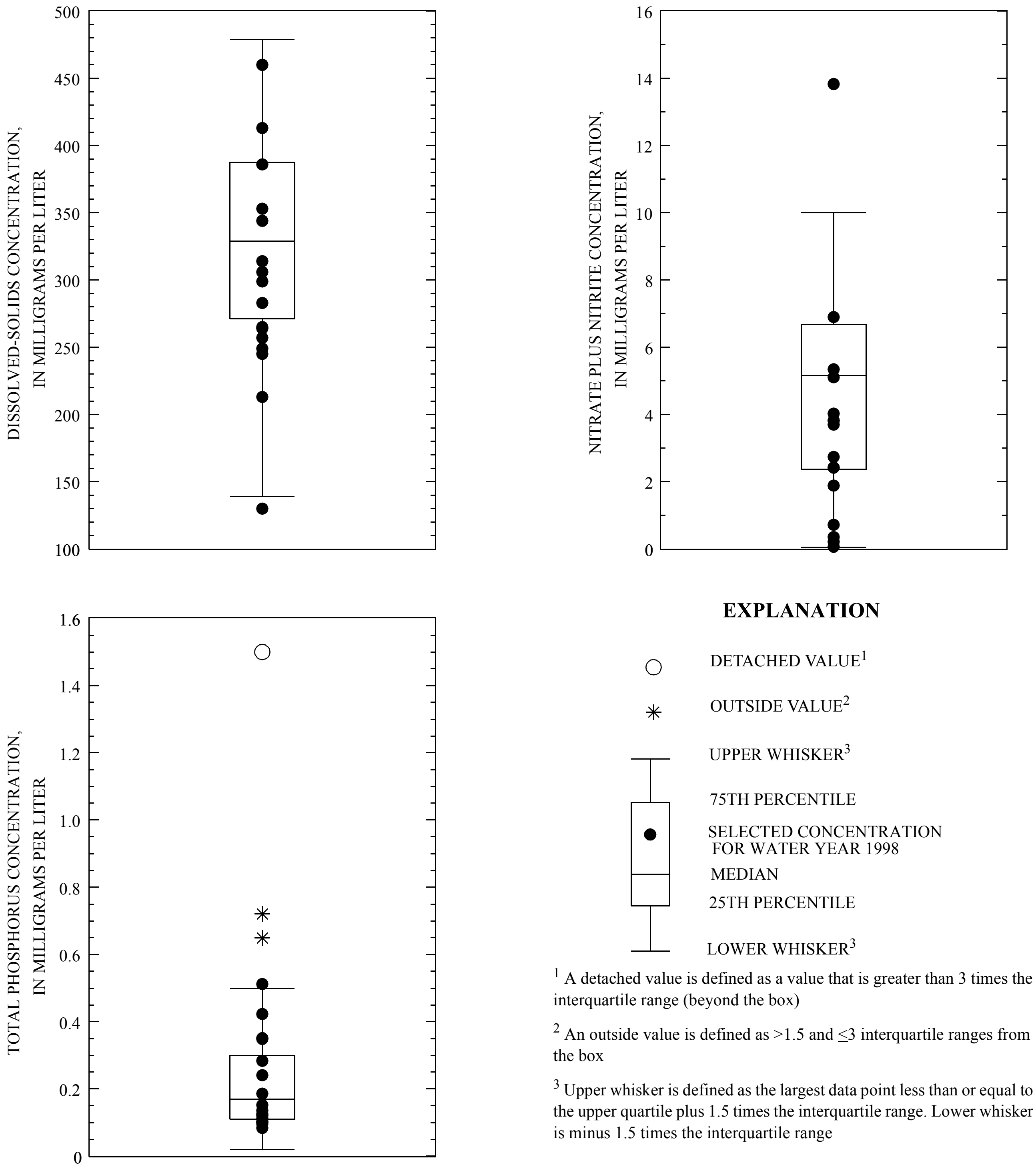


Figure 5. Concentrations of dissolved solids, nitrate plus nitite, and total phosphourus measured in water year 1998 and the distribution of those characteristics from measurements made during water years 1988-97 for the Maumee River at Waterville.

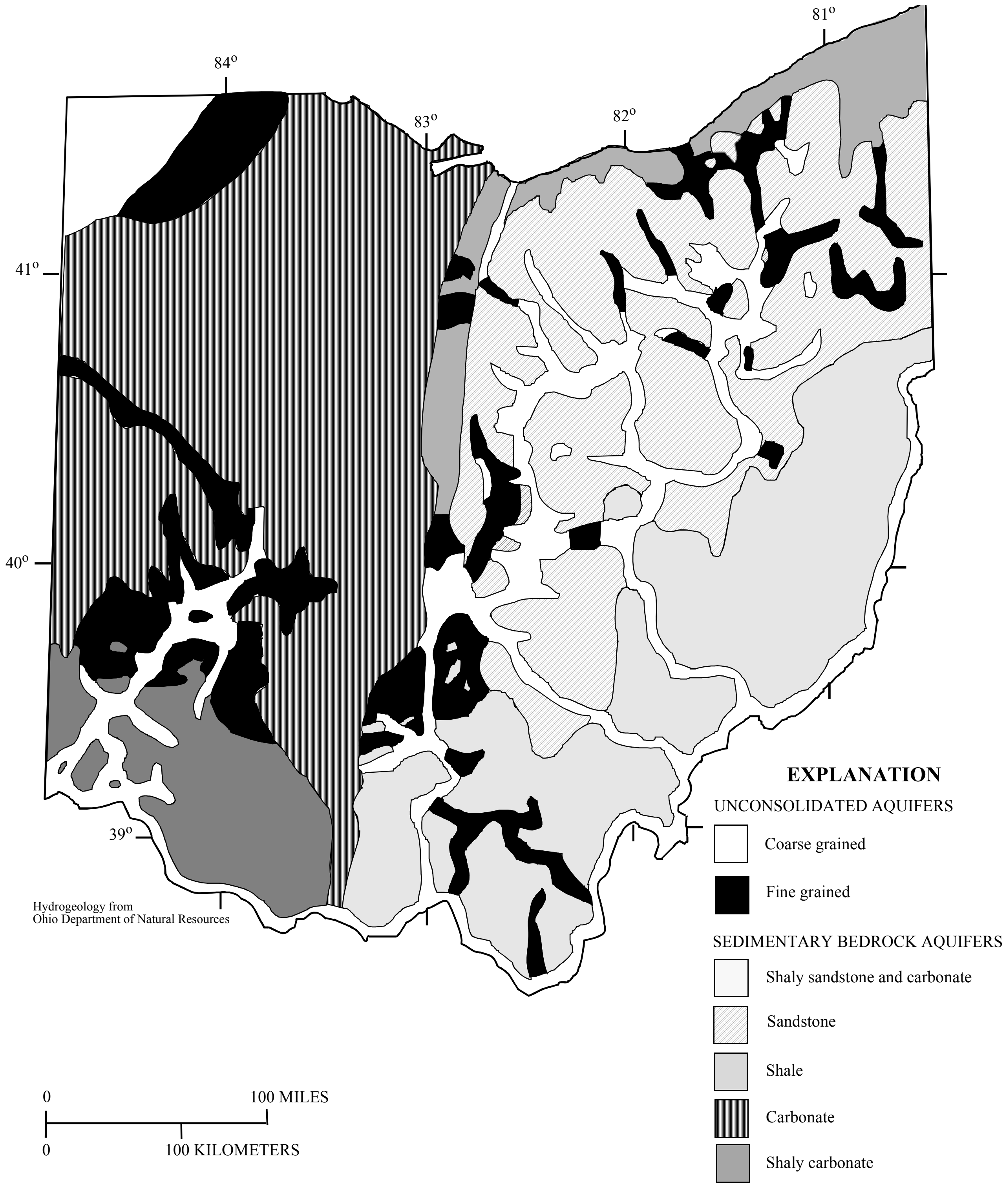


Figure 6. Geographic distribution of principal aquifers in Ohio.

water-bearing gravel and sand are widely used ground-water sources in northeastern Ohio. The fine-grained unconsolidated aquifers are similar to the coarse-grained unconsolidated aquifers in form and origin but are less permeable because of higher percentages of mixed fine sand, silt, and clay. Included in the fine-grained unconsolidated aquifers are tills that contain thin or localized stratified lenses of sand and gravel.

Ground-water supply for much of the unglaciated upland area of southeastern Ohio is from bedrock aquifers composed of shaly sandstone and thin limestone. These strata, which range from Mississippian to Permian in age, are dominated by low-yielding shales and shaly sandstones that include numerous coal-bearing strata. In some places, small water supplies are available from fractured coal beds. Several sandstone aquifers in northeastern Ohio are of regional extent and are major ground-water sources for individual and small public supplies. These include the Berea and Black Hand Sandstones of Mississippian age and several sandstone members of the Pottsville and Allegheny Formations of Pennsylvanian age. The Lake Erie coastline of northeastern Ohio is underlain by shale of Devonian and Mississippian age (fig. 6) that yields only small amounts of water to wells. Silurian-age limestone and dolomite and Devonian limestone comprise the carbonate aquifer system (fig. 6) of much of western Ohio. Glacial cover is uneven and consists of valley fill and terminal moraine in some places. The northeastern part of western Ohio contains an area of high-yielding wells that tap a preferentially weathered zone, which developed when carbonate section was periodically exposed as land mass during the Paleozoic Era. The southwestern corner of Ohio near Cincinnati is underlain by shale and a thin limestone aquifer of Ordovician age. Away from the watercourse (coarse unconsolidated) aquifers that traverse the area, the rocks that form the uplands yield only very small amounts of ground water.

Ground-Water Levels

Most ground-water observation wells in Ohio tap unconsolidated sand and gravel aquifers associated with the State's principal streams. Sample 1-year and 5-year hydrographs of a well completed in an unconfined unconsolidated sand-and-gravel aquifer are shown in figure 7. The observation-well network also includes some bedrock wells in areas where consolidated aquifers are heavily used for water supply, such as in the carbonate-rock region of northwestern Ohio. Sample 1-year and 5-year hydrographs of a well completed in a confined carbonate-rock aquifer are shown in figure 8. The yearly low for most wells occurs during the winter months, especially in cold, dry 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 but can be as much as 10 feet.

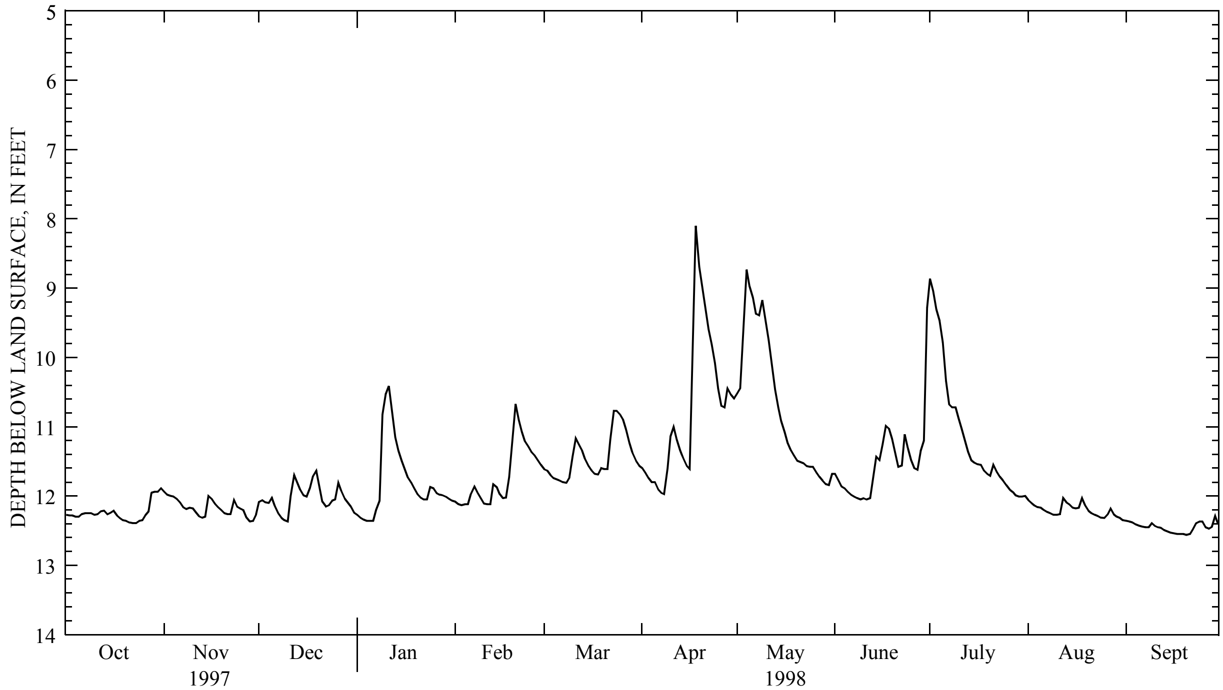
At the beginning of water year 1998, ground-water levels were generally above normal[2] throughout the State except for areas of eastern Ohio, where they were below normal. Levels declined during October and November and water levels fell into the normal range except in eastern Ohio, where they remained below normal.

Water levels stabilized in December and rose into the above-normal range for much of the State in response to above-normal precipitation in January and February. Levels in eastern Ohio remained below normal.

Precipitation was below normal for much of Ohio in March, and ground-water levels fell into the below-normal range in shallow aquifers. Net rises in water levels occurred throughout the State in April and May, and levels were above normal statewide except for eastern Ohio, where they remained below normal.

The remainder of the water year was characterized by seasonal declines in ground-water levels. In, June, levels were near normal to above normal for much of the State, except for below-normal levels in eastern Ohio. By the end of the water year, ground-water levels were below normal for most of the State.

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



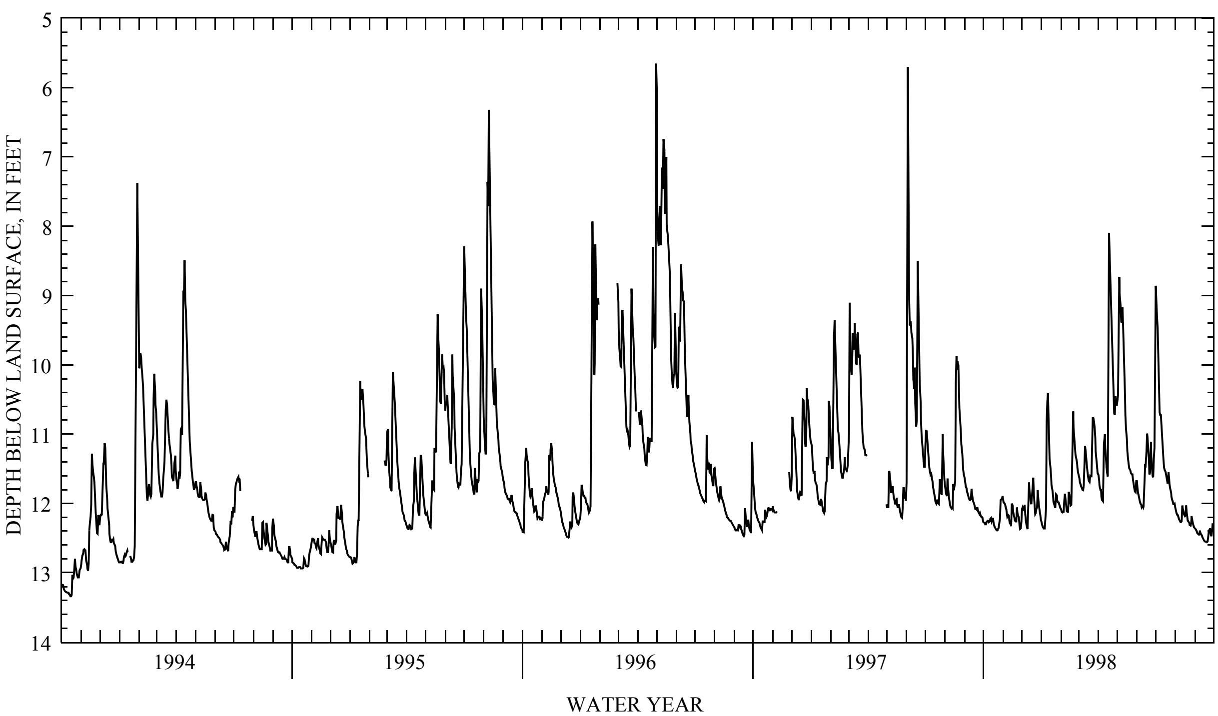


Figure 7. Sample of 1-year and 5-year hydrographs of well FR-3 (395118082573300), completed in a unconfined unconsolidated aquifer.

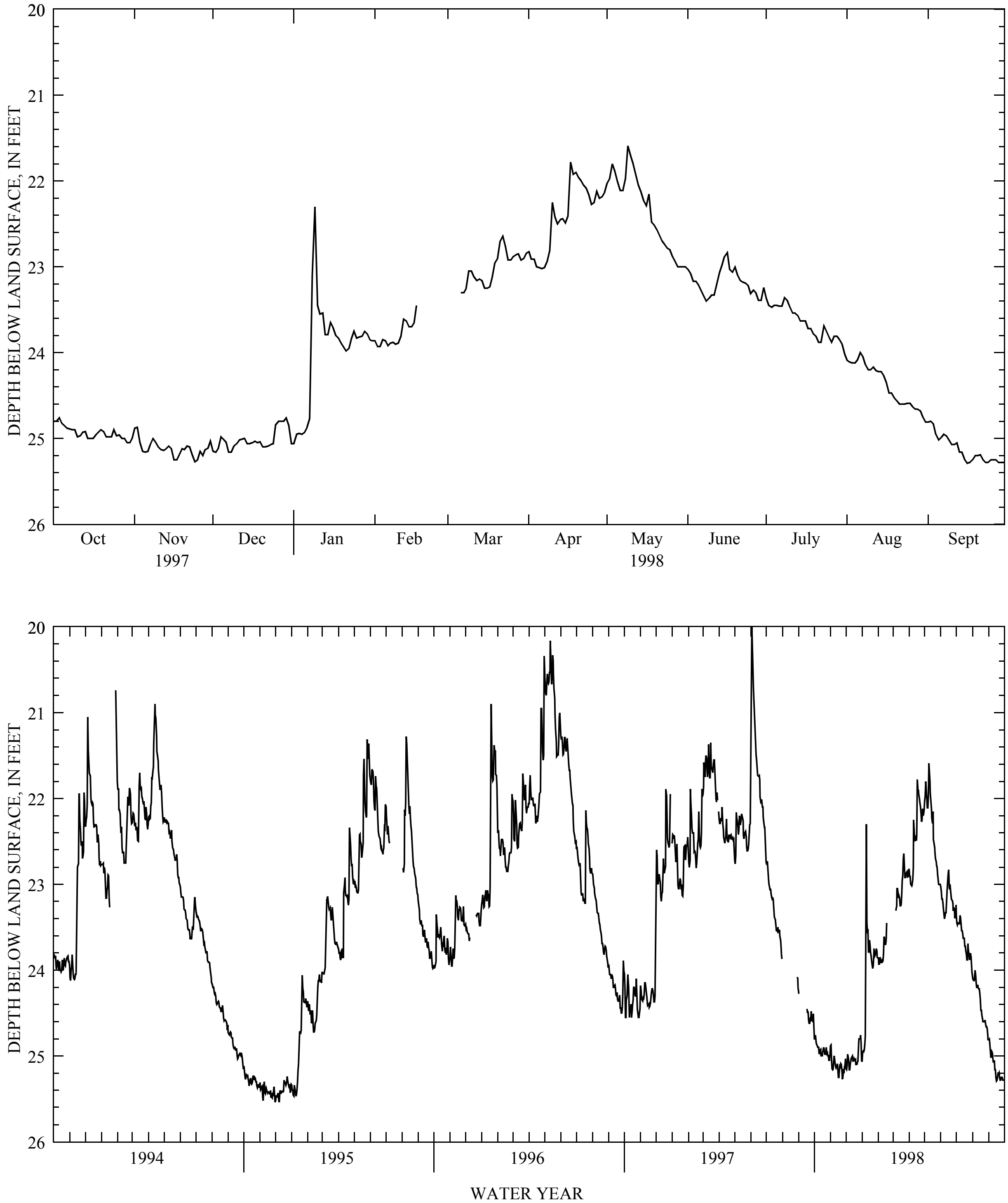


Figure 8. Sample of 1-year and 5-year hydrographs of well U-4 (401826083255200), completed in a confined carbonate-rock aquifer.

SPECIAL NETWORKS AND PROGRAM

Hydrologic Benchmark Network is a network of 50 sites in small drainage basins around the country whose purpose is to provide consistent data on the hydrology, including 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 activities.

National Stream-Quality Accounting Network (NASQAN) monitors the water quality of large rivers within four of the Nation's largest river basins—the Mississippi, Columbia, Colorado, and Rio Grande. The network consists of 39 stations. Samples are collected with sufficient frequency that the flux of a wide range of constituents can be estimated. The objective of NASQAN is to characterize the water quality of these large rivers by measuring concentration and mass transport of a wide range of dissolved and suspended constituents, including nutrients, major ions, dissolved and sediment-bound heavy metals, common pesticides, and inorganic and organic forms of carbon. This information will be used (1) to describe the long-term trends and changes in concentration and transport of these constituents, (2) to test findings of the National Water-Quality Assessment Program (NAWQA), (3) to characterize processes unique to large-river systems, such as storage and remobilization of sediments and associated contaminants, and (4) to refine existing estimates of off-continent transport of water, sediment, and chemicals for assessing human effects on the world's oceans and for determining global cycles of carbon, nutrients, and other chemicals.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) provides continuous measurement and assessment of the chemical climate of precipitation throughout the United States. As the lead Federal agency, the USGS works together with over 100 organizations to accomplish the following objectives: (1) provide a long-term, spatial and temporal record of atmospheric deposition generated from a network of 191 precipitation-chemistry monitoring sites, (2) provide the mechanism to evaluate the effectiveness of the significant reduction in SO_2 emissions that began in 1995 as implementation of the Clean Air Act Amendments (CAAA) occurred, and (3) provide the scientific basis and nationwide evaluation mechanism for implementation of the Phase II CAAA emission reductions for SO_2 and NO_x scheduled to begin in 2000.

Data from the network, as well as information about individual sites, are available through the World Wide Web at http: //nadp.nrel.colostate.edu/NADP.

The National Water-Quality Assessment (NAWQA) Program of the U.S. Geological Survey is a long-term program with goals to describe the status and trends of water-quality conditions for a large, representative part of the Nation's ground- and surface-water resources; provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 53 study units (major watersheds and aquifer systems) that represent a wide range of environmental settings nationwide and that account for a large percentage of the Nation's water use. A wide array of chemical constituents will be measured in ground water, surface water, streambed sediments, and fish tissues. The coordinated application of comparative hydrologic studies at a wide range of spatial and temporal scales will provide information for decision making by water-resources managers and a foundation for aggregation and comparison of findings to address water-quality issues of regional and national interest.

Communication and coordination between USGS personnel and other local, state, and Federal interests are critical components of the NAWQA Program. Each study unit has a local liaison committee consisting of representatives from key Federal, state, and local water-resources agencies, Indian nations, and universities in the study unit. Liaison committees typically meet semiannually to discuss their information needs, monitoring plans and progress, desired information products, and opportunities to collaborate efforts among the agencies.

Additional information about the NAWQA Program is available through the World Wide Web at http://wwwrvares.er.usgs.gov/nawqa/nawqa_home.html.

EXPLANATION OF THE RECORDS

The records in this report are for the 1998 water year that began October 1, 1997, and ended September 30, 1998. 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 onstream or at a well, is assigned a unique identification number. The number is generally assigned when a station is first established and is retained for that station indefinitely. The systems used by the USGS to assign identification numbers for surface-water stations and for ground-water well sites differ, but both are based on geographic 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 infrequent measurements are made.

Downstream Order System

Since October 1, 1950, the order of listing hydrologic-station records in USGS 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 indention in a “List of Stations” in the front of the report. Each indention represents one rank. This downstream order and system of indention show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to the above-mentioned 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 9.)

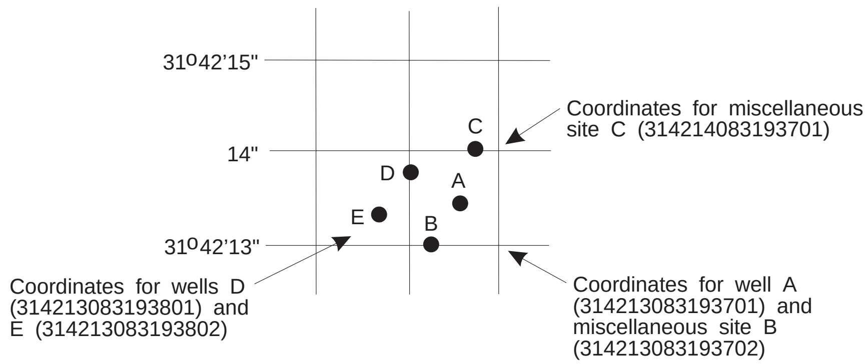


Figure 9. System for numbering wells and miscellaneous sites (latitude and longitude).

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 daily mean discharges and end-of-day contents commonly are published for such stations, they are referred to as “daily stations.”

By contrast, partial records are obtained through discrete measurements often 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 figures 1a through 1d.

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 relations between stage and discharge. These data, together with supplemental information such as weather records, are used to compute daily discharges. The data obtained at a complete-record gaging station on a lake or reservoir consist of a record of stage and of notations regarding factors that may affect the relations 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 solid-state storage media at selected time intervals. Measurements of discharge are made with current meters using methods adapted by the USGS as a result of experience accumulated since 1880. These methods are described in standard textbooks, in Water-Supply Paper 2175, and in USGS 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 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 or curves, tables defining the relation 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 relation changes because of deposition of sediment in a lake or reservoir, periodic resurveys may be necessary to redefine the relation. 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 relation 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.

At some gaging stations, acoustic velocity meter (AVM) systems are used to compute discharge. The AVM system measures the stream’s velocity at one or more paths in the cross section. Coefficients are developed to relate this path velocity to the mean velocity in the cross section. Because the AVM sensors are fixed in position, the adjustment coefficients generally vary with stage. Cross-sectional area curves are developed to relate stage, recorded as noted above, to cross-section area. Discharge is computed by multiplying path velocity by the appropriate stage-related coefficient and area.

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.

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

LOCATION.—Information on locations is obtained from the most accurate maps available. The location of the gage with respect to the cultural and physical features in the vicinity and with respect to the reference place mentioned in the station name is given. River mileage, given for only a few stations, was 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 types of maps available vary 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 sea level, 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 be flagged in the daily discharge table. (See the 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, and to conditions that affect natural flow at the station, in addition, 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 USGS by a cooperating organization are identified here.

EXTREMES FOR PERIOD OF RECORD.—In some headings "Extremes for Period of Record" is presented as a paragraph separate from summary statistics. 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, from 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 USGS.

PEAK DISCHARGES ABOVE BASE FOR CURRENT YEAR—Presented as a separate table. 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. All peaks greater than the base discharge are listed with the maximum for the year footnoted by an asterisk (*). Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial regulation or at locations where the instantaneous peak discharge does not exceed the mean daily discharge by 10 percent. 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.

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 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.

Data Table of Daily Mean Values. 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.

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

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

The date or water year, as appropriate, of the first occurrence of each statistic reporting extreme values of discharge is provided adjacent to the statistic. Repeated occurrences may be noted in the REMARKS paragraph of the manuscript or in the footnotes. When the maximum or minimum statistic occurred outside the designated period, that statistic is listed in the EXTREMES FOR PERIOD OF RECORD paragraph in the manuscript. Selected streamflow-duration-curve statistics and runoff data are also given. Runoff data may be omitted if there is extensive regulation or diversion of flow in the drainage basin.

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

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

ANNUAL MEAN.—The arithmetic mean of the individual daily mean discharges for the year noted or for the designated period. At some stations the yearly mean discharge is adjusted for reservoir storage or diversion. The adjusted figures are identified by a symbol and corresponding footnotes.

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

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

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

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

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

INSTANTANEOUS PEAK FLOW.—The maximum instantaneous stage occurring for the water year or for the designated period. Note that secondary instantaneous peak discharges above a selected base discharge are given in the table "Peak Discharges and Stages at Continuous-Record Surface Discharge Stations."

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

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

ANNUAL RUNOFF.—Indicates the total quantity of water in runoff for a drainage area for the year. Data reports may use any of the following units of measurement in presenting annual runoff data:

Acre-foot (AC-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.

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 for the area.

Inches (INCHES) indicates the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

10 PERCENT EXCEEDS.—The discharge that has been exceeded 10 percent of the time for the designated period.

50 PERCENT EXCEEDS.—The discharge that has been exceeded 50 percent of the time for the designated period.

90 PERCENT EXCEEDS.—The discharge that has been exceeded 90 percent of the time for the designated period.

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 ft^3/s; to the nearest tenth between 1.0 and 10 ft^3/s; to whole numbers between 10 and 1,000 ft^3/s; and to three significant figures for more than 1,000 ft^3/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharges listed for partial-record stations and miscellaneous sites.

Discharge at many stations, as indicated by the monthly mean, may not reflect natural runoff due to the effects of diversion, consumption, regulation by storage, increase or decrease in evaporation due to artificial causes, or 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

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 frequency.

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 or recorded electronically. 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 figures 1a and 1b.

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."

Onsite Measurement 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 ensure this, certain measurements, such as water temperature, pH, and dissolved oxygen, need to be made on site when the samples are taken. To ensure 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 onsite measurements and for collecting, treating, and shipping samples are given in water-quality-related chapters in the series "Techniques of Water-Resources Investigations" (TWRI), and in USGS Open-File Report 93-125 "Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of Inorganic and Organic Constituents in Water and Fluvial Sediments," references are listed in this report. Additional information on collecting, treating, and shipping samples can be found in USGS Water-Resources Investigations Report 98-4057 "Quality-Assurance/Quality-Control Manual for Collection and Analysis of Water-Quality Data in the Ohio District, U.S. Geological Survey."

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 readings beginning at 0100 hours and ending at 2400 hours for each day of record. More detailed records (hourly values) may be obtained from the USGS District Office, whose address is given on the back of the title page of this report.

Water Temperatures

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are frequently taken at the 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 was 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 microbiological analyses, and samples for specific conductance, pH, and dissolved oxygen are analyzed locally. All other samples are analyzed in the USGS laboratories in Arvada, Colo., or by a USGS-approved outside laboratory. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chap. C1. Methods used by the USGS laboratory are given in TWRI, Book 1, Chap. D2; Book 3, Chap. C2; Book 5, Chap. A1, and USGS Open-File Report 93-125 "Methods of Analysis by the U.S. Geological Survey National Water Quality Laboratory—Determination of Inorganic and Organic Constituents in Water and Fluvial Sediments." Methods used by the USGS laboratory for microbiological analyses are given in TWRI, Book 5, Chap. A4.

Historical and current (1998) dissolved trace-element concentrations are reported herein for water that was collected, processed, and analyzed by using either ultraclean or other than ultraclean techniques. If ultraclean techniques were used, then those concentrations are reported in nanograms per liter. If other than ultraclean techniques were used, then those concentrations are reported in micrograms per liter and could reflect contamination introduced during some phase of the procedure.

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 USGS by a cooperating organization are identified here.

EXTREMES.—Maximums and minimums are given only for parameters measured daily or more frequently. None are given for parameters measured weekly or less frequently because the true maximums 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 in the USGS computerized data system, the National Water Information System (NWIS). Because the usual volume of updates makes it impractical to document individual changes in the State data-report series or elsewhere, potential users of USGS water-quality data are encouraged to obtain all required data from the appropriate computer file to ensure 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 (organism may be observed rather than counted)
D	Biological organism count equal to or greater than 15 percent (dominant)
&	Biological organism estimated as dominant
V	Analyte was detected in both the environmental sample and the associated blanks

Dissolved Trace-Element Concentrations

NOTE.—To confidently produce dissolved trace-element data with insignificant contamination, the USGS began using a new trace-element protocol at some stations in water year 1994 to collect trace-element data at the microgram per liter (µg/L) level (refer to USGS Open-File Report 94-539 "U.S. Geological Survey Protocol for the Collection and Processing of Surface-Water Samples for the Subsequent Determination of Inorganic Constituents in Filtered Water"). This protocol was used in water year 1995 at all stations. Therefore, the trace-element data for samples collected before and after implementation of new protocols are not directly comparable.

Change in National Trends Network Procedures

NOTE.—Sample handling procedures at all National Trends Network stations were changed substantially on January 11, 1994, in order to reduce contamination from the sample shipping container. The data for samples before and after that date are different and not directly comparable. A tabular summary of the differences based on a special intercomparison study, is available from the NADP/NTN Coordination Office, Colorado State University, Fort Collins, CO 80523 (Telephone: 303-491-5643).

Records of Ground-Water Levels

Water-level data from a network of observation wells (in addition to 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 figures 1a and 1b. 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. 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 sea level 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 is described in feet above (or below) sea level; 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-USGS) 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 USGS 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 USGS, 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, 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 lows 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 in this report. 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 USGS WATER DATA

The USGS provides near real-time stage and discharge data for many of the gaging stations equipped with the necessary telemetry and historic daily-mean and peak-flow discharge data for most current or discontinued gaging stations through the world wide web (WWW). These data may be acessed at http://water.usgs.gov

Some water-quality and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each of the Water Resources Division District Offices.

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, but 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°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 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 are 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 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.

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.

Escherichia coli (E. coli) are bacteria present in the intestine and feces of warm-blooded animals. *E. coli* are a member species of the fecal coliform group of indicator bacteria. In the laboratory they are defined as those bacteria that produce yellow or yellow-brown colonies on a filter pad saturated with urea substrate broth after primary culturing for 22 to 24 hours at 44.5°C on mTEC medium.

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 human-induced changes in other basins that 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 2.

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.

Microgram per kilogram (UG/KG, μg/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 gram (UG/G, μg/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.

Micrograms per liter (UG/L, μg/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 milligrams per liter, and is based on the mass of dry sediment per liter of water-sediment mixture.

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

Organism is any living entity.

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per unit area of 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's data system, the National Water Information System (NWIS), to uniquely identify a specific constituent. The codes used in NWIS are the same as those used in the U.S. Environmental Protection Agency's data system, STORET.

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 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.

CLASSIFICATION	SIZE (mm)	METHOD OF ANALYSIS
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 (PCI, 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.

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 milliliters (cells/ml) 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/(m^2or m^3/time)] for periphyton, macrophytes, and 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 it is preferred for use in unenriched waters. Unit time may be the hour or day, depending on the incubation period.

Milligrams of oxygen per area or volume per unit time [mg O^2/(m^2or m^3/time)] for periphyton, macrophytes, and phytoplankton are 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 is the amount of a given constituent that is in solution after a representative sample of bottom material has been digested by a method (usually using an acid or mixture of acids) that results in dissolution of only readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment; 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.) indicates the depth to which the drainage area would be covered if all the runoff for a given time period were uniformly distributed on it.

Sea level refers to the National Geodetic Vertical Datum of 1929 (NGVD of 1929)—a geodetic datum derived from a general adjustment of the first-order level nets of both the United States and Canada, formerly called Sea Level Datum of 1929.

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 use, 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 (ton/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 (ton/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.

Seven-day, 10-year low flow ($7Q_{10}$) 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 low flow).

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

Solute is any substance 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," because 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 emersed or submersed solid surface, such as a rock or tree, upon which an organism lives.

Artificial substrate is a device that 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 plexiglas 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 or a digitizer, in acres. In localities not covered by topographic maps, the areas are computed from the best maps available at the time planimetered or digitized. All areas shown are those for the stage when the planimetered 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 a hierarchial 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 concentration of the constituent (in milligrams per liter), times the factor 0.0027, times the number of days.

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

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

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.

PUBLICATIONS ON TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS

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, Branch of Information Services, Box 25286, Federal Center, Denver, CO 80225 (authorized agent of the Superintendent of Documents, Government Printing Office). Prepayment is required. 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-D2. *Application of seismic-refraction techniques to hydrologic studies,* by F. P. Haeni: USGS—TWRI Book 2, Chapter D2. 1988. 86 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.

2-E2. *Borehole geophysics applied to ground-water investigations,* by W. S. Keys: USGS—TWRI Book 2, Chapter E2. 1990. 150 pages.

2-F1. *Application of drilling, coring, and sampling techniques to test holes and wells*, by Eugene Shuter and W. E. Teasdale: USGS—TWRI Book 2, Chapter F1. 1989. 97 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 measurement 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 in streams by dye tracing,* by F. A. Kilpatrick and J. F. Wilson, Jr.: USGS—TWRI Book 3, Chapter A9. 1989. 27 pages.

3-Al0. *Discharge ratings at gaging stations,* by E. J. Kennedy: USGS—TWRI Book 3, Chapter A10. 1984. 59 pages.

3-A11. *Measurement of discharge by the moving-boat method,* by G. F. Smoot and C. E. Novak: USGS—TWRI Book 3, Chapter A11. 1969. 22 pages.
3-A12. *Fluorometric procedures for dye tracing*, Revised, by J. F. Wilson, Jr., E. D. Cobb, and F. A. Kilpatrick: USGS-—TWRI Book 3, Chapter A12. 1986. 34 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-A16. *Measurement of discharge using tracers*, by F. A. Kilpatrick and E. D. Cobb: USGS—TWRI Book 3, Chapter A16. 1985. 52 pages.
3-A17. *Acoustic velocity meter systems,* by Antonius Laenen: USGS—TWRI Book 3, Chapter A17. 1985. 38 pages.
3-A18. *Determination of stream reaeration coefficients by use of tracers,* by F. A. Kilpatrick, R. E. Rathbun, Nobuhiro Yotsukura, G. W. Parker, and L. L. DeLong: USGS—TWRI Book 3, Chapter A18. 1989. 52 pages.
3-A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS—TWRI Book 3, Chapter A19. 1990. 31 pages.
3-A20. *Simulation of soluable waste transport and buildup in surface waters using tracers*, by F. A. Kilpatrick: USGS—TWRI Book 3, Chapter A20. 1993. 38 pages.
3-A21 *Stream-gaging cableways,* by C. Russell Wagner: USGS—TWRI Book 3, Chapter A21. 1995. 56 pages.
3-B1. *Aquifer-test design, observation, and data analysis,* by R. W. Stallman: USG—-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-B4. *Regression modeling of ground-water flow,* by R. L. Cooley and R. L. Naff: USGS—TWRI Book 3, Chapter B4. 1990. 232 pages.
3-B4. *Supplement 1. Regression modeling of ground-water flow - Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems,* by R. L. Cooley: USGS—TWRI Book 3, Chapter B4. 1993. 8 pages.
3-B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems--An introduction*, by O. L. Franke, T. E. Reilly, and G. D. Bennett: USGS—TWRI Book 3, Chapter B5. 1987. 15 pages.
3-B6. *The principle of superposition and its application in ground-water hydraulics,* by T. E. Reilly, O. L. Franke, and G. D. Bennett: USGS—TWRI Book 3, Chapter B6. 1987. 28 pages.
3-B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow,* by E. J. Wexler: USGS—TWRI Book 3, Chapter B7. 1992. 190 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 Thomas K. Edwards and G. Douglas Glysson: USGS—TWRI Book 3, Chapter C2. 1988. 80 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.

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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.

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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.

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6-A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions,* by R. L. Cooley: USGS—TWRI Book 6, Chapter A4. 1992. 108 pages.

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6-A6. A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction, by E. D. Swain and E. J. Wexler. 1996. 125 pages.

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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.
9-A6. *National field manual for the collection of water-quality data: field measurements*, edited by F.D. Wilde and D. B. Radtke: USGS—TWRI Book 9, Chapter A6. 1998. Variously paginated.
9-A7. *National field manual for the collection of water-quality data: bottom material samples*, by D.B. Radtke: USGS—TWRI Book 9, Chapter A8, 1998. 48 pages.
9-A9. *National field manual for the collection of water-quality data: safety in field activities*, by S.L. Lane and R.G. Fay: USGS—TWRI Book 9, Chapter A9. 1998. 60 pages.

04177000 OTTAWA RIVER AT UNIVERSITY OF TOLEDO, TOLEDO, OHIO

LOCATION.--Lat 41°39'29", long 83°37'19", in NE 1/4 sec. 32, T.9 S., R.7 E., Lucas County, Hydrologic Unit 04100001, on left bank at auto bridge at University of Toledo, 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 mi^2. Area at site used prior to Sept 30, 1948, 150 mi^2, 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 sea level. (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.--Records fair. Water-quality data collected at this site.
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 ft^3/s. Flood of Apr. 25, 1950, reached a stage of 15.0 ft present datum, from floodmark; discharge, 3,300 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	13	209	96	264	158	197	455	17	37	2.5	26
2	13	20	109	54	218	157	180	843	14	32	2.0	29
3	19	15	91	60	174	133	148	1120	13	21	1.9	20
4	12	23	126	287	123	109	121	592	14	22	3.4	17
5	11	17	147	605	102	88	99	338	11	18	21	16
6	9.1	14	95	671	80	76	83	233	12	15	151	15
7	8.1	10	67	721	71	71	73	170	12	15	169	62
8	7.5	10	51	1270	61	127	89	156	10	50	105	31
9	7.8	9.2	43	1640	56	802	369	145	10	33	33	29
10	9.3	9.0	69	1070	52	1620	1090	110	20	19	19	22
11	7.3	8.9	91	458	103	1100	878	90	16	15	14	18
12	7.2	8.3	115	271	300	413	358	80	37	13	12	16
13	8.3	8.6	109	215	343	256	231	72	35	11	10	14
14	32	19	96	124	195	204	258	61	28	9.4	7.3	13
15	8.3	18	77	119	134	153	219	55	21	9.0	3.7	13
16	6.3	17	68	100	142	119	404	49	18	23	3.0	13
17	6.4	14	82	83	744	122	524	44	14	9.4	3.5	12
18	6.3	13	95	76	2170	213	262	40	11	8.2	13	10
19	5.9	13	100	67	2240	500	179	36	18	17	7.1	8.3
20	6.3	14	196	61	1800	516	141	35	25	16	3.2	11
21	6.4	24	193	57	1040	654	110	33	25	186	42	18
22	6.1	83	144	54	580	583	92	39	52	182	40	12
23	5.7	170	277	79	404	700	82	25	86	189	31	8.9
24	6.3	112	397	70	317	484	73	35	40	30	22	6.8
25	6.3	57	571	64	258	301	67	28	21	16	337	5.9
26	22	40	802	64	212	234	486	25	104	13	409	7.7
27	25	37	417	67	203	185	1180	21	130	7.5	182	14
28	8.4	92	238	78	169	197	775	19	85	4.6	78	12
29	6.9	145	159	114	---	417	313	19	52	4.0	59	13
30	8.0	184	118	297	---	291	245	17	38	3.2	41	14
31	8.5	---	79	293	---	196	---	17	---	2.8	32	---
TOTAL	318.7	1218.0	5431	9285	12555	11179	9326	5002	989	1031.1	1857.6	507.6
MEAN	10.3	40.6	175	300	448	361	311	161	33.0	33.3	59.9	16.9
MAX	32	184	802	1640	2240	1620	1180	1120	130	189	409	62
MIN	5.7	8.3	43	54	52	71	67	17	10	2.8	1.9	5.9
CFSM	.07	.27	1.17	2.00	2.99	2.40	2.07	1.08	.22	.22	.40	.11
IN.	.08	.30	1.35	2.30	3.11	2.77	2.31	1.24	.25	.26	.46	.13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	61.5	101	137	121	176	297	245	138	132	52.3	30.4	42.3
MAX	407	449	380	561	467	729	438	358	437	264	143	406
(WY)	1987	1993	1978	1993	1990	1978	1977	1945	1989	1992	1980	1981
MIN	.85	3.04	6.14	4.92	30.4	56.0	20.4	21.4	7.36	8.46	.82	.13
(WY)	1947	1947	1947	1977	1978	1989	1946	1988	1988	1984	1946	1946

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1945 - 1998	
ANNUAL TOTAL	63189.0		58700.0			
ANNUAL MEAN	173		161		128	
HIGHEST ANNUAL MEAN					215	1993
LOWEST ANNUAL MEAN					65.5	1995
HIGHEST DAILY MEAN	2330	Jun 3	2240	Feb 19	3500	Mar 14 1982
LOWEST DAILY MEAN	5.7	Oct 23	1.9	Aug 3	.00	Aug 24 1945
ANNUAL SEVEN-DAY MINIMUM	6.1	Oct 18	2.8	Jul 29	.00	Aug 24 1945
INSTANTANEOUS PEAK FLOW			2320	Feb 18[a]	3950	Mar 14 1982
INSTANTANEOUS PEAK STAGE			12.03	Feb 18	14.54	Mar 14 1982
INSTANTANEOUS LOW FLOW			1.9	Aug 3	.00	Sep 19 1945
ANNUAL RUNOFF (CFSM)	1.15		1.07		.85	
ANNUAL RUNOFF (INCHES)	15.67		14.56		11.55	
10 PERCENT EXCEEDS	440		415		320	
50 PERCENT EXCEEDS	64		56		40	
90 PERCENT EXCEEDS	9.4		8.3		7.0	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.

04185000 TIFFIN RIVER AT STRYKER, OHIO

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 mi^2.
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 sea level. Prior to Sept. 30, 1928, nonrecording gage at site 3.5 mi downstream 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.--Records fair. Small diversion 12.5 mi upstream from gage for municipal supply of Archbold. Diversion averaged 2.87 ft^3/s; returned as sewage to Brush Creek, which flows into Tiffin River about 15 mi downstream from station. Water-quality and sediment data collected at this site.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 16.0 ft, from floodmarks; discharge, 7,600 ft^3/s. Flood in 1937 reached a stage of 15.0 ft, from information by local resident; discharge, 6,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	171	1030	346	448	446	1190	670	98	88	7.9	214
2	63	275	843	291	491	451	872	997	85	70	7.0	160
3	92	469	579	308	516	447	695	1100	78	59	6.1	135
4	84	488	492	575	442	404	588	1070	69	57	7.4	113
5	48	414	438	1060	362	356	498	859	63	51	11	97
6	38	345	337	1540	296	315	423	632	60	46	128	81
7	36	274	273	1750	256	292	377	502	62	40	573	70
8	36	222	240	2640	234	283	357	442	63	49	896	83
9	36	187	223	3200	217	1370	585	457	55	55	1010	85
10	39	158	223	3160	202	2400	1420	489	58	49	1020	67
11	42	138	242	2790	212	2840	1700	416	62	41	673	53
12	42	137	258	2310	632	2660	1910	349	96	32	332	44
13	47	126	275	1860	956	2170	1730	304	117	24	232	38
14	62	106	278	1390	961	1720	1340	275	124	19	184	33
15	86	103	256	812	670	1220	915	257	122	16	150	29
16	115	110	244	505	453	760	936	238	109	14	147	29
17	119	128	261	401	838	524	857	220	100	12	122	31
18	133	118	270	342	2460	583	631	201	80	10	129	30
19	122	127	287	304	3230	1200	471	182	242	12	103	33
20	111	125	408	276	3480	1490	396	168	172	12	78	35
21	95	149	438	255	2930	1910	353	154	95	20	63	40
22	80	430	406	239	2380	2000	324	138	303	72	72	55
23	73	544	749	231	1940	1880	306	128	411	113	95	46
24	69	469	982	227	1570	1690	280	125	219	108	1030	42
25	58	373	1450	218	1160	1440	259	133	127	65	3720	38
26	42	321	1630	210	816	1110	279	146	90	40	4620	39
27	48	271	1750	208	585	819	658	139	80	29	3590	42
28	119	457	1720	216	473	792	938	120	96	22	2660	42
29	217	764	1410	244	---	1170	888	106	168	17	1830	36
30	206	997	883	348	---	1390	678	98	127	13	908	33
31	180	---	485	406	---	1440	---	93	---	9.6	359	---
TOTAL	2603	8996	19360	28662	29210	37572	22854	11208	3631	1264.6	24763.4	1873
MEAN	84.0	300	625	925	1043	1212	762	362	121	40.8	799	62.4
MAX	217	997	1750	3200	3480	2840	1910	1100	411	113	4620	214
MIN	36	103	223	208	202	283	259	93	55	9.6	6.1	29

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	108	230	376	395	546	803	657	381	250	152	76.5	68.8
MAX	887	1339	1785	1687	1569	2563	1990	2112	1422	761	799	460
(WY)	1987	1993	1928	1993	1976	1982	1950	1943	1989	1943	1998	1981
MIN	10.2	14.6	18.4	20.2	21.9	135	106	74.4	24.1	13.7	9.76	7.40
(WY)	1964	1954	1964	1963	1963	1964	1946	1925	1988	1988	1941	1953

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1922 - 1998	
ANNUAL TOTAL	176608		191997.0			
ANNUAL MEAN	484		526		336	
HIGHEST ANNUAL MEAN					671	1950
LOWEST ANNUAL MEAN					59.6	1964
HIGHEST DAILY MEAN	3340	Feb 23	4620	Aug 26	7640	Mar 15 1982
LOWEST DAILY MEAN	11	Aug 10	6.1	Aug 3	2.5	Jul 18 1988
ANNUAL SEVEN-DAY MINIMUM	18	Aug 6	8.9	Jul 30	3.6	Jul 7 1988
INSTANTANEOUS PEAK FLOW			5110	Aug 25a	7800	Mar 15 1982
INSTANTANEOUS PEAK STAGE			15.93	Aug 25	18.36	Mar 15 1982
INSTANTANEOUS LOW FLOW			6.1	Aug 3	2.5	Jul 18 1988
10 PERCENT EXCEEDS	1320		1470		933	
50 PERCENT EXCEEDS	258		242		125	
90 PERCENT EXCEEDS	40		39		23	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.

04185440 UNNAMED TRIBUTARY TO LOST CREEK NEAR FARMER, OHIO

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 mi^2.
PERIOD OF RECORD.--October 1985 to current year.
GAGE.--Water-stage recorder. Elevation of gage is 760 ft above sea level from topographic map.
REMARKS.--Records fair.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.33	6.1	5.9	1.3	4.4	3.5	4.7	9.5	.32	.31	.03	1.3
2	.32	13	3.2	1.2	5.2	2.8	4.1	21	.28	.20	.02	1.1
3	.65	3.4	2.7	1.4	2.9	2.2	2.6	7.7	.21	.16	.01	.74
4	.52	2.0	5.7	50	2.2	2.1	2.0	22	.22	.49	.12	.60
5	.37	1.3	2.7	34	1.5	1.7	1.5	6.6	.22	.33	.12	.51
6	.30	.95	1.8	36	1.2	1.5	1.3	3.1	.22	.20	58	.46
7	.27	.81	1.4	31	1.1	1.4	1.2	2.2	.21	13	49	.42
8	.27	.72	1.3	101	1.0	12	1.8	2.1	.20	5.9	19	.42
9	.27	.66	1.2	21	.94	146	175	2.1	.22	1.2	5.2	.38
10	.29	.58	1.8	9.9	.89	16	29	1.6	.26	.64	2.6	.31
11	.29	.51	4.4	5.8	11	8.3	10	1.3	.36	.32	1.8	.21
12	.29	.43	3.6	3.7	22	5.7	7.4	1.1	7.6	.21	1.3	.15
13	.32	.44	2.1	2.9	5.9	3.4	5.5	1.0	6.1	.16	.82	.12
14	1.1	.48	1.5	2.0	3.5	2.6	5.1	.87	1.1	.13	.58	.10
15	.62	.49	1.4	1.9	2.4	2.0	3.7	.79	.66	.12	.32	.10
16	.43	.52	4.0	1.7	3.4	1.8	69	.71	2.4	.12	.29	.09
17	.40	.51	6.2	1.6	88	1.9	8.9	.57	1.1	.08	.20	.10
18	.39	.50	3.9	1.5	58	31	4.5	.53	.53	.08	.17	.12
19	.36	.52	7.0	1.4	18	54	2.9	.49	2.4	.08	.14	.13
20	.32	.53	4.4	1.3	11	29	2.3	.43	.72	.09	.11	.11
21	.30	11	2.5	1.2	6.8	28	1.9	.39	.42	.08	.16	.16
22	.27	19	10	1.1	4.3	16	1.7	.38	.31	.20	.37	.09
23	.27	6.1	19	1.1	3.3	7.5	1.5	.36	.26	.17	.30	.09
24	.27	2.8	16	.98	3.0	4.5	1.4	.62	.22	.10	.21	.12
25	.27	1.8	42	.93	2.9	3.3	1.4	.55	.19	.06	322	.09
26	.30	1.5	11	.95	2.5	2.8	9.1	.44	.28	.06	20	.08
27	.80	1.2	5.5	1.8	3.7	2.4	5.1	.38	.23	.05	8.6	.05
28	.60	18	3.7	3.5	2.9	36	2.1	.35	.20	.04	6.1	.06
29	.44	29	2.6	5.8	---	12	4.2	.33	.22	.04	4.8	.06
30	.36	16	2.2	6.0	---	5.1	3.7	.31	.63	.03	3.5	.05
31	.35	---	1.6	4.7	---	3.2	---	.34	---	.03	2.2	---
TOTAL	12.34	140.85	182.3	338.66	273.93	449.7	374.6	90.14	28.29	24.68	508.07	8.32
MEAN	.40	4.70	5.88	10.9	9.78	14.5	12.5	2.91	.94	.80	16.4	.28
MAX	1.1	29	42	101	88	146	175	22	7.6	13	322	1.3
MIN	.27	.43	1.2	.93	.89	1.4	1.2	.31	.19	.03	.01	.05
CFSM	.09	1.11	1.39	2.58	2.31	3.43	2.95	.69	.22	.19	3.87	.07
IN.	.11	1.24	1.60	2.98	2.41	3.95	3.29	.79	.25	.22	4.47	.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	2.88	5.02	6.85	5.64	7.44	7.69	7.34	3.48	2.80	1.87	2.23	.92
MAX	12.6	15.6	23.9	13.9	21.2	14.5	14.1	10.9	9.09	7.75	16.4	5.66
(WY)	1987	1993	1991	1993	1990	1998	1991	1990	1996	1986	1998	1997
MIN	.031	.051	.11	1.68	.46	3.13	1.92	.26	.046	.011	.015	.003
(WY)	1995	1995	1990	1988	1995	1996	1987	1988	1988	1988	1989	1991

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1986 - 1998	
ANNUAL TOTAL	1995.01		2431.88			
ANNUAL MEAN	5.47		6.66		4.50	
HIGHEST ANNUAL MEAN					6.66	1998
LOWEST ANNUAL MEAN					1.96	1995
HIGHEST DAILY MEAN	172	Mar 14	322	Aug 25	322	Aug 25 1998
LOWEST DAILY MEAN	.10	Aug 8	.01	Aug 3	.00	Aug 3 1987
ANNUAL SEVEN-DAY MINIMUM	.12	Aug 4	.03	Jul 28	.00	Aug 3 1987
INSTANTANEOUS PEAK FLOW			1770	Aug 25a	1770	Aug 25 1998
INSTANTANEOUS PEAK STAGE			7.59	Aug 25	7.59	Aug 25 1998
INSTANTANEOUS LOW FLOW			.01	Aug 3	.00	Jul 27 1991
ANNUAL RUNOFF (CFSM)	1.29		1.58		1.06	
ANNUAL RUNOFF (INCHES)	17.54		21.39		14.45	
10 PERCENT EXCEEDS	11		13		9.4	
50 PERCENT EXCEEDS	1.2		1.3		.70	
90 PERCENT EXCEEDS	.29		.12		.05	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.

04186500 AUGLAIZE RIVER NEAR FORT JENNINGS, OHIO

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 mi^2.

WATER-DISCHARGE RECORDS

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 sea level. Prior to Oct. 6, 1930, nonrecording gage at same site and datum.
REMARKS.--Records 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 3,764.08 mil gal, equivalent to a mean withdrawal of 16.0 ft^3/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. Water-quality data collected at this site. National Weather Service gage height Handar telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	40	379	117	107	127	276	151	156	370	47	23
2	22	44	301	125	91	105	291	177	165	173	39	21
3	24	38	202	113	80	101	265	373	108	82	38	20
4	22	38	337	165	72	94	202	588	73	614	74	21
5	23	37	294	187	68	86	167	708	62	2070	1070	21
6	21	35	181	298	63	74	137	693	58	1310	1190	19
7	17	36	121	621	60	70	118	372	42	361	1590	19
8	18	33	91	2590	54	73	256	308	42	751	1170	21
9	18	34	76	4030	49	540	919	315	50	1670	857	20
10	15	33	196	4020	48	1400	2940	270	50	701	314	19
11	17	31	883	1500	52	713	3190	201	56	262	196	19
12	22	30	734	534	61	343	1230	161	1050	149	140	17
13	20	29	382	397	73	224	500	138	2620	98	204	16
14	28	34	252	326	72	171	367	203	2530	72	104	15
15	32	37	185	262	68	129	294	165	1070	60	69	15
16	32	37	128	217	64	97	492	102	445	51	54	15
17	32	35	110	166	293	100	900	80	670	45	47	15
18	32	41	105	131	2530	242	794	70	917	58	41	15
19	29	40	95	107	3110	1080	391	63	398	55	38	15
20	25	40	86	108	1870	983	274	63	245	54	35	17
21	26	46	78	110	929	1940	217	76	180	61	33	21
22	27	96	94	86	609	2100	179	74	251	347	32	24
23	26	151	298	72	422	1040	165	69	267	1680	32	22
24	24	141	310	87	302	554	139	67	125	2430	30	30
25	28	95	1170	141	242	378	117	74	79	1750	28	22
26	31	66	1630	123	202	296	103	91	67	377	27	18
27	37	54	781	121	175	259	105	104	72	204	27	17
28	36	87	413	149	154	262	185	85	70	122	27	17
29	37	256	269	175	---	580	158	69	89	92	26	19
30	39	326	203	164	---	489	155	56	197	87	25	18
31	38	---	156	134	---	326	---	304	---	67	24	---
TOTAL	822	2040	10540	17376	11920	14976	15526	6270	12204	16223	7628	571
MEAN	26.5	68.0	340	561	426	483	518	202	407	523	246	19.0
MAX	39	326	1630	4030	3110	2100	3190	708	2620	2430	1590	30
MIN	15	29	76	72	48	70	103	56	42	45	24	15
CFSM	.08	.20	1.02	1.69	1.28	1.46	1.56	.61	1.23	1.58	.74	.06
IN.	.09	.23	1.18	1.95	1.34	1.68	1.74	.70	1.37	1.82	.85	.06

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	75.6	179	307	439	473	603	508	292	253	181	77.8	85.7
MAX	782	1286	1283	2184	1555	2112	1874	1237	1142	1652	477	1091
(WY)	1927	1973	1991	1950	1950	1978	1957	1943	1981	1992	1979	1926
MIN	5.44	13.4	11.9	8.23	23.6	81.3	51.3	28.7	13.6	20.4	8.10	5.78
(WY)	1989	1957	1977	1977	1964	1981	1971	1934	1988	1965	1991	1991

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1921 - 1998	
ANNUAL TOTAL	129545		116096			
ANNUAL MEAN	355		318		289	
HIGHEST ANNUAL MEAN					537	1973
LOWEST ANNUAL MEAN					65.3	1931
HIGHEST DAILY MEAN	6770	Jun 3	4030	Jan 9	12000	Jul 15 1992
LOWEST DAILY MEAN	15	Oct 10	15	Oct 10	.50	Oct 20 1994
ANNUAL SEVEN-DAY MINIMUM	18	Oct 7	15	Sep 13	1.2	Oct 4 1991
INSTANTANEOUS PEAK FLOW			4360	Jan 9a	12800	Jul 15 1992
INSTANTANEOUS PEAK STAGE			13.59	Jan 9	20.30	Jan 23 1959
INSTANTANEOUS LOW FLOW			15	Oct 10	.71	Oct 7 1991
ANNUAL RUNOFF (CFSM)	1.07		.96		.87	
ANNUAL RUNOFF (INCHES)	14.52		13.01		11.83	
10 PERCENT EXCEEDS	837		890		697	
50 PERCENT EXCEEDS	116		104		75	
90 PERCENT EXCEEDS	30		22		18	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.

04186500 AUGLAIZE RIVER NEAR FORT JENNINGS, OHIO--Continued
National Water-Quality Assessment Program, Lake Erie-Lake St. Clair Basin Study Unit

WATER-QUALITY RECORDS

The data described in the following table were collected and analyzed as part of the NAWQA (National Water-Quality Assessment Program) project in the Lake Erie-Lake St. Clair Basin. The objectives of the NAWQA program are to broadly characterize the water quality of the Nation's streams and aquifers in relation to human and natural factors. This project is one of 59 river basin and aquifer assessment projects being implemented across the nation. At any one time, 15 to 20 of these projects are actively collecting data. The period of high-intensity data collection for the Lake Erie-Lake St. Clair Basin project is in water years 1996-98.

There are four stream sites in Ohio for which data are being reported in this publication as part of the NAWQA study: Auglaize River near Ft. Jennings (04186500), Maumee River at Waterville (04193500), Cuyahoga River at LTV Steel at Cleveland (04208504), and Grand River at Harpersfield (04211820). Three sites are reported in the 1998 Michigan annual data report: Black River near Jeddo, MI (04159492), Clinton River at Sterling Heights, MI (04161820) and River Raisin near Manchester, MI (04175600). Two Sites are reported in the 1998 Indiana annual data report: St. Joseph River near Newville, IN (04178000), and Maumee River at New Haven, IN (04183000). One site is reported in the 1998 New York annual data report: Cattaraugus Creek at Gowanda, NY (04213500).

These data also can be obtained electronically at http//www-oh.er.usgs.gov/nawqa.index.html.

[---, no data; <, concentration or value reported is less than that indicated; E, estimated value; K, value is estimated from a non-ideal colony count]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT												
15...	1100	32	1250	7.7	10.0	12.0	753	6.9	65	130	390	92
23...	0930	26	1240	8.1	-2.0	6.5	745	9.8	81	--	380	87
NOV												
13...	1200	29	1140	8.6	.5	2.5	741	11.6	88	--	370	87
19...	0920	40	1200	8.1	3.0	.5	744	13.4	95	K150	380	86
DEC												
16...	1315	122	692	7.8	6.0	1.5	740	12.2	90	83	300	77
30...	1400	199	659	7.8	3.0	1.5	746	9.6	70	--	310	82
JAN												
14...	1200	324	595	7.9	10.0	.5	754	14.0	98	300	270	70
FEB												
26...	1000	204	681	8.3	9.0	5.5	742	13.4	110	--	320	83
JUN												
17...	0930	364	597	7.9	23.0	20.0	--	6.7	--	--	--	--
JUL												
08...	1200	684	534	7.8	25.0	23.0	741	7.9	95	--	--	--

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
OCT												
15...	39	97	8.8	302	248	160	160	0.8	4.9	761	<.01	0.15
23...	40	91	7.8	322	264	170	150	.8	4.0	784	<.01	.07
NOV												
13...	38	83	6.5	290	238	150	140	.8	.16	709	<.01	.05
19...	39	100	8.5	390	320	160	160	.8	.35	751	.01	.32
DEC												
16...	26	22	3.2	246	202	80	49	.3	7.8	459	.05	6.4
30...	26	18	3.3	229	188	72	40	.3	8.4	424	.05	7.3
JAN												
14...	23	15	3.0	234	192	67	35	.3	7.7	368	.04	5.0
FEB												
26...	27	18	2.6	238	195	78	40	.4	6.5	423	.02	5.3
JUN												
17...	--	--	--	--	--	--	--	--	--	--	.09	10.4
JUL												
08...	--	--	--	--	--	--	--	--	--	--	.02	6.0

04186500 AUGLAIZE RIVER NEAR FORT JENNINGS, OHIO--Continued
National Water-Quality Assessment Program, Lake Erie-Lake St. Clair Basin Study Unit

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
OCT												
15...	0.02	0.78	0.50	0.21	0.13	0.11	18	38	6.7	1.5	31	--
23...	<.02	.46	.38	.13	.11	.09	17	17	5.6	.4	14	<.002
NOV												
13...	<.02	.48	.36	.03	.02	.03	37	15	4.6	.3	8	--
19...	.30	.48	.41	.03	.03	.03	48	13	5.5	.3	5	.008
DEC												
16...	.08	.69	.47	.07	.06	.07	<10	8.	4.3	.4	14	.008
30...	.10	.73	.51	.13	.09	.09	15	9.	4.3	.8	21	--
JAN												
14...	<.02	E.66	E.50	E.13	E.08	.10	11	8.	4.2	.7	35	.008
FEB												
26...	.04	.40	.30	.08	.05	.05	<10	5.	3.5	.5	98	<.002
JUN												
17...	.05	--	.79	--	.11	.12	--	--	--	--	--	1.45
JUL												
08...	.06	--	.69	--	.13	.13	--	--	--	--	--	.297

DATE	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	P,P' DDE DISSOLV (UG/L) (34653)
OCT												
15...	--	--	--	--	--	--	--	--	--	--	--	--
23...	<.002	0.158	E.027	<.300	<.002	<.002	<.003	<.003	<.004	.028	<.002	<.006
NOV												
13...	--	--	--	--	--	--	--	--	--	--	--	--
19...	.004	.111	E.011	--	<.002	<.002	<.003	<.003	<.004	.026	<.002	<.006
DEC												
16...	E.004	.108	E.028	<.100	<.002	<.002	<.003	<.003	<.004	.011	<.002	<.006
30...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
14...	.006	.125	E.036	<.080	<.002	<.002	<.003	<.003	<.004	.007	<.002	<.006
FEB												
26...	E.004	.083	E.025	<.001	<.002	<.002	<.003	<.003	<.004	<.004	<.002	<.006
JUN												
17...	.188	9.96	E.870	<.001	<.002	<.002	<.003	<.003	--	1.87	<.002	<.006
JUL												
08...	.030	2.21	E.395	<.001	<.002	<.002	<.003	<.003	.019	.385	<.002	<.006

DATE	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)
OCT												
15...	--	--	--	--	--	--	--	--	--	--	--	--
23...	<.002	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.005
NOV												
13...	--	--	--	--	--	--	--	--	--	--	--	--
19...	E.002	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.010
DEC												
16...	<.002	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.005
30...	--	--	--	--	--	--	--	--	--	--	--	--
JAN												
14...	<.002	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.005
FEB												
26...	<.002	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.005
JUN												
17...	E.004	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.005
JUL												
08...	<.002	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.005

04186500 AUGLAIZE RIVER NEAR FORT JENNINGS, OHIO--Continued
National Water-Quality Assessment Program, Lake Erie-Lake St. Clair Basin Study Unit

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PARA-THION, DIS-SOLVED (UG/L) (39542)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO-METON, WATER, DISS, REC (UG/L) (04037)
OCT											
15...	--	--	--	--	--	--	--	--	--	--	--
23...	0.185	0.009	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	0.060
NOV											
13...	--	--	--	--	--	--	--	--	--	--	--
19...	.239	<.004	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	.024
DEC											
16...	.188	<.010	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	E.006
30...	--	--	--	--	--	--	--	--	--	--	--
JAN											
14...	.188	.006	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	E.006
FEB											
26...	.092	<.004	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	<.018
JUN											
17...	6.58	.413	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	.039
JUL											
08...	2.26	.096	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	.033

DATE	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)
OCT											
15...	--	--	--	--	--	--	--	--	--	--	--
23...	<.003	<.007	<.004	<.013	0.016	<.010	<.007	<.013	<.002	<.001	<.002
NOV											
13...	--	--	--	--	--	--	--	--	--	--	--
19...	<.003	<.007	<.004	<.013	.013	<.010	<.007	<.013	<.002	<.001	<.002
DEC											
16...	<.003	<.007	<.004	<.013	.010	<.010	<.007	<.013	<.002	<.001	<.002
30...	--	--	--	--	--	--	--	--	--	--	--
JAN											
14...	<.003	<.007	<.004	<.013	.013	<.010	<.007	<.013	<.002	<.001	<.002
FEB											
26...	<.003	<.007	<.004	<.013	.010	<.010	<.007	<.013	<.002	<.001	<.002
JUN											
17...	<.003	<.007	<.004	<.013	.682	<.010	<.007	<.013	<.002	<.001	<.002
JUL											
08...	<.003	<.007	<.004	<.013	.144	<.010	<.007	<.013	<.002	<.001	<.002

04187100 OTTAWA RIVER AT LIMA, OHIO

LOCATION.--Lat 40°43'29", long 84°07'35", Allen County, Hydrologic Unit 04100007, on right bank, 70 ft downstream from Erie Lackawanna RR bridge, 300 ft upstream from bridge to Lima STP, 0.7 mi downstream from Collett Street at Lima, Ohio.
DRAINAGE AREA.--128 mi².
PERIOD OF RECORD.--June 1988 to current year.
GAGE.--Water-stage recorder. Datum of gage is 820.00 ft above sea level.
REMARKS.--Records fair except for periods of estimated record, which are poor. Water diverted upstream of gage for City of Lima. Water is returned to stream below gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.6	7.7	52	33	47	20	137	e90	e60	41	16	19
2	.94	12	12	35	40	24	116	e150	23	26	13	14
3	6.8	10	35	34	38	24	76	e200	14	15	7.1	9.7
4	9.8	9.4	60	41	35	28	63	e280	11	732	146	16
5	5.9	6.9	48	43	32	34	50	e280	16	157	705	21
6	4.7	7.7	17	152	32	27	40	e200	16	38	810	20
7	5.0	10	26	522	30	22	40	e120	13	72	1080	19
8	4.1	9.2	26	2610	27	21	79	e130	13	116	521	8.5
9	2.0	6.6	23	1780	26	435	e900	e100	13	35	458	18
10	4.9	12	180	606	23	536	e1000	e80	9.9	33	925	13
11	6.2	15	328	224	25	161	e600	e62	95	22	1040	e11
12	6.2	7.2	129	88	45	73	e250	e56	1240	17	595	e10
13	3.3	8.2	66	78	43	47	e160	e70	1100	15	240	e9.6
14	11	18	34	49	27	38	e130	e80	602	15	136	e9.0
15	7.3	15	38	36	36	27	e170	e37	170	8.8	90	e9.6
16	5.9	15	41	26	40	21	e350	e30	110	5.5	64	11
17	6.9	18	41	44	513	37	e300	e27	194	13	51	5.4
18	7.6	24	39	43	1400	194	e170	e25	79	12	98	2.6
19	3.5	14	35	37	888	398	e120	e28	51	10	192	6.8
20	6.8	14	33	32	429	371	e90	e30	47	20	66	5.7
21	8.3	18	29	28	254	1440	e76	e29	36	44	39	13
22	5.0	53	30	26	115	985	e68	e28	26	699	27	11
23	5.5	45	68	36	71	457	e58	e28	20	735	20	9.2
24	8.2	22	97	41	80	221	e50	e31	18	105	19	8.2
25	9.0	28	683	38	47	144	e40	e35	20	30	20	5.5
26	10	19	579	32	30	110	e50	e40	19	29	17	8.0
27	15	16	232	37	29	90	e70	e32	18	24	26	6.2
28	15	51	130	48	23	210	e66	e25	20	22	18	5.7
29	12	82	72	26	---	278	e62	e40	59	19	13	7.1
30	11	84	36	32	---	141	e62	e110	48	13	11	3.0
31	9.0	---	43	23	---	98	---	e66	---	13	13	---
TOTAL	221.44	657.9	3262	6880	4425	6712	5443	2539	4160.9	3136.3	7476.1	315.8
MEAN	7.14	21.9	105	222	158	217	181	81.9	139	101	241	10.5
MAX	15	84	683	2610	1400	1440	1000	280	1240	735	1080	21
MIN	.94	6.6	12	23	23	20	40	25	9.9	5.5	7.1	2.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	32.6	74.5	129	158	169	154	188	131	104	110	63.1	48.2
MAX	192	434	586	327	425	422	291	342	376	444	241	346
(WY)	1991	1993	1991	1993	1990	1993	1995	1996	1997	1992	1998	1992
MIN	2.90	5.56	5.01	12.2	18.9	42.5	32.3	15.5	7.44	7.85	6.58	4.49
(WY)	1995	1992	1992	1992	1989	1992	1997	1994	1988	1991	1993	1994

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1988 - 1998	
ANNUAL TOTAL	58535.94		45229.44			
ANNUAL MEAN	160		124		115	
HIGHEST ANNUAL MEAN					179	1997
LOWEST ANNUAL MEAN					56.5	1989
HIGHEST DAILY MEAN	3650	Jun 1	2610	Jan 8	3860	Dec 30 1990
LOWEST DAILY MEAN	.94	Oct 2	.94	Oct 2	.00	Oct 30 1993
ANNUAL SEVEN-DAY MINIMUM	4.5	Oct 7	4.5	Oct 7	.15	Sep 17 1994
INSTANTANEOUS PEAK FLOW			2930	Jan 8a	4590	Dec 30 1990
INSTANTANEOUS PEAK STAGE			15.58	Jan 8	18.63	Dec 30 1990
INSTANTANEOUS LOW FLOW			.94	Oct 2	.00	Oct 30 1993
10 PERCENT EXCEEDS	404		311		240	
50 PERCENT EXCEEDS	34		33		26	
90 PERCENT EXCEEDS	7.7		7.9		5.0	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

04189000 BLANCHARD RIVER NEAR FINDLAY, OHIO

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 mi^2.
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). WRD-OH-97-2: 1996(M).
GAGE.--Water-stage recorder. Datum of gage is 754.55 ft above sea level. Prior to July 24, 1930, nonrecording gage at same site and datum.
REMARKS.--Records 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. Water-quality and sediment data collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43	22	182	135	189	198	386	243	82	943	59	73
2	30	23	133	161	152	187	465	373	101	328	59	75
3	31	21	116	175	136	178	300	1080	65	197	59	70
4	34	17	266	643	126	202	239	2040	48	238	94	69
5	35	16	265	462	120	206	202	785	53	294	393	66
6	36	17	172	842	104	182	174	414	38	245	2010	68
7	36	18	119	1360	113	164	151	281	39	168	1990	67
8	30	18	90	4960	107	168	440	307	36	151	1130	64
9	32	17	82	5290	82	889	1170	482	43	163	1290	59
10	37	18	592	3590	69	1360	3510	290	212	141	1060	59
11	34	18	1440	926	82	623	2400	202	159	119	456	59
12	34	17	659	454	135	339	698	165	2240	109	271	58
13	32	16	354	340	170	249	348	136	3340	100	172	57
14	38	22	245	265	178	212	253	114	1800	92	127	57
15	33	27	193	237	148	168	195	98	620	89	101	56
16	31	24	166	206	165	137	1050	100	343	59	108	57
17	32	20	150	197	1130	141	2230	91	326	63	77	56
18	33	18	136	178	3880	630	1340	72	294	68	103	56
19	32	19	127	159	3730	1250	461	67	474	69	77	55
20	31	21	119	137	2250	782	347	64	577	132	71	58
21	29	38	106	116	1070	2640	303	58	293	109	77	219
22	26	216	145	105	608	2900	253	53	214	536	66	61
23	23	237	385	132	424	1720	219	52	184	1260	76	58
24	26	144	357	148	322	536	190	60	154	728	234	58
25	30	79	2010	158	262	372	167	57	138	241	921	58
26	44	62	1800	123	227	330	186	55	82	133	811	58
27	108	48	770	141	210	283	209	55	129	83	227	56
28	83	125	420	219	182	350	168	52	262	64	134	57
29	48	260	305	238	---	614	226	48	744	55	101	57
30	29	251	249	221	---	419	256	45	2550	60	88	57
31	23	---	193	216	---	307	---	44	---	59	80	---
TOTAL	1143	1849	12346	22534	16371	18736	18536	7983	15640	7096	12522	1978
MEAN	36.9	61.6	398	727	585	604	618	258	521	229	404	65.9
MAX	108	260	2010	5290	3880	2900	3510	2040	3340	1260	2010	219
MIN	23	16	82	105	69	137	151	44	36	55	59	55
CFSM	.11	.18	1.15	2.10	1.69	1.75	1.79	.74	1.51	.66	1.17	.19
IN.	.12	.20	1.33	2.42	1.76	2.01	1.99	.86	1.68	.76	1.35	.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	63.0	157	290	374	427	562	461	276	233	135	64.3	88.2
MAX	623	1435	1482	1800	1402	1814	1588	865	1612	1075	474	944
(WY)	1927	1973	1991	1930	1959	1978	1957	1969	1981	1992	1979	1926
MIN	2.43	3.67	4.28	6.54	9.86	60.1	33.3	22.1	18.3	4.27	1.24	1.62
(WY)	1935	1935	1935	1945	1964	1941	1925	1925	1988	1934	1934	1934

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1924 - 1998	
ANNUAL TOTAL	167345		136734			
ANNUAL MEAN	458		375		261	
HIGHEST ANNUAL MEAN					571	1973
LOWEST ANNUAL MEAN					57.5	1931
HIGHEST DAILY MEAN	8970	Jun 2	5290	Jan 9	12000	Jun 14 1981
LOWEST DAILY MEAN	16	Nov 5	16	Nov 5	.40	Aug 27 1934
ANNUAL SEVEN-DAY MINIMUM	17	Nov 4	17	Nov 4	.56	Aug 25 1934
INSTANTANEOUS PEAK FLOW			5990	Jan 8[a]	13000	Jun 14 1981
INSTANTANEOUS PEAK STAGE			12.21	Jan 8	17.43	Jun 14 1981
INSTANTANEOUS LOW FLOW			16	Nov 5	.40	Aug 27 1934
ANNUAL RUNOFF (CFSM)	1.33		1.08		.75	
ANNUAL RUNOFF (INCHES)	17.99		14.70		10.23	
10 PERCENT EXCEEDS	926		933		621	
50 PERCENT EXCEEDS	160		148		59	
90 PERCENT EXCEEDS	33		33		9.4	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.

04191500 AUGLAIZE RIVER NEAR DEFIANCE, OHIO

LOCATION.--Lat 41°14'15", long 84°23'57", 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 Greco's Hydro-Corporation, 0.2 mi upstream from Jackson Ditch, and 3 mi south of Defiance.
DRAINAGE AREA.--2,318 mi^2.
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 sea level. 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.--Records good except for periods of estimated record, 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.
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 ft^3/s, from rating curve extended above 51,000 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	1130	3870	1020	1250	687	2590	1510	541	4770	e400	266
2	73	1390	3270	926	860	1160	2110	1460	356	4740	e270	108
3	94	775	2330	925	1070	1140	1450	3400	411	3170	e270	126
4	134	635	2000	5240	632	684	1340	7250	432	2080	e500	214
5	290	253	2550	9820	656	770	1220	7840	358	8380	e1500	102
6	318	503	2330	9020	661	891	778	6350	274	5160	e4000	109
7	77	239	1530	7860	629	662	836	4120	100	3340	e13000	105
8	82	179	1010	15100	512	1010	1280	2910	326	2680	e14000	165
9	144	174	544	21200	422	7140	9070	3420	219	2680	e10000	83
10	80	42	1510	21600	482	14600	23000	2660	256	1970	7260	87
11	82	46	6450	16600	491	10100	25400	1910	175	e1000	6400	94
12	102	48	6910	8270	883	6190	16800	1200	3220	e700	5830	91
13	122	50	4750	4040	1180	3370	8390	807	15900	e600	4070	89
14	138	51	3010	2970	905	1680	4330	865	16700	e450	1530	88
15	174	52	1540	2360	808	1170	2380	773	11300	e310	755	96
16	225	52	954	1690	718	712	5600	682	7470	e280	594	82
17	232	51	1120	1270	3190	936	9550	622	3980	e160	682	78
18	229	49	748	1090	16600	2260	7500	529	3220	e110	492	76
19	219	50	766	875	21600	7450	6010	448	2810	e100	665	75
20	192	54	764	1060	18300	9210	3490	405	1190	e160	942	64
21	313	62	724	1140	13300	14300	1880	346	1370	e300	454	74
22	322	1810	767	230	9000	15400	1060	314	2210	e1000	399	233
23	121	3620	3200	411	5160	12300	909	337	1190	e3000	303	579
24	119	2720	3810	635	3070	8490	1110	337	658	e4500	246	197
25	119	1640	8730	883	2090	5260	764	375	559	e4600	397	173
26	124	1030	12800	704	1260	2880	733	452	374	e4000	298	98
27	422	974	9470	711	1370	1860	716	431	289	e2500	1280	97
28	555	1250	6740	1240	934	2110	874	376	445	e1700	722	91
29	437	4070	3840	1510	---	5020	728	213	632	e1400	464	92
30	385	4310	2260	1740	---	4920	918	118	3090	e1100	348	83
31	451	---	1470	1570	---	3610	---	528	---	e600	248	---
TOTAL	6440	27309	101767	143710	108033	147972	142816	52988	80055	67540	78319	3915
MEAN	208	910	3283	4636	3858	4773	4761	1709	2669	2179	2526	131
MAX	555	4310	12800	21600	21600	15400	25400	7840	16700	8380	14000	579
MIN	65	42	544	230	422	662	716	118	100	100	246	64

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	481	1029	1846	2550	2994	4183	3458	1964	1453	847	352	429
MAX	3445	7856	8510	13350	10170	13090	11210	10490	6733	5762	2526	5571
(WY)	1955	1973	1967	1950	1976	1982	1957	1943	1947	1992	1998	1992
MIN	23.6	7.28	9.34	48.5	111	382	242	69.8	101	42.0	27.1	28.9
(WY)	1953	1953	1977	1977	1964	1941	1946	1934	1988	1930	1932	1963

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1916 - 1998	
ANNUAL TOTAL	1052223		960864			
ANNUAL MEAN	2883		2633		1784	
HIGHEST ANNUAL MEAN					3337	1973
LOWEST ANNUAL MEAN					342	1931
HIGHEST DAILY MEAN	35200	Jun 3	25400	Apr 11	52300	Mar 14 1982
LOWEST DAILY MEAN	42	Nov 10	42	Nov 10	.50	Oct 13 1952
ANNUAL SEVEN-DAY MINIMUM	49	Nov 10	49	Nov 10	1.1	Oct 12 1952
INSTANTANEOUS PEAK FLOW			26700	Apr 11	52500	Feb 16 1950
INSTANTANEOUS PEAK STAGE			19.23	Apr 11	27.65	Feb 13 1959
INSTANTANEOUS LOW FLOW			42	Nov 10	.50	Oct 13 1952
10 PERCENT EXCEEDS	7480		7850		4960	
50 PERCENT EXCEEDS	1020		883		442	
90 PERCENT EXCEEDS	180		98		38	

e Estimated.

04192500 MAUMEE RIVER NEAR DEFIANCE, OHIO

LOCATION.--Lat 41°17'31", 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 mi^2.

WATER-DISCHARGE RECORDS

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 sea level. Prior to Nov. 13, 1924, nonrecording gage at same site and datum.
REMARKS.--Records fair except for periods estimated record, which are poor. 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. Two 36-inch diversion pipes installed at dam in 1998 for low-flow aqumentation.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1600	1680	9900	4350	4500	3900	8790	4240	1440	5460	1020	3830
2	e1300	2510	8120	3540	3940	4090	7920	6980	1060	5550	674	2540
3	e1200	2270	6380	3030	3920	4130	6730	8600	1060	4090	530	1920
4	e1200	2130	5350	9090	3340	3380	5740	14000	1110	2340	657	1420
5	e1100	2060	5560	21400	3110	3260	5040	14600	923	10900	3170	1070
6	e1200	1920	5090	21700	2900	3210	4070	10500	852	9200	20700	990
7	e1100	1690	3940	20500	2630	2890	3630	7480	510	5610	26700	781
8	e640	1410	2990	32000	2330	3020	3700	5840	527	4120	27300	768
9	762	1320	2470	43500	2070	16400	15000	7110	562	3790	20100	657
10	763	1100	2820	43900	2000	34600	43400	6020	531	3770	14600	558
11	718	961	7890	36800	1980	28600	48600	4560	565	2350	12400	539
12	740	906	9330	24300	3430	20000	38700	3370	2630	1630	10500	499
13	763	840	7740	16500	4460	12900	24300	2710	19100	1520	7700	475
14	824	782	5500	12700	4390	10100	17100	2420	24200	1160	4330	477
15	859	726	3920	9950	4120	8280	11900	2360	16800	778	2770	453
16	1040	732	2900	7530	3640	6570	13900	2000	11500	768	2060	e430
17	1040	740	3100	5710	7520	5300	20100	1820	8030	398	2140	e420
18	1020	722	2660	4620	29200	7120	16300	1630	7140	321	1550	414
19	1050	699	2590	3840	40300	17700	11200	1530	7560	327	1610	417
20	1270	666	2820	3250	35700	22000	7690	1440	5100	424	1610	e400
21	1240	890	2730	3610	27500	29400	5530	1280	3830	704	1040	e340
22	1240	3770	2710	2180	20500	31600	4250	1210	4040	1700	1370	e360
23	763	6690	6790	2250	15400	26500	3610	1130	2990	9590	1070	e600
24	509	5730	8820	2460	11600	19600	3430	1240	2040	12700	834	e840
25	546	4190	16300	2620	9130	14700	2890	1180	1520	11200	7150	e520
26	599	2820	22900	2550	6780	10700	2920	1170	1140	8310	12900	e400
27	766	2570	18300	2560	5810	8330	2980	1250	875	5350	14600	e340
28	987	3050	13200	3420	4730	7330	3240	1420	820	4230	12200	e320
29	1000	7880	9590	4140	---	12100	3170	1280	1070	3540	9150	e320
30	1000	11000	7420	4990	---	13700	3590	1010	2990	2610	7440	e300
31	1120	---	5850	4940	---	11000	---	1230	---	1770	5660	---
TOTAL	29959	74454	215680	363930	266930	402410	349420	122610	132515	126210	235535	23398
MEAN	966	2482	6957	11740	9533	12980	11650	3955	4417	4071	7598	780
MAX	1600	11000	22900	43900	40300	34600	48600	14600	24200	12700	27300	3830
MIN	509	666	2470	2180	1980	2890	2890	1010	510	321	530	300

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1324	2774	4617	6048	6941	9579	8525	5153	3605	2104	1056	1104
MAX	8314	16410	18040	30150	22460	33940	23210	27270	20370	10700	7598	11470
(WY)	1955	1973	1967	1950	1959	1982	1957	1943	1981	1992	1998	1926
MIN	63.9	110	158	219	363	1455	789	359	214	211	111	88.1
(WY)	1929	1954	1964	1945	1964	1941	1925	1925	1988	1930	1932	1955

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1925 - 1998	
ANNUAL TOTAL	2482966		2343051			
ANNUAL MEAN	6803		6419		4387	
HIGHEST ANNUAL MEAN					8286	1950
LOWEST ANNUAL MEAN					849	1931
HIGHEST DAILY MEAN	58800	Mar 1	48600	Apr 11	98800	Mar 15 1982
LOWEST DAILY MEAN	509	Oct 24	300	Sep 30	3.0	Sep 4 1925
ANNUAL SEVEN-DAY MINIMUM	665	Aug 7	397	Sep 16	27	Aug 31 1925
INSTANTANEOUS PEAK FLOW			50100	Apr 11	104000	Mar 15 1982
INSTANTANEOUS PEAK STAGE			8.90	Apr 11	15.87	Mar 15 1982
INSTANTANEOUS LOW FLOW			300	Sep 30	2.0	Sep 3 1925
10 PERCENT EXCEEDS	17000		16900		12400	
50 PERCENT EXCEEDS	3500		3170		1410	
90 PERCENT EXCEEDS	907		662		223	

e Estimated.

04192500 MAUMEE RIVER NEAR DEFIANCE, OHIO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--January 1997 to current year.
PERIOD OF DAILY RECORD.--
SUSPENDED SEDIMENT DISCHARGE: January 1997 to current year.
INSTRUMENTATION.--Sampler located downstream from streamflow-gaging station, at Florida, Ohio.
REMARKS.--Sediment samples were collected by a local observer on an approximate once daily basis. Sediment loads were calculated using the mean-interval method (Porterfield, George, 1972, Computation of Fluvial-Sediment Discharge: U.S. Geological Survey, Techniques of Water-Resources Investigations, Book 3, Chap. C3, 66 p.). For days with unsteady concentration, discharge, or both, the day was subdivided into hourly intervals and the daily load was calculated by summation of hourly loads. This required interpolation between measured and estimated concentrations.
EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,340 mg/L, Feb. 28, 1997; minimum daily mean, 4 mg/L, Nov. 19, 1997.
SEDIMENT LOADS: Maximum daily, 201,000 tons, Feb. 28, 1997; minimum daily, 8.1 tons, Nov. 19, 1997.
EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 734 mg/L, Feb. 18; minimum daily mean, 4 mg/L, Nov. 19.
SEDIMENT LOADS: Maximum daily, 86,400 tons, Apr. 10; minimum daily, 8.1 tons, Nov. 19.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM- PLING METHOD, CODES* (82398)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	TEMPER- ATURE AIR (DEG C) (00020)	TEMPER- ATURE WATER (DEG C) (00010)	SEDI- MENT, SUS- PENDED (MG/L) (80154)
JAN							
12...	1435	10	22200	237	2.0	2.5	186
MAR							
26...	1045	10	10800	375	16.5	6.0	132
JUL							
23...	1355	10	11000	520	28.0	27.0	103

*10 - Stream cross-section sample obtained by equal-width-increment (EWI) sampling method.

04192500 MAUMEE RIVER NEAR DEFIANCE, OHIO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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	e1600	62	266	1680	23	108	9900	225	6020
2	e1300	52	182	2510	30	203	8120	130	2860
3	e1200	49	158	2270	33	199	6380	91	1560
4	e1200	47	152	2130	33	191	5350	68	984
5	e1100	46	138	2060	26	143	5560	59	884
6	e1200	46	150	1920	23	121	5090	58	793
7	e1100	42	124	1690	23	106	3940	46	489
8	e640	39	67	1410	21	80	2990	31	254
9	762	34	70	1320	20	71	2470	25	168
10	763	30	62	1100	21	61	2820	21	163
11	718	29	56	961	24	61	7890	73	1730
12	740	36	72	906	21	52	9330	148	3720
13	763	37	76	840	15	35	7740	87	1820
14	824	33	73	782	12	25	5500	63	937
15	859	34	79	726	9	18	3920	50	533
16	1040	32	89	732	9	17	2900	38	295
17	1040	31	85	740	8	15	3100	34	284
18	1020	31	84	722	6	11	2660	34	244
19	1050	27	77	699	4	8.1	2590	28	193
20	1270	27	93	666	5	9.6	2820	26	197
21	1240	31	104	890	7	18	2730	30	219
22	1240	31	103	3770	12	162	2710	26	189
23	763	27	55	6690	67	1210	6790	43	850
24	509	24	33	5730	71	1090	8820	116	2770
25	546	23	34	4190	50	566	16300	308	15200
26	599	22	35	2820	37	280	22900	562	34800
27	766	22	46	2570	30	209	18300	339	16800
28	987	23	61	3050	28	236	13200	227	8120
29	1000	19	51	7880	128	3110	9590	153	3980
30	1000	16	44	11000	305	9100	7420	109	2190
31	1120	24	72	---	---	---	5850	92	1450
TOTAL	29959	---	2791	74454	---	17515.7	215680	---	110696

e Estimated

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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	4350	68	799	4500	38	459	3900	50	530
2	3540	54	517	3940	35	375	4090	43	480
3	3030	43	350	3920	29	309	4130	39	428
4	9090	94	3340	3340	27	246	3380	32	295
5	21400	569	33100	3110	24	203	3260	28	246
6	21700	400	23400	2900	20	158	3210	23	202
7	20500	282	15600	2630	16	115	2890	20	159
8	32000	386	36000	2330	15	95	3020	22	178
9	43500	551	64700	2070	14	79	16400	441	28700
10	43900	375	44500	2000	12	67	34600	651	60800
11	36800	257	25600	1980	13	69	28600	460	35700
12	24300	180	11900	3430	72	792	20000	338	18300
13	16500	146	6470	4460	122	1470	12900	247	8630
14	12700	124	4260	4390	79	931	10100	183	4990
15	9950	98	2650	4120	54	604	8280	140	3120
16	7530	74	1500	3640	38	372	6570	109	1930
17	5710	57	882	7520	86	2620	5300	85	1220
18	4620	45	559	29200	734	61700	7120	81	1650
19	3840	35	363	40300	570	61900	17700	285	14500
20	3250	28	246	35700	401	38700	22000	337	20300
21	3610	23	222	27500	310	23100	29400	365	29100
22	2180	20	119	20500	237	13200	31600	328	28000
23	2250	17	106	15400	189	7830	26500	240	17200
24	2460	14	93	11600	151	4720	19600	191	10100
25	2620	13	89	9130	118	2890	14700	150	5980
26	2550	11	75	6780	96	1750	10700	119	3430
27	2560	10	71	5810	78	1230	8330	106	2380
28	3420	12	113	4730	61	784	7330	106	2160
29	4140	19	218	---	---	---	12100	243	8140
30	4990	28	378	---	---	---	13700	364	13400
31	4940	37	488	---	---	---	11000	363	10700
TOTAL	363930	---	278708	266930	---	226768	402410	---	332948

04192500 MAUMEE RIVER NEAR DEFIANCE, OHIO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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	8790	259	6140	4240	49	571	1440	39	151
2	7920	206	4410	6980	78	1500	1060	35	99
3	6730	154	2800	8600	168	3990	1060	50	144
4	5740	109	1700	14000	304	12000	1110	42	127
5	5040	77	1050	14600	378	15000	923	34	84
6	4070	62	680	10500	238	6730	852	36	82
7	3630	54	531	7480	164	3330	510	31	43
8	3700	46	466	5840	109	1720	527	28	41
9	15000	146	9240	7110	109	2100	562	29	45
10	43400	730	86400	6020	116	1890	531	31	44
11	48600	473	62200	4560	83	1030	565	29	45
12	38700	333	34800	3370	66	601	2630	49	503
13	24300	250	16300	2710	54	395	19100	263	15300
14	17100	201	9260	2420	51	336	24200	431	28200
15	11900	169	5420	2360	44	277	16800	330	14900
16	13900	182	7170	2000	38	204	11500	260	8050
17	20100	354	19100	1820	35	172	8030	227	4910
18	16300	401	17700	1630	31	138	7140	199	3840
19	11200	264	7980	1530	35	144	7560	175	3580
20	7690	204	4250	1440	42	161	5100	154	2110
21	5530	132	1980	1280	34	116	3830	136	1400
22	4250	84	964	1210	32	106	4040	121	1320
23	3610	63	616	1130	42	129	2990	104	837
24	3430	60	553	1240	41	140	2040	85	466
25	2890	56	437	1180	47	148	1520	76	311
26	2920	47	369	1170	48	152	1140	73	224
27	2980	46	368	1250	35	117	875	63	148
28	3240	50	441	1420	30	113	820	57	126
29	3170	50	429	1280	40	137	1070	49	141
30	3590	49	472	1010	32	88	2990	45	368
31	---	---	---	1230	33	112	---	---	---
TOTAL	349420	---	304226	122610	---	53647	132515	---	87639

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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	5460	129	1920	1020	48	131	3830	37	383
2	5550	170	2550	674	45	82	2540	41	277
3	4090	123	1350	530	39	57	1920	43	219
4	2340	96	608	657	32	57	1420	38	145
5	10900	166	5400	3170	63	951	1070	33	96
6	9200	205	5120	20700	338	19600	990	31	82
7	5610	155	2350	26700	266	19100	781	32	66
8	4120	123	1370	27300	180	13300	768	32	66
9	3790	106	1080	20100	142	7680	657	37	65
10	3770	90	912	14600	118	4660	558	46	70
11	2350	79	496	12400	107	3550	539	50	73
12	1630	77	338	10500	95	2710	499	53	71
13	1520	66	268	7700	70	1470	475	48	61
14	1160	56	175	4330	53	620	477	23	30
15	778	45	94	2770	46	337	453	18	22
16	768	37	75	2060	48	267	e430	16	18
17	398	34	37	2140	55	317	e420	17	19
18	321	28	24	1550	63	264	414	16	18
19	327	28	24	1610	48	207	417	16	18
20	424	21	24	1610	38	167	e400	17	18
21	704	29	65	1040	33	95	e340	18	17
22	1700	45	232	1370	30	111	e360	22	21
23	9590	121	3440	1070	38	107	e600	34	55
24	12700	164	5640	834	54	122	e840	25	57
25	11200	147	4470	7150	189	4950	e520	22	30
26	8310	96	2160	12900	331	11500	e400	18	20
27	5350	64	936	14600	196	7700	e340	20	18
28	4230	50	570	12200	118	3870	e320	28	24
29	3540	53	504	9150	100	2470	e320	23	20
30	2610	55	385	7440	66	1320	e300	24	19
31	1770	56	265	5660	44	676	---	---	---
TOTAL	126210	---	42882	235535	---	108448	23398	---	2098
YEAR	2343051		1568366.7						

e Estimated

04193500 MAUMEE RIVER AT WATERVILLE, OHIO

LOCATION.--Lat 41°30'00", long 83°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. Miami and Erie Canal flow included at Waterville prior to 1930 when the canal was abandoned.
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 auxiliary crest-stage gage. Datum of gage is 595.71 ft above sea level. 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.--Records good. Satellite telemeter at station.
EXTREMES FOR PERIOD OF RECORD.--Practically no flow at times prior to June 30, 1929, when entire river flow was being diverted by canal.
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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1230	1200	12300	5500	5020	4590	10200	4370	1330	4750	1460	4750
2	1070	2160	10100	4220	4540	4340	8720	8540	1340	5720	1010	3320
3	963	2540	7990	3600	3810	4620	7700	11000	972	5180	790	2230
4	893	2170	6900	6620	3720	3780	6290	16700	1070	3150	732	1680
5	856	2080	6810	24300	3280	3480	5580	21900	1020	6160	1120	1360
6	980	1880	6340	26500	2980	3230	4640	14000	1030	12000	15400	1150
7	848	2040	5150	24800	2650	3100	3750	10000	903	7060	28100	1010
8	610	1580	3590	34800	2320	3010	3790	7200	627	4960	29200	881
9	589	1460	3190	47900	2000	13000	8970	7550	698	4190	23900	864
10	539	1340	2520	45700	1840	38300	44100	7460	848	4020	16800	783
11	457	1150	7180	39400	1830	34400	51400	5880	1000	3370	13300	716
12	489	1030	11200	28600	3340	24200	42700	4420	1310	1960	11400	653
13	574	889	9830	19600	5410	16200	28500	3510	13600	1710	9100	603
14	627	1020	7190	14400	4880	12000	20500	2760	28000	1460	5940	572
15	484	971	5320	11900	4580	9150	14300	2830	22100	1180	3540	595
16	576	893	3620	9050	4160	7660	14900	2390	14900	948	2640	485
17	753	861	3700	6500	6830	5790	24100	2020	10400	828	2710	579
18	726	801	3600	5160	35000	6670	20000	1880	8260	537	2350	530
19	732	860	3290	4230	46100	16500	14100	1650	8160	521	2190	497
20	785	808	3600	3250	41900	23700	9740	1570	7900	562	1940	494
21	887	850	3400	3450	33200	31400	6720	1360	4660	728	1600	463
22	793	2440	3280	2670	24400	35300	4920	1170	4340	1310	1190	509
23	739	7670	6530	2230	18500	30000	4150	1230	4240	5710	1510	744
24	533	7180	10700	2270	13900	22800	3560	1260	2790	12500	3330	1060
25	486	5720	17800	2360	10800	17500	3050	1450	2120	12300	18700	709
26	516	3770	27300	2570	7990	12900	3020	1120	1630	9780	33100	631
27	811	3040	23100	2480	6700	9860	3560	1250	1310	6580	23600	512
28	822	3200	16700	3110	5450	7780	3460	1370	1220	4650	16800	454
29	970	6820	12300	4170	---	12200	3450	1380	1140	3970	11000	419
30	912	13500	9170	5340	---	15200	3680	1050	1650	3070	8560	443
31	1010	---	7270	5500	---	13100	---	1150	---	2180	6610	---
TOTAL	23260	81923	260970	402180	307130	445760	383550	151420	150568	133044	299622	29696
MEAN	750	2731	8418	12970	10970	14380	12790	4885	5019	4292	9665	990
MAX	1230	13500	27300	47900	46100	38300	51400	21900	28000	12500	33100	4750
MIN	457	801	2520	2230	1830	3010	3020	1050	627	521	732	419
CFSM	.12	.43	1.33	2.05	1.73	2.27	2.02	.77	.79	.68	1.53	.16
IN.	.14	.48	1.53	2.36	1.80	2.62	2.25	.89	.88	.78	1.76	.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1930 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1431	3096	5456	6956	7927	11050	9687	6018	4239	2470	1225	1124
MAX	9041	19010	23830	34010	30000	38210	25890	29540	24030	11200	9665	10320
(WY)	1955	1993	1967	1950	1976	1982	1957	1943	1981	1992	1998	1992
MIN	95.5	196	177	235	424	1759	914	587	231	207	146	127
(WY)	1964	1965	1964	1945	1934	1941	1946	1934	1988	1930	1941	1963

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1930 - 1998	
ANNUAL TOTAL	2677715		2669123			
ANNUAL MEAN	7336		7313		5040	
HIGHEST ANNUAL MEAN					9370	1950
LOWEST ANNUAL MEAN					938	1931
HIGHEST DAILY MEAN	63800	Mar 1	51400	Apr 11	113000	Mar 14 1982
LOWEST DAILY MEAN	385	Aug 11	419	Sep 29	17	Jun 30 1988
ANNUAL SEVEN-DAY MINIMUM	499	Aug 6	508	Sep 16	47	Jun 27 1988
INSTANTANEOUS PEAK FLOW			54100	Apr 11	121000	Mar 14 1982
INSTANTANEOUS PEAK STAGE			12.24	Apr 11	17.18	Mar 14 1982
INSTANTANEOUS LOW FLOW			419	Sep 29	17	Jun 30 1988
ANNUAL RUNOFF (CFSM)	1.16		1.16		.80	
ANNUAL RUNOFF (INCHES)	15.74		15.69		10.82	
10 PERCENT EXCEEDS	17900		21100		14000	
50 PERCENT EXCEEDS	3600		3560		1670	
90 PERCENT EXCEEDS	815		727		260	

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--April 1950 to current year.
PERIOD OF DAILY RECORD.--
CHLORIDE: October 1987 to September 1994.
NITROGEN, NITRITE + NITRATE: October 1987 to September 1994.
NITROGEN, AMMONIA + ORGANIC: October 1987 to September 1994.
PHOSPHORUS: October 1987 to September 1994.
SUSPENDED SEDIMENT DISCHARGE: April 1950 to September 1984. October 1987 to current year.
INSTRUMENTATION.--Refrigerated water-quality pumping sampler, operated by Heidelberg College Water Quality Laboratory, from October 1987 to September 1994. Sampler located at station 04193490.
REMARKS.--Sediment samples were collected by a local observer on an approximate once daily basis. Sediment loads were calculated using the mean-interval method (Porterfield, George, 1972, Computation of Fluvial-Sediment Discharge: U.S. Geological Survey, Techniques of Water-Resources Investigations, Book 3, Chap. C3, 66 p.). For days with unsteady concentration, discharge, or both, the day was subdivided into hourly intervals and the daily load was calculated by summation of hourly loads. This required interpolation between measured and estimated concentrations.
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, 1963.
SEDIMENT LOADS: Maximum daily, 300,000 tons, Feb. 24, 1990; minimum daily, 0.26 ton, Sep. 18, 1955.
EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 845 mg/L, Mar. 10; minimum daily mean, 10 mg/L, Nov. 13-15.
SEDIMENT LOADS: Maximum daily, 104,000 tons, Apr. 10; minimum daily, 16 tons, Sep. 29.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAMPLING METHOD, CODES* (82398)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN, AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	BROMACIL WATER WHLREC (UG/L) (30234)
NOV												
25...	1030	10	5810	703	7.7	8.0	2.5	59	4.2	0.9	0.16	--
25...	1150	50	5850	--	--	--	--	59	4.8	0.8	0.17	--
MAY												
20...	0915	10	1560	497	8.2	25.0	24.5	30	2.1	1.1	0.03	--
20...	1055	50	1510	--	--	--	--	30	2.2	1.2	0.13	--
JUL												
24...	0940	10	12400	--	7.7	22.0	26.0	29	1.9	1.6	0.28	<.2
24...	1140	50	12600	--	--	--	--	30	2.3	1.3	0.26	<.2

DATE	BUTACHLOR WATER WHLREC (UG/L) (30235)	BUTYLATE WATER WHLREC (UG/L) (30236)	CARBOXIN WATER WHOLE RECOVERABLE (UG/L) (30245)	CYCLOATE WATER WHOLE RECOVERABLE (UG/L) (30254)	DIPHENAMID WATER WHOLE RECOVERABLE (UG/L) (30255)	HEXAZINONE WATER WHOLE RECOVERABLE (UG/L) (30264)	PROPACHLOR WATER WHOLE RECOV. (UG/L) (30295)	TERBACIL WATER WHOLE RECOV. (UG/L) (30311)	VERNOLATE WATER WHOLE RECOV. (UG/L) (30324)	PROPAZINE TOTAL (UG/L) (39024)	TRIFLURALIN TOTAL RECOVER (UG/L) (39030)	SIMETRYNE TOTAL (UG/L) (39054)
NOV												
25...	--	--	--	--	--	--	--	--	--	--	--	--
25...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
20...	--	--	--	--	--	--	--	--	--	--	--	--
20...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
24...	<.1	<.1	<.2	<.1	<.1	<.2	<.1	<.2	<.1	<.1	<.1	<.1
24...	<.1	<.1	<.2	<.1	<.1	<.2	<.1	<.2	<.1	<.1	<.1	<.1

DATE	SIMAZINE TOTAL (UG/L) (39055)	PROMETONE TOTAL (UG/L) (39056)	PROMETRYNE TOTAL (UG/L) (39057)	ATRAZINE WATER UNFLTRD REC (UG/L) (39630)	DE-ISO PROPYL ATRAZIN WATER, WHOLE, TOTAL (UG/L) (75980)	DEETHYL ATRAZINE, WATER, WHOLE, TOTAL (UG/L) (75981)	ALACHLOR TOTAL RECOVER (UG/L) (77825)	CYANAZINE TOTAL (UG/L) (81757)	AMETRYNE TOTAL (UG/L) (82184)	METRIBUZIN WATER WHOLE TOT.REC (UG/L) (82611)	METOLACHLOR WATER WHOLE TOT.REC (UG/L) (82612)	SEDIMENT, SUSPENDED (MG/L) (80154)
NOV												
25...	--	--	--	--	--	--	--	--	--	--	--	43
25...	--	--	--	--	--	--	--	--	--	--	--	--
MAY												
20...	--	--	--	--	--	--	--	--	--	--	--	29
20...	--	--	--	--	--	--	--	--	--	--	--	--
JUL												
24...	0.1	<.2	<.1	1.4	0.22	0.46	<.1	0.2	<.1	<.1	1.0	--
24...	0.1	<.2	<.1	1.3	0.24	0.46	<.1	0.3	<.1	<.1	1.0	--

*10 - Stream cross-section sample using equal-width-increment (EWI) sampling method.
*50 - Point sample obtained from flow tank.

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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	1230	55	183	1200	21	70	12300	126	4200
2	1070	56	162	2160	20	119	10100	103	2810
3	963	57	148	2540	19	133	7990	84	1820
4	893	58	139	2170	19	109	6900	69	1280
5	856	58	135	2080	18	100	6810	56	1030
6	980	60	160	1880	17	86	6340	45	772
7	848	66	149	2040	16	87	5150	36	504
8	610	54	90	1580	15	63	3590	29	282
9	589	47	74	1460	14	54	3190	24	202
10	539	42	60	1340	13	46	2520	25	172
11	457	40	49	1150	12	37	7180	74	1620
12	489	39	52	1030	11	31	11200	104	3160
13	574	38	59	889	10	25	9830	81	2150
14	627	37	63	1020	10	28	7190	63	1220
15	484	36	47	971	10	27	5320	49	701
16	576	35	55	893	11	25	3620	38	374
17	753	36	73	861	11	25	3700	39	394
18	726	36	70	801	11	24	3600	44	426
19	732	35	70	860	11	26	3290	37	331
20	785	35	75	808	12	25	3600	30	296
21	887	34	82	850	12	27	3400	25	228
22	793	33	70	2440	30	257	3280	20	179
23	739	31	63	7670	86	1820	6530	30	595
24	533	30	43	7180	67	1290	10700	67	1930
25	486	29	38	5720	47	730	17800	196	11100
26	516	28	39	3770	38	382	27300	621	45800
27	811	27	58	3040	31	256	23100	500	31200
28	822	26	57	3200	28	246	16700	333	15100
29	970	24	64	6820	68	1410	12300	230	7650
30	912	23	57	13500	145	5320	9170	167	4130
31	1010	22	61	---	---	---	7270	123	2410
TOTAL	23260	---	2545	81923	---	12878	260970	---	144066

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	5500	102	1510	5020	20	273	4590	55	686
2	4220	82	932	4540	22	268	4340	46	539
3	3600	71	688	3810	24	247	4620	39	484
4	6620	77	1640	3720	32	320	3780	32	327
5	24300	277	19100	3280	25	226	3480	27	254
6	26500	541	38700	2980	22	178	3230	22	192
7	24800	409	27400	2650	21	148	3100	19	156
8	34800	458	46100	2320	18	111	3010	19	156
9	47900	670	86700	2000	15	82	13000	86	5440
10	45700	500	61800	1840	14	70	38300	845	88000
11	39400	339	36200	1830	14	69	34400	571	53400
12	28600	227	17600	3340	13	121	24200	408	26700
13	19600	174	9220	5410	17	252	16200	314	13700
14	14400	148	5710	4880	20	268	12000	257	8320
15	11900	126	4030	4580	26	317	9150	193	4770
16	9050	100	2450	4160	40	452	7660	151	3120
17	6500	79	1380	6830	57	1310	5790	118	1840
18	5160	62	861	35000	664	70500	6670	102	1880
19	4230	52	589	46100	823	102000	16500	279	13700
20	3250	42	368	41900	476	54000	23700	432	27700
21	3450	36	334	33200	342	30700	31400	379	32400
22	2670	31	223	24400	269	17800	35300	385	36700
23	2230	28	171	18500	215	10700	30000	289	23400
24	2270	23	138	13900	170	6390	22800	231	14200
25	2360	19	121	10800	139	4040	17500	187	8810
26	2570	16	112	7990	108	2330	12900	159	5520
27	2480	14	95	6700	84	1530	9860	141	3750
28	3110	13	108	5450	68	995	7780	118	2490
29	4170	11	125	---	---	---	12200	122	4130
30	5340	11	155	---	---	---	15200	267	11000
31	5500	15	221	---	---	---	13100	313	11000
TOTAL	402180	---	364781	307130	---	305697	445760	---	404764

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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	10200	250	6900	4370	50	591	1330	45	162
2	8720	192	4520	8540	68	1690	1340	43	154
3	7700	163	3370	11000	78	2300	972	41	106
4	6290	129	2190	16700	190	9750	1070	39	112
5	5580	98	1470	21900	346	20600	1020	37	101
6	4640	78	980	14000	239	9030	1030	35	98
7	3750	65	662	10000	170	4590	903	34	82
8	3790	56	568	7200	129	2510	627	36	60
9	8970	74	2630	7550	112	2280	698	34	64
10	44100	822	104000	7460	91	1830	848	34	77
11	51400	667	92700	5880	75	1190	1000	36	98
12	42700	411	47400	4420	74	882	1310	55	210
13	28500	298	22900	3510	73	692	13600	306	14300
14	20500	230	12700	2760	65	485	28000	508	38500
15	14300	193	7410	2830	50	380	22100	339	20400
16	14900	182	7510	2390	36	233	14900	243	9780
17	24100	245	16000	2020	31	168	10400	182	5100
18	20000	351	18700	1880	38	193	8260	140	3120
19	14100	356	13600	1650	39	173	8160	119	2630
20	9740	224	5940	1570	28	117	7900	108	2300
21	6720	157	2860	1360	33	122	4660	93	1170
22	4920	130	1720	1170	36	114	4340	107	1260
23	4150	102	1150	1230	41	135	4240	115	1310
24	3560	82	791	1260	47	160	2790	98	735
25	3050	69	570	1450	52	205	2120	80	457
26	3020	63	512	1120	51	155	1630	65	285
27	3560	56	538	1250	56	188	1310	52	183
28	3460	53	499	1370	54	201	1220	44	146
29	3450	50	463	1380	52	192	1140	37	112
30	3680	52	514	1050	49	139	1650	33	152
31	---	---	---	1150	47	145	---	---	---
TOTAL	383550	---	381767	151420	---	61440	150568	---	103264

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	4750	68	910	1460	48	190	4750	50	635
2	5720	91	1410	1010	43	117	3320	43	384
3	5180	103	1430	790	38	82	2230	39	234
4	3150	147	1210	732	38	75	1680	35	159
5	6160	170	2990	1120	51	163	1360	30	108
6	12000	171	5500	15400	263	14100	1150	28	88
7	7060	164	3120	28100	384	29100	1010	24	65
8	4960	139	1860	29200	252	19900	881	25	60
9	4190	116	1310	23900	167	10900	864	21	50
10	4020	96	1040	16800	112	5080	783	21	45
11	3370	79	719	13300	81	2910	716	20	40
12	1960	66	347	11400	71	2170	653	21	37
13	1710	57	262	9100	65	1580	603	17	28
14	1460	51	200	5940	57	908	572	19	29
15	1180	46	145	3540	52	492	595	17	27
16	948	41	104	2640	52	368	485	18	23
17	828	37	81	2710	52	381	579	20	31
18	537	33	47	2350	48	304	530	16	22
19	521	31	44	2190	49	286	497	14	19
20	562	36	54	1940	50	263	494	16	22
21	728	42	83	1600	41	180	463	20	24
22	1310	50	183	1190	27	86	509	20	28
23	5710	127	2380	1510	26	108	744	27	56
24	12500	177	5990	3330	53	717	1060	29	84
25	12300	143	4720	18700	184	13100	709	20	38
26	9780	115	3030	33100	345	31100	631	18	30
27	6580	92	1630	23600	223	14200	512	20	27
28	4650	77	963	16800	143	6530	454	16	19
29	3970	68	733	11000	88	2610	419	14	16
30	3070	61	504	8560	78	1800	443	16	19
31	2180	54	318	6610	60	1080	---	---	---
TOTAL	133044	---	43317	299622	---	160880	29696	---	2447
YEAR	2669123		1987846						

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued
National Water-Quality Assessment Program, Lake Erie-Lake St. Clair Basin Study Unit

WATER-QUALITY RECORDS

The data described in the following table were collected and analyzed as part of the NAWQA (National Water-Quality Assessment Program) project in the Lake Erie-Lake St. Clair Basin. The objectives of the NAWQA program are to broadly characterize the water quality of the Nation’s streams and aquifers in relation to human and natural factors. This project is one of 59 river basin and aquifer assessment projects being implemented across the nation. At any one time, 15 to 20 of these projects are actively collecting data. The period of high-intensity data collection for the Lake Erie-Lake St. Clair Basin project is in water years 1996-98.

There are four stream sites in Ohio for which data are being reported in this publication as part of the NAWQA study: Auglaize River near Ft. Jennings (04186500), Maumee River at Waterville (04193500), Cuyahoga River at LTV Steel at Cleveland (04208504), and Grand River at Harpersfield (04211820). Three sites are reported in the 1998 Michigan annual data report: Black River near Jeddo, MI (04159492), Clinton River at Sterling Heights, MI (04161820) and River Raisin near Manchester, MI (04175600). Two Sites are reported in the 1998 Indiana annual data report: St. Joseph River near Newville, IN (04178000), and Maumee River at New Haven, IN (04183000). One site is reported in the 1998 New York annual data report: Cattaraugus Creek at Gowanda, NY (04213500).

These data also can be obtained electronically at http//www-oh.er.usgs.gov/nawqa.index.html.

[---, no data; <, concentration or value reported is less than that indicated; E, estimated value; K, value is estimated from a non-ideal colony count]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT												
14...	1530	536	444	9.0	9.0	18.5	747	13.6	148	--	180	46
21...	1330	817	541	8.6	10.0	14.0	746	15.1	150	K17	220	58
NOV												
12...	1230	995	732	8.4	1.5	6.0	747	15.0	123	--	300	82
18...	1400	802	630	8.8	2.0	3.5	750	19.0	145	K10	260	72
DEC												
17...	0830	3590	604	7.6	.5	0.0	744	13.8	99	300	240	67
JAN												
13...	1230	19800	353	7.8	-2.0	2.0	753	13.6	99	1000	140	40
FEB												
24...	1145	14000	400	7.9	1.0	4.5	743	12.4	98	1500	180	50
MAR												
31...	0900	13500	447	7.8	27.5	14.0	740	8.5	83	--	190	53
APR												
21...	1330	6650	420	7.8	14.0	12.5	750	7.9	93	--	170	49
MAY												
13...	1030	3540	502	8.0	20.0	17.5	745	8.3	89	K90	220	61
JUN												
04...	0840	989	599	8.8	20.5	19.5	744	11.1	124	--	240	56
16...	1445	14600	408	7.1	23.0	--	737	--	--	--	160	46
JUL												
09...	0900	4250	400	7.7	23.0	24.5	745	7.4	91	420	150	43
22...	0915	1330	508	8.3	21.5	26.0	745	7.0	86	220	190	50
AUG												
27...	0930	23900	192	7.0	23.5	22.0	749	5.6	65	1200	91	28
SEP												
28...	1200	419	487	8.6	19.0	22.0	738	9.9	118	K21	190	48

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued
National Water-Quality Assessment Program, Lake Erie-Lake St. Clair Basin Study Unit

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	CAR-BONATE WATER DIS IT FIELD MG/L AS CO3 (00452)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
OCT												
14...	16	16	5.1	142	12	136	49	28	0.3	3.6	265	0.01
21...	18	21	5.5	188	5	162	60	41	.3	1.9	344	.02
NOV												
12...	24	33	5.5	229	12	208	85	57	.5	3.0	460	<.01
18...	21	25	5.5	--	--	--	69	47	.4	3.6	413	.02
DEC												
17...	19	19	3.9	193	--	158	60	44	.3	6.8	386	.03
JAN												
13...	11	6.3	4.5	127	--	104	30	18	.2	6.3	213	.03
FEB												
24...	13	7.7	3.9	135	--	124	38	20	.2	6.3	245	.03
MAR												
31...	14	11	2.9	159	--	130	42	21	.2	5.1	264	.07
APR												
21...	13	8.2	3.2	142	--	116	35	16	.2	5.7	257	.05
MAY												
13...	17	12	3.2	176	--	144	48	21	.2	6.0	314	.04
JUN												
04...	24	25	3.4	183	--	150	75	42	.4	<.10	353	.03
16...	12	6.7	5.5	129	--	106	27	17	.3	7.1	283	.37
JUL												
09...	11	10	4.3	115	--	94	30	17	.3	7.5	249	.06
22...	16	16	4.7	267	--	238	50	27	.3	5.0	306	.03
AUG												
27...	5.1	3.0	4.0	80	--	66	12	5.7	.2	6.2	130	.02
SEP												
28...	16	21	2.9	142	17	144	52	32	.4	.50	299	<.01

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
OCT												
14...	0.36	<.02	1.7	0.6	0.13	0.02	0.01	13	2	8.0	>5.0	34
21...	.72	<.02	1.1	.5	.10	<.01	<.01	4	1	7.1	1.3	20
NOV												
12...	1.9	<.02	1.4	.6	.11	.02	.03	25	<1	6.9	2.1	18
18...	2.4	.27	1.2	.6	.08	.02	.02	21	<4	7.8	1.7	24
DEC												
17...	5.3	<.02	1.0	.7	.19	.10	.08	28	8	5.7	1.4	53
JAN												
13...	3.8	<.02	1.2	.7	.35	.13	.12	70	5	7.3	2.7	164
FEB												
24...	5.1	.09	1.5	.6	.42	.12	.11	30	<4	6.4	3.6	190
MAR												
31...	3.7	.11	.7	.7	.10	.10	.07	22	<4	6.2	5.1	333
APR												
21...	4.0	.07	1.4	.6	.35	.10	.09	22	<4	6.4	2.3	--
MAY												
13...	3.8	.05	1.3	.6	.24	.12	.09	16	<4	7.2	1.9	77
JUN												
04...	.22	<.02	1.8	.5	.15	.02	<.01	<10	<4	5.7	4.2	36
16...	13.8	.04	2.5	2.0	.51	.14	<.01	17	<4	8.0	4.6	286
JUL												
09...	6.9	<.02	1.3	.9	.28	.17	.11	13	<4	6.6	--	126
22...	2.7	<.02	1.5	.5	.12	<.01	<.01	<10	<4	6.1	4.2	51
AUG												
27...	2.4	.06	.6	.3	.10	.10	.10	36	<4	7.9	2.9	175
SEP												
28...	.07	<.02	1.2	.6	.14	.04	.02	E7	<3	7.9	2.8	13

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued
National Water-Quality Assessment Program, Lake Erie-Lake St. Clair Basin Study Unit

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)
OCT												
14...	--	--	--	--	--	--	--	--	--	--	--	--
21...	<.002	0.006	0.289	E.097	<.001	<.002	<.002	<.003	<.003	<.004	0.046	<.002
NOV												
12...	--	--	--	--	--	--	--	--	--	--	--	--
18...	.024	.016	.219	E.064	<.400	<.002	<.002	<.003	<.010	<.004	.066	<.002
DEC												
17...	.014	.011	.136	E.037	<.500	<.002	<.002	<.010	<.003	.025	.040	<.002
JAN												
13...	.019	.015	.133	E.044	<.001	<.002	<.002	<.003	<.003	<.004	.023	<.002
FEB												
24...	.011	.011	.115	E.040	<.001	<.002	<.002	<.003	<.003	<.004	.021	<.002
MAR												
31...	.018	.013	.126	E.022	<.100	.007	<.002	<.003	<.003	<.004	.017	<.002
APR												
21...	.026	.027	.170	E.049	<.001	<.002	<.002	<.003	<.003	<.004	.037	<.002
MAY												
13...	1.28	.843	3.84	E.065	<.001	<.002	<.002	<.003	<.003	<.030	.723	<.002
JUN												
04...	.067	.030	1.01	E.090	<.001	<.002	<.002	<.003	<.003	<.004	.401	<.002
16...	5.64	1.68	E31.8	E1.60	<.001	<.002	<.002	E.023	E.328	<.210	4.53	<.002
JUL												
09...	.269	.120	3.60	E.456	<.001	<.002	<.002	E.054	E.255	<.020	.701	<.002
22...	.074	<.002	1.60	E.245	<.001	<.002	<.002	<.003	<.003	<.004	.269	<.002
AUG												
27...	.040	.017	.562	E.119	<.040	<.002	<.002	<.060	<.080	<.004	.189	<.002
SEP												
28...	.008	.005	.313	E.072	<.001	<.002	<.002	<.003	<.003	<.004	.054	<.002

DATE	P,P' DDE DISSOLV (UG/L) (34653)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	LINDANE DIS- SOLVED (UG/L) (39341)	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)
OCT												
14...	--	--	--	--	--	--	--	--	--	--	--	--
21...	<.006	E.002	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002
NOV												
12...	--	--	--	--	--	--	--	--	--	--	--	--
18...	<.006	<.002	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002
DEC												
17...	<.006	.007	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002
JAN												
13...	<.006	<.002	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002
FEB												
24...	<.006	<.002	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002
MAR												
31...	<.006	E.004	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002
APR												
21...	<.006	.007	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002
MAY												
13...	<.006	.009	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002
JUN												
04...	<.006	<.002	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002
16...	<.006	<.002	<.001	E.003	<.017	.015	<.004	<.003	<.003	<.002	<.004	<.020
JUL												
09...	<.006	.026	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002
22...	<.006	<.002	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002
AUG												
27...	<.006	<.010	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002
SEP												
28...	<.006	.008	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002

04193500 MAUMEE RIVER AT WATERVILLE, OHIO--Continued
National Water-Quality Assessment Program, Lake Erie-Lake St. Clair Basin Study Unit

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	MALA- THION, DIS- SOLVED (UG/L) (39532)	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PARA- THION, DIS- SOLVED (UG/L) (39542)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO- METON, WATER, DISS, REC (UG/L) (04037)
OCT												
14...	--	--	--	--	--	--	--	--	--	--	--	--
21...	<.005	0.138	<.004	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	0.032
NOV												
12...	--	--	--	--	--	--	--	--	--	--	--	--
18...	<.010	.157	.011	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	.033
DEC												
17...	<.005	.154	.039	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	E.007
JAN												
13...	<.005	.166	.058	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	E.006
FEB												
24...	<.005	.151	.015	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	E.004
MAR												
31...	<.005	.091	<.010	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	E.008
APR												
21...	<.005	.538	.158	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	.021
MAY												
13...	<.005	3.17	.724	<.004	<.003	<.004	<.006	<.004	.035	<.005	<.002	.051
JUN												
04...	<.005	1.13	.068	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	.036
16...	<.005	21.5	2.02	<.004	<.003	<.004	<.006	<.004	<.040	<.005	<.002	.052
JUL												
09...	<.005	5.77	.172	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	.095
22...	<.005	1.43	.035	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	.105
AUG												
27...	<.005	.586	.043	<.004	<.003	<.004	<.010	<.004	<.004	<.005	<.002	.019
SEP												
28...	<.005	.208	<.004	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	.037

DATE	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)
OCT											
14...	--	--	--	--	--	--	--	--	--	--	--
21...	<.003	<.007	<.004	<.013	0.037	0.015	<.007	<.013	<.002	<.001	<.002
NOV											
12...	--	--	--	--	--	--	--	--	--	--	--
18...	<.003	<.007	<.004	<.013	.023	.014	<.007	<.013	<.002	<.001	<.002
DEC											
17...	<.003	<.007	<.004	<.013	.012	.011	<.007	<.013	<.002	<.001	<.002
JAN											
13...	<.003	<.007	<.004	<.013	.017	<.010	<.007	<.013	<.002	<.001	<.002
FEB											
24...	<.003	<.007	<.004	<.013	.013	<.010	<.007	<.013	<.002	<.001	<.002
MAR											
31...	<.003	<.007	<.004	<.013	.020	.021	<.007	<.013	<.002	<.001	.006
APR											
21...	<.003	<.007	<.004	<.013	.036	.016	<.007	<.013	<.002	<.001	<.002
MAY											
13...	<.003	<.007	<.004	<.013	.181	<.010	<.007	<.013	<.002	<.001	<.002
JUN											
04...	<.003	<.007	<.004	<.013	.130	<.010	<.007	<.013	<.002	<.001	<.002
16...	<.003	E.002	<.004	<.013	1.62	.051	<.007	<.013	<.002	<.001	<.002
JUL											
09...	<.003	<.007	<.004	<.013	.199	.015	<.007	<.013	<.002	<.001	<.002
22...	<.003	<.007	<.004	<.013	.122	<.010	<.007	<.013	<.002	<.001	<.002
AUG											
27...	<.003	<.007	<.004	<.013	.064	<.010	<.007	<.013	<.002	<.001	<.002
SEP											
28...	<.003	<.007	<.004	<.013	.046	.024	<.007	<.013	<.002	<.001	<.002

04195500 PORTAGE RIVER AT WOODVILLE, OHIO

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 sea level. 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.--Records good. 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. Water-quality data collected at this site 800 ft downstream. Sediment data collected at this site. National Weather Service gage height telemeter at station.
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.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	28	534	156	329	266	409	299	43	460	13	403
2	15	25	340	213	273	265	469	1620	42	204	12	233
3	17	27	227	176	230	260	359	2450	36	104	11	159
4	16	28	457	944	189	239	285	3530	32	69	10	116
5	16	25	675	2980	155	242	235	5020	30	70	83	91
6	14	26	408	2390	160	223	193	2730	30	93	2250	71
7	12	26	258	2130	146	204	173	1040	29	68	2440	67
8	11	25	184	4460	121	199	270	583	28	54	1960	65
9	8.8	25	162	7090	111	900	1420	425	28	56	984	59
10	8.1	21	191	4110	104	2440	4010	316	33	109	577	51
11	10	19	1810	1320	106	1110	2670	246	206	69	313	47
12	11	18	1300	676	297	574	985	206	268	52	194	42
13	13	16	682	503	598	392	550	173	2440	38	123	39
14	15	20	431	437	415	333	441	146	2360	28	76	36
15	16	22	299	380	292	261	489	127	896	26	55	33
16	22	29	252	323	253	201	1570	114	479	26	146	32
17	23	35	311	258	1620	183	2590	104	427	21	363	32
18	20	34	288	213	6070	458	1190	92	277	18	324	32
19	18	28	248	176	8260	1650	607	83	197	18	667	31
20	17	24	221	153	4680	1030	434	79	266	19	313	33
21	16	28	186	139	2260	2500	347	71	188	28	149	34
22	14	141	166	127	1240	2590	279	67	115	230	87	164
23	13	504	593	140	783	1420	234	61	88	889	60	149
24	13	328	803	200	568	764	201	60	71	624	190	75
25	15	193	2250	204	448	496	178	58	61	228	3870	50
26	20	133	3000	193	377	396	200	60	57	99	8820	38
27	34	107	1430	271	345	336	377	51	52	55	11100	31
28	67	126	725	428	314	338	305	46	91	37	8390	28
29	57	632	464	443	---	934	234	44	185	30	3970	28
30	41	709	359	445	---	735	255	42	650	22	1350	24
31	34	---	265	411	---	464	---	41	---	18	732	---
TOTAL	622.9	3402	19519	32089	30744	22403	21959	19984	9705	3862	49632	2293
MEAN	20.1	113	630	1035	1098	723	732	645	324	125	1601	76.4
MAX	67	709	3000	7090	8260	2590	4010	5020	2440	889	11100	403
MIN	8.1	16	162	127	104	183	173	41	28	18	10	24
CFSM	.05	.26	1.47	2.42	2.57	1.69	1.71	1.51	.76	.29	3.74	.18
IN.	.05	.30	1.70	2.79	2.67	1.95	1.91	1.74	.84	.34	4.31	.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1928 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	84.2	200	356	461	523	765	640	409	288	154	83.3	87.7
MAX	722	1595	1722	2129	1793	2542	1965	1685	1875	821	1601	1088
(WY)	1951	1973	1991	1952	1976	1982	1957	1943	1981	1958	1998	1981
MIN	2.96	3.61	4.37	2.24	2.00	118	41.7	25.4	9.29	2.81	3.09	3.67
(WY)	1935	1935	1935	1945	1934	1941	1946	1934	1988	1930	1933	1944
(+)	7.0	6.4	5.8	5.8	6.2	6.0	6.1	7.1	7.6	7.9	7.4	8.0
MEAN≠	13.1	107	624	1029	1092	717	726	638	316	117	1594	68.4
CFSM≠	.03	.25	1.46	2.40	2.55	1.68	1.70	1.49	.74	.27	3.72	.16
IN≠	.04	.28	1.68	2.77	2.66	1.93	1.89	1.72	.82	.32	4.29	.18

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1928 - 1998	
ANNUAL TOTAL	181212.9		216214.9			
ANNUAL MEAN	496		592		337	
HIGHEST ANNUAL MEAN					628	1973
LOWEST ANNUAL MEAN					81.4	1931
HIGHEST DAILY MEAN	9010	Jun 3	11100	Aug 27	11100	Aug 27 1998
LOWEST DAILY MEAN	8.1	Oct 10	8.1	Oct 10	.40	Aug 26 1931
ANNUAL SEVEN-DAY MINIMUM	11	Oct 7	11	Oct 7	.93	Oct 12 1934
INSTANTANEOUS PEAK FLOW			11500	Aug 27a	11500	Feb 15 1950
INSTANTANEOUS PEAK STAGE			13.98	Aug 27	14.51	Feb 15 1950
INSTANTANEOUS LOW FLOW			8.1	Oct 10	.40	Aug 16 1931
ANNUAL RUNOFF (CFSM)	1.16		1.38		.79	
ANNUAL RUNOFF (INCHES)	15.75		18.79		10.71	
10 PERCENT EXCEEDS	977		1590		850	
50 PERCENT EXCEEDS	159		191		69	
90 PERCENT EXCEEDS	19		21		8.0	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
(+) Diversion in cubic feet per second, from Maumee River Basin for municipal supply; furnished by City of Bowling Green.
≠ Adjusted for diversion.

04196000 SANDUSKY RIVER NEAR BUCYRUS, OHIO

LOCATION.--Lat 40°48'13", long 83°00'21", in NE 1/4 sec. 10, T.3 S., R.16 E., Crawford County, Hydrologic Unit 04100011, on right bank at downstream side of bridge on township road, 1 mi upstream from unnamed left bank tributary, 1.5 mi west of Bucyrus, and 12 mi downstream from Loss Creek.
DRAINAGE AREA.--88.8 mi^2.
PERIOD OF RECORD.--August 1925 to November 1935, July 1938 to December 1951, December 1963 to September 1981, October 1995 to current year.
REVISED RECORDS.--WSP 744: 1925-32. WSP 874: 1938. WSP 1307: 1926(M), 1928(M), 1931, 1932(M), 1934-35(M), 1939, 1940(M), 1946(M). WSP 1912: Drainage area.
GAGE.--Water-stage recorder. Datum of gage is 955.04 ft above sea level. Prior to May 11, 1940, nonrecording gage, and May 12, 1940, to December 31, 1951.
REMARKS.--Records good, except for periods of estimated record, which are poor. Low flow slightly affected by operation of reservoirs, 5.3 mi to 6.0 mi upstream from station, for municipal supply of Bucyrus. Water-quality and sediment data collected at this site.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 23, 1913 reached a stage of 14.5 ft, from floodmarks. Flood of January 22, 1959, reached a stage of 11.9 ft, from floodmarks; discharge, 13,500 ft^3/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.9	6.6	31	17	32	100	42	36	8.8	e150	11	10
2	4.7	6.6	31	16	28	89	34	40	8.5	e70	9.1	8.8
3	4.8	8.8	25	18	24	65	33	173	7.8	e45	9.0	7.9
4	5.3	7.6	27	26	21	74	37	599	8.4	e35	9.3	7.6
5	5.0	7.6	41	32	20	119	33	182	11	e80	17	6.8
6	4.8	8.3	28	71	14	84	30	93	8.5	e50	14	6.0
7	4.5	9.3	21	914	15	63	30	60	8.5	e30	20	6.3
8	4.6	9.2	18	2720	12	58	43	199	7.7	e24	18	6.4
9	5.0	8.4	18	1460	11	216	369	446	7.9	e21	13	5.5
10	5.2	8.4	97	441	9.3	258	365	123	86	e17	26	5.5
11	5.0	7.6	280	199	11	130	130	71	76	e12	22	5.1
12	5.2	7.0	79	114	28	85	79	48	380	e10	18	5.0
13	7.2	7.1	48	82	52	59	60	37	928	e9.0	12	4.9
14	11	17	34	57	34	53	79	29	286	e8.0	10	4.4
15	5.6	14	26	53	25	41	71	23	121	e7.4	8.8	4.4
16	5.4	17	21	49	25	37	584	18	77	e7.0	7.6	4.3
17	6.3	15	13	41	184	46	1250	18	299	e6.6	7.2	4.2
18	6.7	13	8.8	34	1110	65	309	20	83	e6.2	10	4.6
19	6.4	11	13	24	1070	83	152	20	75	e6.0	8.0	4.4
20	6.8	10	5.8	28	309	107	316	19	55	e15	9.2	5.2
21	6.5	11	14	18	199	1180	151	17	35	e60	7.8	11
22	6.2	18	19	22	127	631	96	15	e30	132	6.9	5.4
23	6.4	12	36	72	96	194	74	14	e30	433	6.9	8.3
24	6.7	17	54	159	78	114	59	14	e31	154	95	6.6
25	7.9	14	267	77	65	84	48	13	e34	54	204	5.9
26	12	12	189	56	56	65	47	14	e39	32	270	5.0
27	14	10	92	61	55	52	49	13	e50	24	51	4.8
28	21	14	59	64	51	63	41	12	e140	19	26	5.0
29	12	19	44	54	---	65	36	10	e450	16	18	4.7
30	9.3	21	33	47	---	52	36	9.3	e250	14	14	4.7
31	7.6	---	15	39	---	38	---	9.1	---	12	11	---
TOTAL	224.0	347.5	1687.6	7065	3761.3	4370	4683	2394.4	3632.1	1559.2	969.8	178.7
MEAN	7.23	11.6	54.4	228	134	141	156	77.2	121	50.3	31.3	5.96
MAX	21	21	280	2720	1110	1180	1250	599	928	433	270	11
MIN	4.5	6.6	5.8	16	9.3	37	30	9.1	7.7	6.0	6.9	4.2
CFSM	.08	.13	.61	2.57	1.51	1.59	1.76	.87	1.36	.57	.35	.07
IN.	.09	.15	.71	2.96	1.58	1.83	1.96	1.00	1.52	.65	.41	.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	23.6	57.5	112	144	145	189	147	93.7	77.4	36.3	25.0	22.1
MAX	278	271	405	635	339	471	408	252	428	184	212	116
(WY)	1927	1973	1928	1950	1976	1978	1964	1969	1947	1966	1979	1926
MIN	1.28	1.34	1.39	3.93	2.29	32.9	9.64	4.44	1.93	.84	1.34	.38
(WY)	1935	1935	1935	1977	1934	1981	1935	1934	1934	1995	1995	1995

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1925 - 1998	
ANNUAL TOTAL	34497.3		30872.6			
ANNUAL MEAN	94.5		84.6		88.8	
HIGHEST ANNUAL MEAN					145	1973
LOWEST ANNUAL MEAN					20.4	1934
HIGHEST DAILY MEAN	2630	Jun 1	2720	Jan 8	4600	Dec 14 1927
LOWEST DAILY MEAN	3.8	Sep 7	4.2	Sep 17	.34	Sep 30 1995
ANNUAL SEVEN-DAY MINIMUM	4.5	Sep 3	4.5	Sep 13	.36	Sep 24 1995
INSTANTANEOUS PEAK FLOW			3210	Jan 8a	5800	Dec 14 1927
INSTANTANEOUS PEAK STAGE			8.43	Jan 8	9.83	Dec 14 1977
INSTANTANEOUS LOW FLOW			4.2	Sep 17	.60	Sep 28 1947
ANNUAL RUNOFF (CFSM)	1.06		.95		1.00	
ANNUAL RUNOFF (INCHES)	14.45		12.93		13.59	
10 PERCENT EXCEEDS	214		183		195	
50 PERCENT EXCEEDS	25		24		21	
90 PERCENT EXCEEDS	5.9		6.1		3.0	

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a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

04196800 TYMOCHTEE CREEK AT CRAWFORD, OHIO

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 mi^2.
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 sea level.
REMARKS.--Records good except for periods of estimated record, which are poor. Beginning Mar. 9, 1972, water is diverted at a point 29.4 mi upstream from station into Killdeer Reservoir. Storage is available for low-flow augmentation. There were no low-flow augmentation releases during the year. During the year, withdrawals totaled 71.2 mil gal, equivalent to a mean annual withdrawal of 0.3 ft^3s. Return flow through Abraham Marsh totaled 156 mil gal, equivalent to a mean annual release of 0.66 ft^3s. Water-quality and sediment data collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	12	21	104	104	121	185	124	32	280	6.1	6.6
2	2.5	14	23	56	84	108	233	166	18	140	5.1	5.6
3	2.0	16	44	50	72	113	203	410	14	69	4.4	4.8
4	1.0	15	54	46	67	109	139	320	15	44	4.4	4.3
5	.71	14	59	47	67	105	104	357	15	33	67	3.5
6	.93	13	63	88	63	110	84	317	14	88	218	3.5
7	.98	11	52	549	57	106	69	184	e13	67	441	4.0
8	1.1	10	35	2220	51	96	64	141	e12	39	199	3.6
9	1.5	8.8	25	4690	47	367	207	226	e13	26	101	2.8
10	3.3	8.9	91	3590	41	839	1110	295	e150	24	82	2.3
11	3.7	10	352	1740	37	813	2070	167	e140	22	60	2.1
12	3.8	11	475	681	37	356	1260	111	e1000	15	31	1.6
13	4.2	13	250	339	58	208	386	85	e1200	11	21	1.2
14	6.8	16	144	249	85	151	229	68	e400	8.9	16	.99
15	6.0	17	95	192	77	123	246	59	e220	7.2	11	1.1
16	6.7	17	66	152	e70	102	552	49	e150	7.0	7.9	1.5
17	10	19	48	131	e66	85	1250	43	e380	6.6	6.1	1.1
18	9.5	20	33	102	e500	231	1820	38	278	5.9	6.1	.86
19	11	20	26	82	e1800	613	1010	31	239	5.3	5.0	1.1
20	16	21	27	66	e1600	645	431	26	364	5.2	3.9	1.4
21	13	22	38	53	e800	1240	406	24	315	4.7	3.4	2.0
22	9.9	33	39	57	e560	2050	281	21	152	25	3.7	2.0
23	8.0	31	47	53	e350	2060	202	19	183	118	3.8	1.8
24	8.1	29	60	73	263	979	144	18	108	340	9.5	1.6
25	9.4	27	361	180	204	403	108	17	60	184	33	1.5
26	11	28	612	160	169	279	92	16	40	73	22	1.3
27	14	22	470	143	147	209	80	16	41	33	11	1.5
28	15	20	245	170	133	177	76	18	48	18	12	1.5
29	16	18	159	173	---	199	94	18	212	12	20	1.6
30	16	20	112	153	---	178	87	15	495	9.8	14	2.2
31	14	---	92	130	---	150	---	15	---	7.7	9.0	---
TOTAL	229.02	536.7	4218	16519	7609	13325	13222	3414	6321	1729.3	1437.4	70.95
MEAN	7.39	17.9	136	533	272	430	441	110	211	55.8	46.4	2.37
MAX	16	33	612	4690	1800	2060	2070	410	1200	340	441	6.6
MIN	.71	8.8	21	46	37	85	64	15	12	4.7	3.4	.86

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1964 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	31.7	146	232	241	310	418	334	212	149	115	35.6	32.5
MAX	278	844	1104	777	823	1392	946	686	780	741	201	370
(WY)	1987	1993	1991	1974	1975	1978	1972	1996	1981	1992	1992	1981
MIN	.084	.86	1.78	1.66	37.2	35.1	32.8	11.7	1.78	1.04	.48	.27
(WY)	1965	1992	1992	1977	1972	1983	1971	1988	1988	1965	1965	1964

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1964 - 1998	
ANNUAL TOTAL	76472.72		68631.37			
ANNUAL MEAN	210		188		188	
HIGHEST ANNUAL MEAN					330	1973
LOWEST ANNUAL MEAN					72.2	1988
HIGHEST DAILY MEAN	4750	Jun 2	4690	Jan 9	6280	Dec 31 1990
LOWEST DAILY MEAN	.71	Oct 5	.71	Oct 5	.00	Aug 10 1964
ANNUAL SEVEN-DAY MINIMUM	1.2	Oct 3	1.1	Sep 13	.00	Oct 23 1964
INSTANTANEOUS PEAK FLOW			5190	Jan 9a	6700	Dec 31 1990
INSTANTANEOUS PEAK STAGE			8.82	Jan 9	11.21	Mar 6 1963
INSTANTANEOUS LOW FLOW			.71	Oct 5	.00	Aug 10 1964
10 PERCENT EXCEEDS	556		404		514	
50 PERCENT EXCEEDS	48		49		34	
90 PERCENT EXCEEDS	8.1		3.7		1.5	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

04197100 HONEY CREEK AT MELMORE, OHIO

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 sea level from topographic map.
REMARKS.--Records good except for periods of estimated record, which are poor. Water-quality data collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.6	3.9	82	e52	86	67	133	75	9.1	927	14	51
2	5.5	3.4	56	48	70	71	118	124	7.9	557	11	37
3	4.9	3.8	42	47	61	73	88	422	9.0	207	9.8	29
4	4.5	3.7	90	273	54	97	70	518	10	111	9.6	24
5	4.1	3.4	106	331	48	118	60	499	10	76	110	20
6	4.2	3.4	71	387	39	109	52	236	9.4	55	311	17
7	4.0	3.4	51	1070	43	90	47	127	8.3	42	184	15
8	3.7	3.3	42	3200	36	94	45	98	7.8	35	178	14
9	3.2	3.1	38	2600	33	490	174	142	7.4	29	67	13
10	3.4	3.0	192	1410	30	729	520	141	9.0	25	42	11
11	3.2	2.8	524	724	30	371	306	86	7.5	21	40	9.6
12	3.3	2.7	381	420	40	189	146	63	114	17	29	8.2
13	3.4	2.7	174	278	65	126	97	50	631	15	22	7.4
14	5.0	3.6	105	196	65	100	79	42	790	13	17	6.8
15	4.8	3.5	72	147	53	82	100	36	468	11	13	6.1
16	5.2	3.4	60	116	49	69	408	31	292	53	10	5.9
17	6.9	6.4	58	91	539	62	1000	27	343	23	9.1	5.8
18	7.6	7.2	56	73	2030	105	983	24	156	16	9.8	5.8
19	6.3	6.1	50	60	2010	235	443	21	106	12	8.3	5.9
20	4.5	5.5	47	51	1060	274	462	19	71	9.2	8.7	5.8
21	e3.6	5.7	42	46	550	1380	328	17	52	9.4	9.5	7.9
22	3.2	15	41	42	316	1540	186	16	41	375	7.6	6.5
23	3.1	30	178	47	211	713	127	15	32	528	6.9	6.0
24	3.2	28	186	91	152	331	95	14	27	483	16	7.4
25	3.5	22	529	104	113	193	75	14	22	182	976	6.7
26	5.3	17	601	84	91	138	80	13	18	76	2420	6.0
27	13	13	327	110	80	106	204	13	20	48	1510	5.3
28	14	31	172	176	71	140	134	12	326	34	689	5.1
29	8.5	124	114	169	---	337	97	12	1340	26	286	5.0
30	6.3	118	86	155	---	214	88	11	1040	20	127	5.1
31	5.0	---	e58	116	---	130	---	11	---	17	77	---
TOTAL	162.0	482.0	4631	12714	8025	8773	6745	2929	5984.4	4052.6	7228.3	359.3
MEAN	5.23	16.1	149	410	287	283	225	94.5	199	131	233	12.0
MAX	14	124	601	3200	2030	1540	1000	518	1340	927	2420	51
MIN	3.1	2.7	38	42	30	62	45	11	7.4	9.2	6.9	5.0
CFSM	.04	.11	1.00	2.75	1.92	1.90	1.51	.63	1.34	.88	1.56	.08
IN.	.04	.12	1.16	3.17	2.00	2.19	1.68	.73	1.49	1.01	1.80	.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	30.2	108	169	157	232	285	247	122	123	76.2	42.3	35.5
MAX	186	550	518	465	528	765	540	340	740	373	233	242
(WY)	1991	1993	1978	1993	1990	1978	1979	1997	1981	1992	1998	1981
MIN	.71	2.51	1.99	1.31	65.6	40.4	77.5	8.69	1.05	.46	1.52	.84
(WY)	1989	1995	1977	1977	1993	1981	1991	1988	1988	1988	1993	1995

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1977 - 1998	
ANNUAL TOTAL	62266.4		62085.6			
ANNUAL MEAN	171		170		135	
HIGHEST ANNUAL MEAN					189	1993
LOWEST ANNUAL MEAN					48.1	1988
HIGHEST DAILY MEAN	2970	Jun 2	3200	Jan 8	4000	Dec 30 1990
LOWEST DAILY MEAN	2.7	Nov 12	2.7	Nov 12	.07	Sep 28 1988
ANNUAL SEVEN-DAY MINIMUM	3.0	Nov 7	3.0	Nov 7	.09	Sep 24 1988
INSTANTANEOUS PEAK FLOW			3550	Jan 8a	4440	Jun 13 1981
INSTANTANEOUS PEAK STAGE			10.11	Jan 8	11.00	Jun 13 1981
INSTANTANEOUS LOW FLOW			2.7	Nov 12	.07	Sep 28 1988
ANNUAL RUNOFF (CFSM)	1.14		1.14		.91	
ANNUAL RUNOFF (INCHES)	15.55		15.50		12.30	
10 PERCENT EXCEEDS	454		464		362	
50 PERCENT EXCEEDS	48		49		32	
90 PERCENT EXCEEDS	5.1		5.0		1.9	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

04197170 ROCK CREEK AT TIFFIN, OHIO

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 mi^2.
PERIOD OF RECORD.--June 1983 to current year.
GAGE.--Water-stage recorder. Elevation of gage is 740 ft above sea level, from topographic map.
REMARKS.--Records fair except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	1.7	15	6.3	11	12	32	e14	e1.9	175	2.9	8.0
2	1.7	1.6	8.3	5.4	8.6	14	29	e35	e1.8	52	2.6	e6.0
3	1.7	1.8	6.3	5.9	7.7	13	16	e60	e1.8	15	2.5	e5.0
4	1.7	1.8	22	153	7.0	24	13	e90	e1.7	10	2.5	e4.5
5	1.5	1.7	21	122	6.4	29	11	e170	e1.6	8.2	29	e4.1
6	1.6	1.7	10	152	5.9	18	9.9	e40	e1.6	6.3	34	e3.8
7	1.5	1.7	6.5	445	5.8	14	9.4	e20	e1.5	5.6	39	e3.5
8	1.5	1.7	5.3	1370	5.5	14	10	e30	e1.5	5.2	13	e3.2
9	1.5	1.7	5.2	361	5.2	184	e16	e40	e1.5	4.9	13	e2.9
10	1.3	1.8	88	78	5.2	242	e120	e20	e2.0	4.5	53	e2.7
11	1.5	1.6	161	34	5.4	58	e60	e13	e10	4.1	18	e2.5
12	1.8	1.5	44	19	8.4	25	e25	e9.0	e100	3.8	7.7	e2.3
13	2.2	1.6	17	15	14	16	e17	e8.0	e250	3.5	4.8	e2.2
14	2.8	2.7	10	12	9.8	14	e16	e6.6	e120	3.3	3.9	e1.9
15	2.0	2.6	7.4	11	7.4	12	e60	e5.8	e70	3.0	3.4	e1.7
16	2.0	2.3	6.2	11	7.6	11	e150	e5.2	e60	90	3.1	e1.7
17	1.8	2.0	5.8	9.1	332	11	e210	e4.8	e50	32	2.9	e1.7
18	1.5	2.1	6.5	8.2	986	35	e150	e4.5	e30	8.3	3.3	e1.9
19	1.7	2.3	6.1	7.5	368	58	e80	e4.0	e19	4.7	2.7	e2.2
20	1.8	2.5	5.6	6.9	100	59	e62	e3.7	e10	3.5	2.4	e3.5
21	2.0	2.9	5.3	6.5	71	584	e45	e3.4	e8.0	5.8	2.6	6.8
22	1.7	4.7	5.6	6.3	39	191	e30	e3.2	e6.0	313	2.4	4.5
23	1.8	5.6	47	8.0	26	54	e19	e2.9	e5.0	265	2.4	3.7
24	1.9	4.2	35	14	19	30	e16	e2.8	4.1	49	4.8	3.9
25	2.5	3.2	220	12	16	20	e14	e2.6	3.8	13	678	3.4
26	3.2	3.1	112	10	14	16	e21	e2.5	3.3	7.0	1590	2.6
27	3.0	2.9	41	16	13	14	e50	e2.3	4.5	5.1	159	2.6
28	2.2	7.2	18	30	12	24	e30	e2.2	103	4.3	32	2.4
29	1.9	50	11	24	---	110	e20	e2.1	1010	3.8	16	2.2
30	1.8	37	8.8	23	---	36	e15	e2.0	274	3.5	12	2.1
31	1.7	---	7.4	16	---	20	---	e2.0	---	3.1	9.3	---
TOTAL	58.4	159.2	968.3	2998.1	2116.9	1962	1356.3	611.6	2157.6	1115.5	2752.2	99.5
MEAN	1.88	5.31	31.2	96.7	75.6	63.3	45.2	19.7	71.9	36.0	88.8	3.32
MAX	3.2	50	220	1370	986	584	210	170	1010	313	1590	8.0
MIN	1.3	1.5	5.2	5.4	5.2	11	9.4	2.0	1.5	3.0	2.4	1.7
CFSM	.05	.15	.90	2.80	2.19	1.83	1.31	.57	2.08	1.04	2.57	.10
IN.	.06	.17	1.04	3.22	2.28	2.11	1.46	.66	2.32	1.20	2.96	.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	10.2	32.3	39.5	41.0	62.7	52.2	54.1	30.4	23.8	16.1	11.7	11.5
MAX	50.3	145	172	98.5	122	138	92.7	87.6	90.8	82.0	88.8	99.5
(WY)	1991	1993	1991	1993	1990	1984	1994	1997	1997	1992	1998	1992
MIN	1.28	2.09	2.09	10.2	13.0	13.6	17.9	2.29	1.12	.55	1.37	.83
(WY)	1989	1995	1992	1992	1993	1989	1988	1988	1988	1988	1991	1995

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1984 - 1998	
ANNUAL TOTAL	15022.2		16355.6			
ANNUAL MEAN	41.2		44.8		31.9	
HIGHEST ANNUAL MEAN					48.2	1984
LOWEST ANNUAL MEAN					11.6	1988
HIGHEST DAILY MEAN	1440	Feb 27	1590	Aug 26	1590	Aug 26 1998
LOWEST DAILY MEAN	1.3	Oct 10	1.3	Oct 10	.32	Jul 29 1988
ANNUAL SEVEN-DAY MINIMUM	1.5	Oct 5	1.5	Oct 5	.38	Jul 12 1988
INSTANTANEOUS PEAK FLOW			2640	Aug 26	2640	Aug 26 1998
INSTANTANEOUS PEAK STAGE			8.96	Aug 26	8.96	Aug 26 1998
INSTANTANEOUS LOW FLOW			1.3	Oct 10	.32	Jul 29 1988
ANNUAL RUNOFF (CFSM)	1.19		1.30		.92	
ANNUAL RUNOFF (INCHES)	16.15		17.58		12.53	
10 PERCENT EXCEEDS	87		90		62	
50 PERCENT EXCEEDS	9.0		7.4		6.5	
90 PERCENT EXCEEDS	1.9		1.8		1.5	

e Estimated.

04198000 SANDUSKY RIVER NEAR FREMONT, OHIO

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 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--November 1898 to March 1901 (gage height and discharge measurements only, published as "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 sea level. 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.--Records good except for periods of estimated record, which are fair. Water-quality data collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	74	95	514	e430	764	749	1080	869	157	e3000	144	321
2	68	91	380	e380	640	700	1260	1300	166	e1900	123	258
3	64	84	304	409	550	699	1050	1990	174	e1200	112	219
4	64	79	406	999	485	725	860	4930	148	e900	102	188
5	59	73	689	2310	442	785	697	5050	135	e680	174	159
6	55	72	535	2140	417	788	592	3330	136	e450	2130	140
7	53	71	405	3760	387	790	524	1800	134	e300	1480	139
8	52	68	349	14600	367	751	690	1180	133	e430	1240	125
9	50	68	303	17300	335	1570	1040	1210	128	e600	692	117
10	52	70	482	14600	315	4860	4550	1650	141	e350	745	110
11	51	68	3030	13100	304	3810	4870	1530	346	e260	649	102
12	47	67	2500	7080	338	2450	3850	944	1560	e200	398	96
13	49	66	1830	2800	431	1470	2500	682	6420	e170	274	92
14	56	71	1050	1630	495	1060	1320	550	6220	e580	223	89
15	60	82	685	1260	515	835	1020	468	4090	e910	186	86
16	53	85	523	1020	495	694	2510	410	2180	e500	156	84
17	57	85	445	850	1840	613	7010	362	1610	350	133	83
18	65	86	397	729	13100	728	6740	326	1160	211	138	84
19	65	87	353	620	14700	1870	5540	301	1250	163	133	84
20	65	92	313	536	11100	2210	3440	286	1700	147	115	80
21	64	98	288	472	8670	7230	2500	267	1240	146	101	101
22	59	151	287	420	4920	9470	1930	250	832	891	94	138
23	58	244	538	426	2540	7740	1370	236	545	1860	97	109
24	58	272	872	481	1750	5380	1040	234	470	2470	127	91
25	60	218	2720	669	1350	2700	828	229	397	1940	5330	84
26	71	178	4020	878	1080	1570	732	227	e310	950	16000	81
27	116	156	2980	807	943	1190	893	218	e270	505	6860	78
28	132	241	1830	925	829	1060	893	204	e420	335	2580	72
29	142	466	1120	1070	---	2030	715	185	e1100	256	1260	68
30	119	618	797	1040	---	1710	794	171	e4300	212	669	62
31	100	---	e580	930	---	1220	---	165	---	171	433	---
TOTAL	2138	4202	31525	94671	70102	69457	62838	31554	37872	23037	42898	3540
MEAN	69.0	140	1017	3054	2504	2241	2095	1018	1262	743	1384	118
MAX	142	618	4020	17300	14700	9470	7010	5050	6420	3000	16000	321
MIN	47	66	287	380	304	613	524	165	128	146	94	62
CFSM	.06	.11	.81	2.44	2.00	1.79	1.67	.81	1.01	.59	1.11	.09
IN.	.06	.12	.94	2.82	2.08	2.07	1.87	.94	1.13	.69	1.28	.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	223	587	1099	1575	1938	2339	1829	1071	820	464	232	255
MAX	2521	4413	5495	7659	7504	8261	5524	3654	6091	3479	1660	3713
(WY)	1927	1993	1991	1930	1984	1978	1957	1969	1981	1992	1958	1981
MIN	9.94	25.4	32.6	53.5	60.3	319	144	100	43.4	30.9	22.4	13.5
(WY)	1964	1954	1964	1961	1964	1941	1946	1941	1988	1934	1952	1953

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1924 - 1998	
ANNUAL TOTAL	514507		473834			
ANNUAL MEAN	1410		1298		1031	
HIGHEST ANNUAL MEAN					2167	1984
LOWEST ANNUAL MEAN					275	1934
HIGHEST DAILY MEAN	23700	Jun 2	17300	Jan 9	36000	Mar 15 1978
LOWEST DAILY MEAN	47	Oct 12	47	Oct 12	5.0	Oct 20 1963
ANNUAL SEVEN-DAY MINIMUM	51	Oct 7	51	Oct 7	6.3	Jul 9 1988
INSTANTANEOUS PEAK FLOW			18500	Jan 9a	36500	Mar 16 1978
INSTANTANEOUS PEAK STAGE			8.76	Jan 9	16.14	Feb 24 1979
INSTANTANEOUS LOW FLOW			47	Oct 12	4.4	Feb 29 1964
ANNUAL RUNOFF (CFSM)	1.13		1.04		.82	
ANNUAL RUNOFF (INCHES)	15.30		14.09		11.20	
10 PERCENT EXCEEDS	3480		3010		2760	
50 PERCENT EXCEEDS	476		468		278	
90 PERCENT EXCEEDS	77		72		39	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

04198000 SANDUSKY RIVER NEAR FREMONT, OHIO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1951-56, 1978 to current year.
PERIOD OF DAILY RECORD.--
CHLORIDE: February 1988 to September 1994.
NITROGEN, NITRITE + NITRATE: February 1988 to September 1994.
NITROGEN, AMMONIA + ORGANIC: February 1988 to September 1994.
PHOSPHORUS: February 1988 to September 1994.
SUSPENDED SEDIMENT DISCHARGE: Water years 1951-1956, 1978 to current year.
INSTRUMENTATION.--Refrigerated water-quality pumping sampler, operated by Heidelberg College Water Quality Laboratory, from February 1988 to September 1994.
REMARKS.--Sediment samples were collected by a local observer on an approximate once daily basis. Sediment loads were calculated using the mean-interval method (Porterfield, George, 1972, Computation of Fluvial-Sediment Discharge: U.S. Geological Survey, Techniques of Water-Resources Investigations, Book 3, Chap. C3, 66 p.). For days with unsteady concentration, discharge, or both, the day was subdivided into half-hour intervals and the daily load was calculated by summing the loads for these half-hour intervals. This required interpolation between measured and estimated concentrations.
EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 2,420 mg/L, Jun. 9, 1981; minimum daily mean, 1 mg/L, on many days during 1951-56, 1980, 1981, 1988, 1992.
SEDIMENT LOADS: Maximum daily, 124,000 tons, Jun. 14, 1981; minimum daily, less than 0.05 ton, on several days during 1952, 1954, 1989.
EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 725 mg/L, Feb. 18; minimum daily mean, 5 mg/L, Feb. 10.
SEDIMENT LOADS: Maximum daily, 25,500 tons, Feb. 18; minimum daily, 1.1 ton, Oct. 21.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAM-PLING METHOD, CODES* (82398)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	SEDI-MENT, SUS-PENDED (MG/L) (80154)
NOV												
25...	1430	10	209	852	8.2	12.0	4.5	60	1.5	0.5	0.01	18
25...	1545	50	209	--	--	--	--	66	1.8	0.5	0.01	--
MAY												
20...	1535	10	284	556	8.4	35.0	28.0	35	2.8	0.8	0.08	39
20...	1640	50	283	--	--	--	--	31	2.8	0.8	0.01	--
JUL												
23...	1640	10	1950	320	7.7	28.5	24.5	15	1.8	1.2	0.23	--
23...	1805	50	2030	--	--	--	--	17	1.9	1.4	0.33	--

*10 - Stream cross-section sample using equal-width-increment (EWI) sampling method.
*50 - Point sample obtained from flow tank.

04198000 SANDUSKY RIVER NEAR FREMONT, OHIO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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	74	29	5.7	95	13	3.3	514	40	56
2	68	26	4.8	91	14	3.3	380	29	30
3	64	23	4.0	84	21	4.7	304	21	17
4	64	21	3.5	79	19	4.1	406	24	28
5	59	18	2.9	73	18	3.5	689	44	83
6	55	16	2.4	72	14	2.8	535	29	42
7	53	14	2.0	71	11	2.1	405	24	27
8	52	12	1.7	68	12	2.2	349	21	20
9	50	11	1.5	68	14	2.7	303	19	16
10	52	11	1.5	70	17	3.2	482	31	56
11	51	10	1.4	68	15	2.7	3030	187	1620
12	47	10	1.3	67	12	2.1	2500	158	1070
13	49	12	1.5	66	10	1.8	1830	114	567
14	56	14	2.1	71	10	1.8	1050	82	235
15	60	13	2.1	82	9	2.0	685	59	111
16	53	10	1.5	85	9	2.0	523	44	63
17	57	9	1.3	85	8	1.9	445	36	44
18	65	11	1.9	86	8	1.9	397	30	32
19	65	9	1.5	87	9	2.0	353	25	24
20	65	7	1.2	92	8	2.0	313	21	17
21	64	6	1.1	98	7	1.9	288	17	13
22	59	7	1.2	151	13	6.1	287	15	12
23	58	10	1.5	244	19	12	538	46	75
24	58	11	1.7	272	14	10	872	85	201
25	60	11	1.8	218	16	9.3	2720	292	2800
26	71	12	2.3	178	16	7.7	4020	364	4050
27	116	13	4.1	156	13	5.5	2980	228	1840
28	132	14	4.8	241	29	21	1830	164	815
29	142	11	4.4	466	83	105	1120	117	357
30	119	10	3.1	618	59	98	797	84	181
31	100	12	3.3	---	---	---	e580	60	94
TOTAL	2138	---	75.1	4202	---	328.6	31525	---	14596

e Estimated

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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	e430	43	50	764	21	43	749	33	66
2	e380	31	32	640	20	35	700	26	50
3	409	24	27	550	19	28	699	19	36
4	999	87	376	485	16	21	725	14	28
5	2310	222	1430	442	13	16	785	11	23
6	2140	159	935	417	11	12	788	12	25
7	3760	215	2540	387	9	9.3	790	14	30
8	14600	611	24700	367	7	7.3	751	20	40
9	17300	441	20800	335	6	5.0	1570	118	747
10	14600	355	14000	315	5	4.3	4860	319	4180
11	13100	260	9250	304	6	5.0	3810	223	2310
12	7080	180	3480	338	9	8.0	2450	162	1080
13	2800	138	1050	431	10	11	1470	117	467
14	1630	108	477	495	8	10	1060	84	241
15	1260	85	292	515	9	12	835	56	128
16	1020	67	186	495	9	12	694	36	68
17	850	53	122	1840	193	1770	613	24	40
18	729	43	84	13100	725	25500	728	32	70
19	620	35	58	14700	444	17800	1870	107	547
20	536	30	44	11100	315	9460	2210	83	499
21	472	26	33	8670	236	5550	7230	341	7530
22	420	19	21	4920	176	2360	9470	323	8310
23	426	15	18	2540	133	915	7740	250	5240
24	481	14	19	1750	94	447	5380	193	2820
25	669	14	25	1350	69	253	2700	146	1080
26	878	13	31	1080	57	166	1570	104	445
27	807	14	31	943	46	118	1190	77	248
28	925	19	47	829	39	87	1060	69	203
29	1070	19	56	---	---	---	2030	198	1110
30	1040	21	60	---	---	---	1710	146	679
31	930	21	54	---	---	---	1220	101	334
TOTAL	94671	---	80328	70102	---	64664.9	69457	---	38674

e Estimated

04198000 SANDUSKY RIVER NEAR FREMONT, OHIO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	APRIL MEAN DISCHARGE (CFS)	APRIL MEAN CONCEN-TRATION (MG/L)	APRIL SEDIMENT DISCHARGE (TONS/DAY)	MAY MEAN DISCHARGE (CFS)	MAY MEAN CONCEN-TRATION (MG/L)	MAY SEDIMENT DISCHARGE (TONS/DAY)	JUNE MEAN DISCHARGE (CFS)	JUNE MEAN CONCEN-TRATION (MG/L)	JUNE SEDIMENT DISCHARGE (TONS/DAY)
1	1080	74	216	869	48	124	157	55	23
2	1260	66	223	1300	136	472	166	64	29
3	1050	56	159	1990	127	801	174	58	27
4	860	53	122	4930	396	5850	148	50	20
5	697	42	78	5050	564	7750	135	46	17
6	592	33	53	3330	408	3720	136	41	15
7	524	29	42	1800	241	1190	134	35	13
8	690	82	170	1180	134	432	133	31	11
9	1040	189	630	1210	87	285	128	32	11
10	4550	381	4550	1650	145	678	141	32	12
11	4870	347	4550	1530	140	584	346	78	79
12	3850	315	3280	944	107	274	1560	274	2120
13	2500	221	1530	682	88	162	6420	462	7840
14	1320	126	457	550	72	107	6220	359	6030
15	1020	80	220	468	59	75	4090	305	3390
16	2510	190	1630	410	49	54	2180	205	1230
17	7010	481	9120	362	40	39	1610	157	683
18	6740	398	7240	326	42	37	1160	123	386
19	5540	293	4420	301	45	37	1250	121	416
20	3440	200	1870	286	37	29	1700	193	889
21	2500	141	957	267	29	21	1240	190	633
22	1930	106	555	250	31	21	832	228	508
23	1370	79	293	236	30	19	545	180	266
24	1040	68	190	234	30	19	470	134	170
25	828	55	124	229	32	20	397	125	134
26	732	46	91	227	36	22	e310	112	94
27	893	39	94	218	41	24	e270	96	70
28	893	39	95	204	46	25	e420	91	103
29	715	35	67	185	52	26	e1100	529	1570
30	794	31	67	171	46	21	e4300	559	6490
31	---	---	---	165	47	21	---	---	---
TOTAL	62838	---	43093	31554	---	22939	37872	---	33279

e Estimated

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	JULY MEAN DISCHARGE (CFS)	JULY MEAN CONCEN-TRATION (MG/L)	JULY SEDIMENT DISCHARGE (TONS/DAY)	AUGUST MEAN DISCHARGE (CFS)	AUGUST MEAN CONCEN-TRATION (MG/L)	AUGUST SEDIMENT DISCHARGE (TONS/DAY)	SEPTEMBER MEAN DISCHARGE (CFS)	SEPTEMBER MEAN CONCEN-TRATION (MG/L)	SEPTEMBER SEDIMENT DISCHARGE (TONS/DAY)
1	e3000	270	2190	144	42	16	321	35	30
2	e1900	178	912	123	45	15	258	31	21
3	e1200	123	398	112	42	13	219	27	16
4	e900	85	206	102	31	8.5	188	21	11
5	e680	70	129	174	51	35	159	19	8.0
6	e450	68	82	2130	210	1230	140	18	6.8
7	e300	63	51	1480	113	457	139	16	6.0
8	e430	58	67	1240	85	285	125	14	4.6
9	e600	53	87	692	76	141	117	13	4.1
10	e350	49	46	745	98	201	110	13	3.8
11	e260	42	29	649	81	141	102	12	3.2
12	e200	36	20	398	74	79	96	10	2.6
13	e170	38	17	274	67	50	92	8	2.1
14	e580	34	53	223	56	34	89	8	1.9
15	e910	145	357	186	45	23	86	8	1.9
16	e500	127	172	156	41	17	84	9	1.9
17	350	83	80	133	39	14	83	10	2.2
18	211	57	33	138	45	17	84	10	2.3
19	163	42	18	133	46	16	84	10	2.3
20	147	29	12	115	43	13	80	10	2.2
21	146	27	11	101	40	11	101	13	3.6
22	891	109	331	94	35	8.8	138	17	6.3
23	1860	149	775	97	33	8.5	109	11	3.3
24	2470	178	1190	127	43	16	91	14	3.5
25	1940	118	621	5330	257	5300	84	14	3.2
26	950	97	249	16000	224	9820	81	12	2.7
27	505	80	109	6860	131	2480	78	12	2.5
28	335	66	60	2580	90	636	72	11	2.2
29	256	55	38	1260	62	214	68	11	2.0
30	212	47	27	669	48	87	62	11	1.8
31	171	44	20	433	39	46	---	---	---
TOTAL	23037	---	8390	42898	---	21432.8	3540	---	165.0
YEAR	473834		327965.4						

e Estimated

04199000 HURON RIVER AT MILAN, OHIO

LOCATION.--Lat 41°18'06", long 82°36'25, in SW 1/4 sec. 4, T.5 N., R.22 W., Erie County, Hydrologic Unit 04100012, on right bank on upstream side of bridge on U.S. Highway 250, 0.2 mi northwest of Milan and 2.0 mi downstream from confluence of East and West Branches.
DRAINAGE AREA.--371 mi^2.
PERIOD OF RECORD.--March 1950 to September 1980, October 1987 to current year.
REVISED RECORDS.--WSP 1912: Drainage area. WDR OH-89-2: 1988.
GAGE.--Water-stage recorder. Datum of gage is 573.26 ft above sea level. July 29, 1953, to Oct. 5, 1979, water-stage recorder at site of former highway bridge 500 ft downstream at same datum. July 29, 1953, nonrecording gage at site of former highway 450 ft downstream at same datum.
REMARKS.--Records fair except for periods of estimated record, which are poor. Water-quality and sediment data collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	30	291	139	273	481	321	289	30	4120	50	196
2	32	31	163	179	229	661	311	381	27	1070	47	151
3	32	32	124	164	193	399	233	414	24	435	45	123
4	32	28	335	529	173	438	213	647	23	241	44	103
5	34	29	358	833	144	476	183	740	23	177	60	110
6	31	29	211	966	130	383	165	366	26	135	180	102
7	28	29	142	4000	157	319	141	278	31	116	557	108
8	26	28	126	11200	137	329	374	253	29	188	371	109
9	23	27	128	5620	121	1810	1670	214	34	118	126	81
10	21	28	921	2030	106	2230	2440	201	41	82	92	65
11	20	28	2080	1090	103	980	790	181	38	63	352	58
12	20	26	754	692	156	585	425	164	516	46	316	50
13	20	25	432	539	301	427	314	144	2650	38	113	46
14	29	33	290	423	246	370	324	127	1550	34	71	42
15	35	38	248	379	174	318	445	117	474	63	61	40
16	28	50	178	328	161	272	2160	104	500	232	56	40
17	25	37	172	288	1510	272	5670	94	527	85	55	38
18	25	42	151	251	6380	434	1410	85	279	38	57	38
19	25	35	136	205	4160	798	714	80	369	29	55	33
20	25	34	127	192	1590	867	1490	71	155	29	48	32
21	26	34	119	166	1110	6900	807	64	101	75	48	43
22	26	65	123	159	716	3410	470	56	80	2730	47	44
23	26	143	595	350	538	1190	354	49	70	2080	48	45
24	27	95	454	707	436	657	285	43	71	851	75	37
25	28	62	1790	511	364	462	240	44	539	284	3110	33
26	35	50	1180	408	315	375	571	e44	312	131	12700	30
27	55	42	575	604	286	326	1340	41	170	77	2470	26
28	39	344	374	638	262	313	535	39	963	63	812	24
29	40	978	281	497	---	800	362	33	1900	57	518	20
30	36	516	284	431	---	476	317	28	5020	57	372	19
31	33	---	184	346	---	338	---	28	---	54	278	---
TOTAL	916	2968	13326	34864	20471	28096	25074	5419	16572	13798	23234	1886
MEAN	29.5	98.9	430	1125	731	906	836	175	552	445	749	62.9
MAX	55	978	2080	11200	6380	6900	5670	740	5020	4120	12700	196
MIN	20	25	119	139	103	272	141	28	23	29	44	19
CFSM	.08	.27	1.16	3.03	1.97	2.44	2.25	.47	1.49	1.20	2.02	.17
IN.	.09	.30	1.34	3.50	2.05	2.82	2.51	.54	1.66	1.38	2.33	.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	55.2	173	352	474	550	703	571	320	238	182	101	76.9
MAX	402	1259	1909	1302	1422	1697	1536	929	980	1821	749	573
(WY)	1991	1973	1991	1952	1959	1978	1957	1967	1981	1969	1998	1972
MIN	7.86	14.0	9.23	26.8	24.0	117	86.0	46.5	14.9	11.8	11.3	5.76
(WY)	1964	1964	1964	1977	1964	1981	1971	1962	1988	1963	1952	1955

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1951 - 1998	
ANNUAL TOTAL	172450		186624			
ANNUAL MEAN	472		511		315	
HIGHEST ANNUAL MEAN					530	1997
LOWEST ANNUAL MEAN					145	1953
HIGHEST DAILY MEAN	9550	Jun 1	12700	Aug 26	31400	Jul 5 1969
LOWEST DAILY MEAN	14	Sep 9	19	Sep 30	3.0	Sep 10 1955
ANNUAL SEVEN-DAY MINIMUM	17	Jul 19	23	Oct 7	3.4	Sep 16 1955
INSTANTANEOUS PEAK FLOW			16800	Aug 26a	49600	Jul 5 1969
INSTANTANEOUS PEAK STAGE			23.36	Aug 26	31.10	Jul 5 1969
INSTANTANEOUS LOW FLOW			19	Sep 30	2.2	Sep 10 1955
ANNUAL RUNOFF (CFSM)	1.27		1.38		.85	
ANNUAL RUNOFF (INCHES)	17.29		18.71		11.54	
10 PERCENT EXCEEDS	1180		1020		718	
50 PERCENT EXCEEDS	151		163		86	
90 PERCENT EXCEEDS	27		29		15	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

04199155 OLD WOMAN'S CREEK AT BERLIN ROAD NEAR HURON, OHIO

LOCATION.--Lat 41°20'54", long 82°30'50, Erie County, Hydrologic Unit 04100012, on left downstream side of Berlin Road Bridge, 3.8 mi southeast of Huron.
DRAINAGE AREA.--22.1 mi^2.
PERIOD OF RECORD.--October 1987 to September 1994, October 1995 to current year.
REVISED RECORDS.--WSP 1912: Drainage area. WDR OH-89-2: 1988.
GAGE.--Water-stage recorder. Datum of gage is 570 ft above sea level. Erie county benchmark.
REMARKS.--Records good.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.5	2.0	12	7.6	12	15	16	20	2.0	97	.80	.96
2	1.5	2.0	8.1	7.1	11	15	13	33	1.4	18	.63	.72
3	1.4	2.1	7.0	8.2	9.7	14	11	22	1.6	8.9	.50	.56
4	1.3	2.3	23	18	9.2	20	9.7	24	1.4	6.2	.44	.45
5	1.3	2.0	14	20	8.4	17	8.5	21	1.8	4.6	2.5	.35
6	1.5	2.0	9.1	35	7.5	14	7.8	15	2.0	3.1	9.4	.14
7	1.2	2.2	7.3	502	7.0	12	7.1	12	1.8	2.7	8.7	2.6
8	1.8	2.5	8.2	838	6.7	20	27	12	1.2	5.3	3.6	2.7
9	2.2	2.5	9.2	177	6.4	199	276	9.9	.94	9.8	1.7	1.6
10	1.9	2.6	128	60	6.3	125	125	8.4	1.7	5.5	1.6	.85
11	1.6	2.4	79	31	6.9	53	34	7.8	1.6	2.4	1.7	.49
12	1.6	2.8	28	21	15	34	20	7.5	39	1.7	1.1	.25
13	1.7	2.9	17	20	16	24	16	6.7	93	1.3	.73	.04
14	2.6	4.4	12	15	11	23	34	5.8	14	1.1	.54	.01
15	2.7	6.0	9.9	16	9.5	23	57	5.1	7.7	23	.39	.00
16	2.7	5.6	9.2	15	9.9	18	358	4.6	5.7	86	.27	.01
17	2.8	4.0	8.7	13	270	17	405	3.9	7.0	7.6	.13	.05
18	3.0	3.3	7.4	12	359	37	45	3.6	6.8	3.1	.05	.02
19	3.2	3.4	7.0	12	118	40	38	3.2	38	2.2	.02	.02
20	3.3	3.7	6.6	11	63	131	101	3.0	12	1.9	.01	.01
21	3.5	4.1	5.8	10	49	629	36	2.6	5.1	6.0	.00	.23
22	3.5	8.3	7.3	10	30	97	25	2.4	3.2	220	.00	.06
23	3.7	8.0	28	49	23	46	20	2.4	2.4	39	.00	.01
24	3.9	4.7	17	46	19	30	16	2.3	1.9	13	1.5	.00
25	5.3	3.4	102	25	15	22	13	2.6	1.6	6.6	82	.00
26	7.3	3.2	41	20	14	19	134	2.4	2.6	4.5	40	.00
27	7.6	2.8	23	27	13	16	69	2.2	11	3.0	7.6	.00
28	3.7	22	16	24	12	18	29	1.9	23	2.2	3.4	.00
29	2.6	43	12	18	---	40	24	1.7	46	1.7	2.7	.00
30	2.1	20	11	17	---	20	21	1.5	192	1.3	1.8	.00
31	1.9	---	7.7	14	---	15	---	1.7	---	1.1	1.3	---
TOTAL	85.9	180.2	681.5	2098.9	1137.5	1803	1996.1	252.2	529.44	589.8	175.11	12.13
MEAN	2.77	6.01	22.0	67.7	40.6	58.2	66.5	8.14	17.6	19.0	5.65	.40
MAX	7.6	43	128	838	359	629	405	33	192	220	82	2.7
MIN	1.2	2.0	5.8	7.1	6.3	12	7.1	1.5	.94	1.1	.00	.00
CFSM	.13	.27	.99	3.06	1.84	2.63	3.01	.37	.80	.86	.26	.02
IN.	.14	.30	1.15	3.53	1.91	3.03	3.36	.42	.89	.99	.29	.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	4.51	14.3	25.3	36.3	35.1	35.6	43.5	19.5	16.6	6.50	6.20	7.01
MAX	20.8	68.4	98.2	74.8	78.6	86.3	66.5	52.2	47.4	35.1	23.7	23.1
(WY)	1997	1993	1991	1993	1990	1993	1998	1989	1997	1992	1992	1996
MIN	.001	.31	.70	8.03	10.3	12.4	18.4	2.20	.17	.010	.000	.000
(WY)	1995	1992	1992	1988	1989	1990	1988	1988	1988	1991	1991	1991

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1988 - 1998	
ANNUAL TOTAL	9790.33		9541.78			
ANNUAL MEAN	26.8		26.1		20.8	
HIGHEST ANNUAL MEAN					34.1	1997
LOWEST ANNUAL MEAN					8.77	1988
HIGHEST DAILY MEAN	814	Jun 1	838	Jan 8	838	Jan 8 1998
LOWEST DAILY MEAN	.00	Aug 2	.00	Aug 21	.00	Jun 15 1988
ANNUAL SEVEN-DAY MINIMUM	.13	Jul 28	.00	Sep 24	.00	Jun 15 1988
INSTANTANEOUS PEAK FLOW			1270	Jan 7a	1940	Feb 27 1997
INSTANTANEOUS PEAK STAGE			10.60	Jan 7	11.81	Feb 27 1997
INSTANTANEOUS LOW FLOW			.00	Aug 20	.00	Sep 9 1991
ANNUAL RUNOFF (CFSM)	1.21		1.18		.94	
ANNUAL RUNOFF (INCHES)	16.48		16.06		12.77	
10 PERCENT EXCEEDS	55		45		44	
50 PERCENT EXCEEDS	8.3		7.3		5.0	
90 PERCENT EXCEEDS	1.0		.60		.00	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.

04200500 BLACK RIVER AT ELYRIA, OHIO

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 sea level.
REMARKS.--Records fair except for periods of estimated record and for discharges greater than 1,000 ft³/s, which are poor. Some regulation at low flow for industrial use. Water-quality and sediment data collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20	23	305	118	165	397	171	256	e18	1280	12	54
2	21	21	198	106	140	469	154	351	e17	619	9.9	42
3	16	20	148	112	122	340	136	286	e16	184	8.8	33
4	14	17	182	222	108	400	116	970	e15	91	7.7	28
5	16	16	215	515	97	385	100	1500	e14	56	12	26
6	14	17	199	620	89	313	86	923	e14	41	13	27
7	14	19	155	2310	79	246	77	727	e14	32	12	50
8	11	21	127	7830	73	216	115	e500	e15	98	10	50
9	11	18	126	9290	69	484	897	e300	e15	42	32	41
10	13	20	491	3760	66	1260	1950	e190	e16	25	65	40
11	10	21	1560	1100	68	917	812	e160	e25	20	381	39
12	10	21	901	533	97	609	383	e140	129	16	196	36
13	13	21	426	384	157	426	241	e120	184	14	79	32
14	18	37	255	304	189	329	214	e100	111	12	39	26
15	12	41	176	248	152	326	559	e90	88	93	24	26
16	13	60	128	233	128	309	2090	e80	69	60	18	25
17	11	74	111	226	684	266	5270	e70	66	23	13	20
18	11	59	94	202	3190	325	3620	e62	55	19	10	18
19	11	49	87	175	3120	478	887	e54	61	11	8.2	26
20	13	47	80	157	1580	627	1890	e47	47	10	6.9	20
21	11	43	75	143	953	3980	1280	e42	33	63	6.0	22
22	16	56	92	135	655	4010	550	e37	26	616	5.6	21
23	13	73	251	344	432	1160	346	e33	23	381	5.0	19
24	13	73	350	864	314	546	245	e30	17	394	4.9	18
25	16	56	693	604	242	362	190	e28	14	188	312	19
26	33	43	906	348	197	270	1040	e27	17	85	2710	19
27	60	37	547	284	170	226	2650	e25	43	49	3490	18
28	43	133	319	262	151	214	1140	e23	100	34	858	14
29	41	573	214	236	---	296	453	e22	114	25	202	12
30	39	490	158	210	---	266	310	e21	135	18	114	13
31	29	---	121	191	---	210	---	e20	---	14	76	---
TOTAL	586	2199	9690	32066	13487	20662	27972	7234	1511	4613	8741.0	834
MEAN	18.9	73.3	313	1034	482	667	932	233	50.4	149	282	27.8
MAX	60	573	1560	9290	3190	4010	5270	1500	184	1280	3490	54
MIN	10	16	75	106	66	210	77	20	14	10	4.9	12
CFSM	.05	.19	.79	2.61	1.22	1.68	2.35	.59	.13	.38	.71	.07
IN.	.06	.21	.91	3.01	1.27	1.94	2.63	.68	.14	.43	.82	.08

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1945 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	63.4	230	401	492	604	795	630	361	212	140	73.7	79.0
MAX	463	1238	1885	1825	1505	1866	1728	1122	1245	1472	529	701
(WY)	1997	1986	1991	1952	1959	1978	1957	1969	1947	1969	1958	1972
MIN	2.34	5.78	5.82	8.48	16.6	135	22.0	50.0	10.6	7.42	4.72	2.84
(WY)	1945	1945	1945	1945	1964	1953	1946	1963	1988	1991	1952	1946

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1945 - 1998	
ANNUAL TOTAL	130892.5		129595.0			
ANNUAL MEAN	359		355		339	
HIGHEST ANNUAL MEAN					534	1973
LOWEST ANNUAL MEAN					130	1953
HIGHEST DAILY MEAN	9590	Jun 2	9290	Jan 9	24900	Jan 22 1959
LOWEST DAILY MEAN	8.5	Aug 3	4.9	Aug 24	.60	Oct 5 1944
ANNUAL SEVEN-DAY MINIMUM	11	Jul 19	6.7	Aug 18	1.4	Oct 1 1944
INSTANTANEOUS PEAK FLOW			10400	Jan 9a	51700	Jul 6 1969
INSTANTANEOUS PEAK STAGE			15.03	Jan 9	26.40	Jul 6 1969
INSTANTANEOUS LOW FLOW			4.9	Aug 24	.00	Oct 10 1956
ANNUAL RUNOFF (CFSM)	.91		.90		.86	
ANNUAL RUNOFF (INCHES)	12.30		12.17		11.62	
10 PERCENT EXCEEDS	789		830		824	
50 PERCENT EXCEEDS	123		89		74	
90 PERCENT EXCEEDS	13		14		10	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

04201500 ROCKY RIVER NEAR BEREA, OHIO

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. WDR-OH-2-1983: 1978-1982(M).
GAGE.--Water-stage recorder. Datum of gage is 649.90 ft above sea level (Cuyahoga County benchmark). Prior to Sept. 30, 1935, nonrecording gage at same site and datum.
REMARKS.--Records good except for periods of estimated record, which are poor. Some regulation at low flow by small reservoirs on East Branch. Some interbasin transfer of water from Lake Erie for municipal water supply by Cleveland Metro Water District. Water-quality and sediment data collected at this site.
EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 20.9 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	56	51	245	141	142	476	187	281	70	791	e15	e70
2	55	55	176	134	130	379	212	830	36	171	e14	e58
3	53	59	140	159	123	253	150	608	33	78	e12	e47
4	40	48	231	504	110	377	126	3050	34	52	e11	e42
5	48	49	260	603	100	352	109	1080	35	43	e11	e37
6	37	46	181	501	90	256	96	417	36	35	e14	e38
7	31	45	156	2850	84	206	90	275	34	33	e18	e45
8	31	60	177	8100	79	208	183	226	33	245	e16	e60
9	30	58	179	3850	74	1150	1730	206	31	147	e15	e68
10	33	55	920	1520	73	1540	2140	160	36	63	e35	e52
11	39	50	1600	557	81	673	538	138	38	41	e100	e43
12	33	48	510	337	247	385	289	133	235	33	e1000	e38
13	31	46	289	286	351	301	203	121	633	27	e100	e35
14	52	102	199	237	196	290	223	96	267	24	e40	e33
15	53	220	151	241	137	287	808	81	108	145	e25	e30
16	38	213	143	324	125	268	3000	72	180	418	e20	e28
17	40	154	138	255	1300	278	6830	67	163	129	e16	e27
18	37	111	125	210	3070	406	1320	59	105	57	e13	22
19	40	92	123	180	1200	422	664	53	66	44	e11	28
20	36	100	116	173	746	506	2080	49	56	36	e10	23
21	34	100	112	146	684	2660	784	45	47	e200	e9.0	23
22	32	164	146	136	423	1230	393	40	39	e170	e8.4	27
23	32	200	659	508	297	478	289	38	35	e140	e7.8	32
24	33	139	380	775	239	307	225	38	33	e120	e7.2	25
25	47	97	670	351	197	230	176	38	30	e80	e7.0	23
26	74	83	565	241	162	208	2120	38	35	e58	e1000	22
27	456	81	327	217	151	196	2720	39	48	e42	e1800	18
28	240	506	218	202	148	188	576	38	206	e33	e600	20
29	105	909	159	185	---	288	314	37	135	e26	e170	22
30	65	396	141	190	---	225	305	34	185	e21	e130	17
31	54	---	124	180	---	166	---	78	---	e18	e90	---
TOTAL	1985	4337	9560	24293	10759	15189	28880	8465	3022	3520	5325.4	1053
MEAN	64.0	145	308	784	384	490	963	273	101	114	172	35.1
MAX	456	909	1600	8100	3070	2660	6830	3050	633	791	1800	70
MIN	30	45	112	134	73	166	90	34	30	18	7.0	17
CFSM	.24	.54	1.16	2.94	1.44	1.84	3.61	1.02	.38	.43	.64	.13
IN.	.28	.60	1.33	3.38	1.50	2.12	4.02	1.18	.42	.49	.74	.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1924 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	94.7	223	348	415	474	597	508	296	177	115	76.2	105
MAX	935	1080	1534	1398	1245	1253	1374	845	911	887	553	820
(WY)	1927	1986	1991	1930	1959	1984	1961	1984	1947	1992	1935	1924
MIN	1.25	9.14	8.15	32.4	17.0	141	40.9	17.6	10.1	4.25	.90	.94
(WY)	1934	1964	1964	1945	1934	1969	1946	1934	1933	1954	1933	1933

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1924 - 1998	
ANNUAL TOTAL	125776		116388.4			
ANNUAL MEAN	345		319		285	
HIGHEST ANNUAL MEAN					484	1997
LOWEST ANNUAL MEAN					79.5	1934
HIGHEST DAILY MEAN	8030	Jun 1	8100	Jan 8	14300	Jan 22 1959
LOWEST DAILY MEAN	18	Aug 10	7.0	Aug 25	.20	Sep 2 1932
ANNUAL SEVEN-DAY MINIMUM	23	Jul 19	8.6	Aug 19	.27	Aug 21 1933
INSTANTANEOUS PEAK FLOW			9010	Jan 8a	21400	Jan 22 1959
INSTANTANEOUS PEAK STAGE			6.76	Jan 8	18.60	Jun 29 1924
INSTANTANEOUS LOW FLOW			e7.0	Aug 25	.20	Sep 2 1932
ANNUAL RUNOFF (CFSM)	1.29		1.19		1.07	
ANNUAL RUNOFF (INCHES)	17.52		16.22		14.49	
10 PERCENT EXCEEDS	714		666		660	
50 PERCENT EXCEEDS	159		124		84	
90 PERCENT EXCEEDS	33		27		11	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

04202000 CUYAHOGA RIVER AT HIRAM RAPIDS, OHIO

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 mi^2.
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 sea level. 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.--Records good except for periods estimated record, which are poor. 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.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 3670 ft^3/s Jan. 23, 1959, gage height 8.11 ft; minimum daily, 6.6 ft^3/s Sept. 10, 1933.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	156	55	252	192	238	212	246	457	45	e100	e47	78
2	182	51	235	173	216	241	244	392	49	e80	e45	76
3	190	54	195	180	195	236	230	372	46	e64	e43	75
4	179	53	165	209	178	195	210	402	42	e52	e42	75
5	162	50	158	272	164	179	176	396	36	e43	e40	74
6	150	47	151	355	149	168	143	398	34	e37	e44	75
7	125	45	137	397	139	158	122	368	34	e35	e42	77
8	93	50	132	692	132	157	122	334	36	e38	e40	82
9	78	55	129	1220	127	246	182	309	35	e43	e38	81
10	72	52	156	1510	123	375	345	274	34	e37	e60	79
11	62	51	262	1330	122	443	463	238	34	e34	e90	75
12	55	51	357	1000	136	435	486	206	51	e32	e80	72
13	54	49	400	748	157	376	432	180	102	e31	e72	71
14	54	53	374	564	168	315	397	162	119	e29	e68	68
15	54	68	322	447	155	254	412	148	101	e28	65	67
16	60	86	267	376	137	211	533	137	82	e37	58	65
17	79	91	227	324	148	194	819	126	78	e49	57	65
18	94	84	198	287	258	214	1170	116	77	e40	71	65
19	100	78	179	259	361	264	1140	107	67	e34	75	65
20	105	84	171	234	397	310	1000	101	81	e30	74	67
21	105	99	168	218	404	368	888	87	78	e28	73	65
22	102	119	166	196	370	422	783	56	60	e32	72	64
23	80	145	210	204	335	441	660	40	49	e100	71	63
24	63	161	269	245	280	410	552	35	41	e120	70	60
25	60	149	347	276	230	342	475	34	36	e100	83	54
26	61	128	395	283	208	285	526	33	32	e80	109	48
27	92	128	422	271	205	247	670	32	33	e66	110	48
28	131	158	407	269	203	216	712	31	e100	e60	100	50
29	129	196	355	248	---	239	653	30	e140	e55	91	49
30	99	232	295	239	---	241	555	29	e110	e52	87	47
31	70	---	233	244	---	247	---	30	---	e49	82	---
TOTAL	3096	2722	7734	13462	5935	8641	15346	5660	1862	1615	2099	2000
MEAN	99.9	90.7	249	434	212	279	512	183	62.1	52.1	67.7	66.7
MAX	190	232	422	1510	404	443	1170	457	140	120	110	82
MIN	54	45	129	173	122	157	122	29	32	28	38	47
CFSM	.66	.60	1.65	2.88	1.40	1.85	3.39	1.21	.41	.35	.45	.44
IN.	.76	.67	1.91	3.32	1.46	2.13	3.78	1.39	.46	.40	.52	.49

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	98.0	168	253	310	343	441	356	211	122	87.8	84.1	90.8
MAX	378	616	816	962	883	835	914	569	542	325	347	374
(WY)	1955	1986	1978	1952	1976	1963	1957	1984	1989	1969	1956	1975
MIN	20.1	28.9	43.8	43.5	40.6	174	76.2	33.6	21.6	15.3	17.1	15.9
(WY)	1954	1954	1954	1961	1934	1989	1946	1934	1934	1933	1933	1933

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1927 - 1998	
ANNUAL TOTAL	90620		70172			
ANNUAL MEAN	248		192		214	
HIGHEST ANNUAL MEAN					318	1997
LOWEST ANNUAL MEAN					106	1934
HIGHEST DAILY MEAN	1780	Jun 4	1510	Jan 10	3560	Jan 23 1959
LOWEST DAILY MEAN	44	Sep 1	28	Jul 15	6.6	Sep 10 1933
ANNUAL SEVEN-DAY MINIMUM	50	Nov 2	31	May 25	8.5	Aug 21 1933
INSTANTANEOUS PEAK FLOW			1530	Jan 10	3320	Feb 18 1976
INSTANTANEOUS PEAK STAGE			5.17	Jan 10	7.67	Feb 18 1976
INSTANTANEOUS LOW FLOW			28	Jul 15	12	Sep 19 1967
ANNUAL RUNOFF (CFSM)	1.64		1.27		1.41	
ANNUAL RUNOFF (INCHES)	22.32		17.29		19.21	
10 PERCENT EXCEEDS	485		403		516	
50 PERCENT EXCEEDS	179		123		117	
90 PERCENT EXCEEDS	63		40		34	

e Estimated.

04206000 CUYAHOGA RIVER AT OLD PORTAGE, OHIO

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.
PERIOD OF RECORD.--September 1921 to December 1935, March 1939 to current year.
REVISED RECORDS.--WSP 1307: 1924(M). WSP 1912: Drainage area. WDR OH-79-2: 1974 (M), 1976 (M).
GAGE.--Water-stage recorder. Datum of gage is 740.11 ft above sea level, unadjusted. Prior to Dec. 21, 1923, nonrecording gage at same site and datum.
REMARKS.--Records good except for periods of estimated record, which are fair. Natural flow of stream affected by diversions, storage reservoirs, and powerplants. At Lake Rockwell, 17.7 mi upstream from gage, an average of 64 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 03117000 in volume 1 of this report). Sediment data collected at this site. Satellite telemeter at gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	242	161	407	343	394	525	339	1020	123	446	78	123
2	214	146	374	295	387	535	355	1360	200	316	73	113
3	212	145	371	324	359	491	424	1420	142	280	74	104
4	232	150	410	469	335	482	494	1620	95	249	64	100
5	226	133	330	464	305	427	425	1220	107	196	70	100
6	233	122	301	495	291	382	452	1060	116	171	80	97
7	357	161	300	812	261	351	251	888	111	162	74	291
8	398	171	271	1840	251	423	261	761	107	252	67	277
9	389	168	253	2380	237	845	637	675	115	176	79	157
10	337	144	487	2280	233	993	882	578	120	156	220	123
11	123	132	637	2240	230	892	672	480	130	132	266	116
12	121	127	613	2020	313	837	829	424	487	115	162	103
13	121	137	600	1630	295	768	850	380	519	110	150	100
14	147	242	600	1210	289	652	850	335	232	105	111	97
15	134	213	536	908	285	572	912	326	276	228	83	95
16	120	209	461	724	274	504	1730	305	309	165	88	92
17	116	187	397	614	552	474	2270	271	269	166	89	93
18	111	189	353	543	701	515	1830	240	221	101	87	90
19	110	183	322	482	734	568	1990	221	262	89	79	92
20	113	184	293	453	742	581	2110	207	227	88	73	91
21	114	177	272	400	737	734	1780	188	196	108	73	166
22	107	226	344	373	672	736	1490	169	168	527	76	103
23	120	224	404	509	599	718	1310	160	149	480	73	86
24	127	225	428	592	525	708	1060	151	140	245	523	91
25	120	237	505	570	452	761	863	149	130	183	1120	96
26	192	242	553	527	400	918	1310	149	134	140	456	85
27	330	229	555	502	364	292	1660	147	229	125	243	83
28	180	530	556	468	374	237	1330	142	734	116	235	86
29	189	453	526	453	---	281	1210	128	695	106	274	80
30	201	407	473	435	---	366	1160	134	653	102	284	73
31	190	---	435	414	---	499	---	141	---	93	200	---
TOTAL	5926	6254	13367	25769	11591	18067	31736	15449	7396	5928	5624	3403
MEAN	191	208	431	831	414	583	1058	498	247	191	181	113
MAX	398	530	637	2380	742	993	2270	1620	734	527	1120	291
MIN	107	122	253	295	230	237	251	128	95	88	64	73
CFSM	.47	.52	1.07	2.06	1.02	1.44	2.62	1.23	.61	.47	.45	.28
IN.	.55	.58	1.23	2.37	1.07	1.66	2.92	1.42	.68	.55	.52	.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	218	328	475	575	663	877	741	475	315	232	183	210
MAX	1205	1307	1516	1807	1592	1416	1520	1253	1371	676	772	1150
(WY)	1927	1986	1928	1952	1976	1927	1940	1996	1989	1976	1992	1926
MIN	50.8	56.5	48.3	83.3	86.1	282	166	77.0	72.4	50.4	56.9	47.1
(WY)	1934	1964	1964	1961	1963	1931	1935	1934	1988	1954	1962	1964

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1922 - 1998	
ANNUAL TOTAL	184411		150510			
ANNUAL MEAN	505		412		440	
HIGHEST ANNUAL MEAN					669	1927
LOWEST ANNUAL MEAN					181	1934
HIGHEST DAILY MEAN	2590	Jun 4	2380	Jan 9	6040	Jan 22 1959
LOWEST DAILY MEAN	94	Aug 11	64	Aug 4	24	Sep 24 1964
ANNUAL SEVEN-DAY MINIMUM	111	Aug 8	72	Aug 2	40	Oct 30 1944
INSTANTANEOUS PEAK FLOW			3440	Aug 25	6500	Jan 21 1959
INSTANTANEOUS PEAK STAGE			8.89	Aug 25	13.29	Sep 14 1979
INSTANTANEOUS LOW FLOW			52	Aug 4	26	Sep 2 1945
ANNUAL RUNOFF (CFSM)	1.25		1.02		1.09	
ANNUAL RUNOFF (INCHES)	16.98		13.86		14.80	
10 PERCENT EXCEEDS	1030		855		1030	
50 PERCENT EXCEEDS	390		274		268	
90 PERCENT EXCEEDS	131		97		78	

04206208 YELLOW CREEK AT GHENT, OHIO

LOCATION.--Lat 41°09'29", long 81°38'32", Summit County, Hydrologic Unit 04110002, on left downstream bank at driveway bridge of Creekside Farm at 3680 Granger Road, 150 ft south of Granger Road, 0.25 mi west of Cleveland-Massillon Road, 2.9 mi northwest of Akron corporate boundary.
DRAINAGE AREA.--12.7 mi^2.
PERIOD OF RECORD.--October 1, 1991 to current year (station discontinued).
GAGE.--Water-stage recorder. Elevation of gage is 908 ft above sea level, from topographic map.
REMARKS.--Records fair except for periods of estimated record and discharges less than 3.0 ft^3/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	3.2	3.4	6.2	6.3	7.6	13	13	19	5.3	12	3.0	4.2
2	3.2	4.1	5.0	6.0	7.5	11	12	53	7.0	6.0	2.9	4.1
3	3.0	3.9	5.0	7.5	6.9	11	10	54	7.4	4.8	2.6	4.0
4	3.1	3.8	9.0	17	6.9	13	9.3	112	5.6	4.4	2.8	3.8
5	3.0	3.8	6.6	12	6.5	12	8.7	42	5.2	4.5	3.0	3.1
6	2.8	4.6	e5.7	13	6.1	10	10	30	5.3	3.8	3.4	3.1
7	2.6	3.8	6.4	36	6.0	9.1	8.2	22	5.3	3.7	3.0	8.9
8	2.8	6.1	6.1	116	6.0	14	15	21	5.1	8.8	2.5	13
9	2.8	5.0	5.7	81	5.9	44	42	19	4.7	6.0	2.5	6.9
10	3.0	4.4	29	32	5.8	30	35	17	5.8	4.4	5.8	4.8
11	3.1	3.9	22	18	6.4	18	18	16	5.3	3.6	4.8	4.2
12	3.2	3.9	12	13	14	15	15	16	18	3.1	3.3	3.8
13	3.1	4.1	8.3	13	10	e13	12	14	31	2.9	2.8	3.5
14	3.5	9.7	7.6	e11	7.9	13	21	13	13	2.8	2.6	3.2
15	3.8	16	6.5	11	7.1	13	27	12	16	3.0	2.5	3.5
16	3.3	11	5.9	13	11	13	93	11	14	4.3	2.4	3.7
17	3.2	7.4	5.6	11	57	15	89	11	11	3.2	2.3	4.1
18	3.3	e5.8	5.6	10	55	19	36	9.3	7.7	2.9	2.4	4.0
19	3.5	5.7	5.4	9.3	32	18	34	8.3	6.8	3.1	2.4	3.7
20	3.4	6.2	5.2	8.5	26	18	43	9.1	5.6	3.0	2.0	4.0
21	3.2	5.6	5.1	e7.8	21	42	25	7.7	4.9	3.7	2.1	9.5
22	3.3	7.1	7.0	7.8	17	24	19	8.2	4.5	29	2.5	5.8
23	3.6	6.6	12	19	13	19	17	7.4	4.3	16	2.3	4.3
24	3.4	5.3	8.5	17	12	15	17	6.7	5.0	7.9	21	3.9
25	4.1	5.0	16	12	11	12	15	7.0	3.8	5.7	78	3.8
26	6.1	5.2	11	10	10	12	70	6.6	4.0	4.4	38	3.8
27	15	4.8	7.8	9.7	11	11	56	6.0	6.3	4.6	11	3.3
28	5.9	24	6.7	8.8	11	11	26	5.7	7.9	3.9	7.1	4.5
29	4.3	14	6.1	8.4	---	13	22	5.3	12	3.5	6.2	3.3
30	3.7	7.7	7.2	8.5	---	11	19	5.3	13	3.2	5.6	3.2
31	3.4	---	e6.1	8.0	---	10	---	5.3	---	3.2	4.7	---
TOTAL	118.9	201.9	262.3	561.6	397.6	502.1	837.2	579.9	250.8	175.4	237.5	139.0
MEAN	3.84	6.73	8.46	18.1	14.2	16.2	27.9	18.7	8.36	5.66	7.66	4.63
MAX	15	24	29	116	57	44	93	112	31	29	78	13
MIN	2.6	3.4	5.0	6.0	5.8	9.1	8.2	5.3	3.8	2.8	2.0	3.1
CFSM	.30	.53	.67	1.43	1.12	1.28	2.20	1.47	.66	.45	.60	.36
IN.	.35	.59	.77	1.65	1.16	1.47	2.45	1.70	.73	.51	.70	.41

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	6.15	12.8	13.5	19.5	15.1	21.0	22.8	15.3	12.5	7.58	6.10	6.91
MAX	12.7	25.3	30.5	33.9	21.2	37.5	29.7	25.8	23.4	24.3	15.0	20.0
(WY)	1997	1993	1997	1993	1997	1993	1994	1996	1997	1992	1992	1992
MIN	3.31	4.63	6.68	7.89	9.42	12.9	13.6	9.09	5.48	3.62	2.04	2.21
(WY)	1992	1992	1992	1992	1995	1995	1995	1995	1994	1993	1993	1995

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1992 - 1998	
ANNUAL TOTAL	4958.6		4264.2			
ANNUAL MEAN	13.6		11.7		13.2	
HIGHEST ANNUAL MEAN					17.0	1997
LOWEST ANNUAL MEAN					8.48	1995
HIGHEST DAILY MEAN	182	Jun 1	116	Jan 8	182	Jun 1 1997
LOWEST DAILY MEAN	2.4	Jul 31	2.0	Aug 20	1.1	Aug 31 1993
ANNUAL SEVEN-DAY MINIMUM	2.7	Aug 6	2.3	Aug 17	1.3	Aug 26 1993
INSTANTANEOUS PEAK FLOW			164	May 4a	243	Apr 12 1994
INSTANTANEOUS PEAK STAGE			12.50	Jan 8	12.94	Apr 12 1994
INSTANTANEOUS LOW FLOW			1.9	Aug 19	.02	Aug 31 1993
ANNUAL RUNOFF (CFSM)	1.07		.92		1.04	
ANNUAL RUNOFF (INCHES)	14.52		12.49		14.17	
10 PERCENT EXCEEDS	26		22		26	
50 PERCENT EXCEEDS	11		6.9		8.5	
90 PERCENT EXCEEDS	3.2		3.1		2.9	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

04206210 NORTH FORK AT BATH, OHIO

LOCATION.--Lat 41°11'20", long 81°39'12", Summit County, Hydrologic Unit 04110002, on right upstream bank at triple barrel culvert under Ira Road, 0.9 mi west of Cleveland-Massillon Road, 4.7 mi northwest of Akron corporate boundary.
DRAINAGE AREA.--2.81 mi^2.
PERIOD OF RECORD.--October 1, 1991, to current year (station discontinued).
GAGE.--Water-stage recorder. Elevation of gage is 996 ft above sea level, from topographic map.
REMARKS.--Records fair except for periods of estimated record and discharges less than 6.0 ft^3/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.47	.39	1.7	1.1	e2.1	e6.3	e4.4	4.5	.24	1.7	.11	.13
2	e.35	.73	1.3	1.8	e2.1	e3.5	e3.1	17	.20	.44	.10	.15
3	e.32	.44	1.3	3.6	e1.9	e3.1	e2.6	8.0	.22	.31	.10	.19
4	e.35	.48	4.0	11	e1.9	e4.4	e2.5	19	.19	.29	.10	.20
5	e.44	.43	1.9	4.3	e1.7	e3.6	e2.2	7.1	.18	.28	.19	.24
6	e.45	.39	1.5	4.8	e1.6	e2.8	e2.2	4.2	.22	.25	.24	.28
7	e.58	.62	1.6	47	e1.5	e2.6	e2.1	3.2	.25	.22	.12	3.2
8	e.56	.78	1.6	e51	e1.5	e8.8	e4.5	3.4	.18	2.5	.09	12
9	e.48	.49	1.7	e28	e1.5	e29	e30	2.5	.16	.44	.12	1.8
10	e.52	.46	25	e5.5	e1.4	e12	e16	1.9	.45	.28	5.2	.45
11	e.51	.41	9.4	e3.4	e1.6	e5.7	e6.5	1.8	.27	.19	.62	.31
12	e.50	.37	4.3	e2.8	e3.5	e4.6	e5.0	1.6	5.7	.16	.23	.26
13	e.52	.36	2.7	e2.9	e2.2	e3.9	e4.2	1.5	5.5	.16	.15	.20
14	e.72	2.6	1.9	e2.3	e1.8	e3.7	e13	1.2	.93	.16	.13	.19
15	e.47	2.3	1.7	e2.9	e1.6	e3.6	e10	1.1	5.5	.61	.13	.19
16	e.48	1.7	1.8	e3.0	e1.8	e3.9	e46	.77	3.3	.67	.12	.24
17	e.48	1.3	1.8	e2.4	e32	e5.4	39	.57	1.1	.24	.11	.29
18	e.48	.73	1.5	e2.2	e20	e7.7	5.7	.47	.41	.15	.11	.25
19	e.57	.70	1.6	e2.1	e14	e5.0	10	.43	1.5	.14	.09	.29
20	e.57	1.3	1.7	e2.0	e12	e11	11	.39	.39	.12	.08	.41
21	e.54	1.1	1.4	e1.8	e8.6	e21	4.5	.34	.28	.50	.10	.73
22	e.53	1.9	5.1	e1.8	e6.0	e6.2	3.0	.32	.26	18	.11	.25
23	e.54	1.3	6.5	e8.8	e5.2	e4.0	2.4	.31	.26	6.6	.10	.17
24	e.53	.67	3.7	e4.3	e3.8	e3.5	1.9	.30	.24	.97	1.3	.18
25	e.97	.50	10	e2.9	e2.8	e2.9	1.6	.35	.21	.36	18	.27
26	e2.5	.50	4.9	e2.6	e2.6	e3.3	29	.33	.26	.29	2.2	.29
27	5.5	.53	2.9	e2.6	e2.7	e2.8	9.2	.29	4.3	.24	.41	.36
28	1.0	12	2.0	e2.5	e2.9	e3.2	4.2	.27	5.6	.19	.28	.52
29	.48	4.8	1.7	e2.4	---	e4.3	3.0	.28	2.8	.16	.32	.53
30	.42	2.4	1.6	e2.5	---	e3.0	3.1	.25	3.5	.16	.28	.53
31	.39	---	1.4	e2.2	---	e2.6	---	.24	---	.15	.18	---
TOTAL	23.22	42.68	111.2	218.5	142.3	187.4	281.9	83.91	44.60	36.93	31.42	25.10
MEAN	.75	1.42	3.59	7.05	5.08	6.05	9.40	2.71	1.49	1.19	1.01	.84
MAX	5.5	12	25	51	32	29	46	19	5.7	18	18	12
MIN	.32	.36	1.3	1.1	1.4	2.6	1.6	.24	.16	.12	.08	.13
CFSM	.27	.51	1.28	2.51	1.81	2.15	3.34	.96	.53	.42	.36	.30
IN.	.31	.57	1.47	2.89	1.88	2.48	3.73	1.11	.59	.49	.42	.33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.58	4.03	4.34	7.42	5.64	6.72	6.69	3.54	3.00	2.15	1.35	1.50
MAX	4.60	7.87	13.3	12.5	8.92	13.0	10.5	8.28	8.46	9.23	3.84	3.47
(WY)	1997	1994	1997	1993	1996	1993	1994	1997	1997	1992	1992	1992
MIN	.34	.56	1.04	2.31	3.11	4.07	3.72	1.01	.38	.40	.25	.33
(WY)	1995	1995	1996	1992	1995	1992	1997	1992	1992	1996	1993	1994

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1992 - 1998	
ANNUAL TOTAL	1576.78		1229.16			
ANNUAL MEAN	4.32		3.37		3.99	
HIGHEST ANNUAL MEAN					5.80	1997
LOWEST ANNUAL MEAN					2.40	1995
HIGHEST DAILY MEAN	92	Jun 1	51	Jan 8	156	Jan 28 1994
LOWEST DAILY MEAN	.18	Aug 9	.08	Aug 20	.01	Jul 4 1992
ANNUAL SEVEN-DAY MINIMUM	.22	Jul 28	.10	Aug 17	.01	Jul 3 1992
INSTANTANEOUS PEAK FLOW			204	Apr 17a	635	Jul 30 1992
INSTANTANEOUS PEAK STAGE			13.29	Jan 8	15.21	Jul 30 1992
INSTANTANEOUS LOW FLOW			.05	Aug 8	.01	Jul 4 1992
ANNUAL RUNOFF (CFSM)	1.54		1.20		1.42	
ANNUAL RUNOFF (INCHES)	20.87		16.27		19.28	
10 PERCENT EXCEEDS	9.9		7.3		8.9	
50 PERCENT EXCEEDS	1.7		1.5		1.3	
90 PERCENT EXCEEDS	.32		.19		.27	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

04206211 PARK CREEK AT BATH CENTER, OHIO

LOCATION.--Lat 41°10'44", long 81°38'09", Summit County, Hydrologic Unit 04110002, on upstream left bank at culvert under the entrance of the Bath Community Center, 200 ft east of Cleveland-Massillon Road, 0.7 mi north of Bath Road, 3.7 mi northwest of Akron corporate boundary.
DRAINAGE AREA.--0.826 mi^2.
PERIOD OF RECORD.--October 1, 1991, to current year (station discontinued).
GAGE.--Water-stage recorder. Elevation of gage is 980 ft above sea level, from topographic map.
REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.07	.07	.46	e.14	e.50	2.1	1.9	2.4	.22	.70	.41	.16
2	.06	.09	.30	.39	.56	1.5	1.4	7.8	.22	.36	.39	.14
3	.05	.07	.44	.56	.55	1.5	1.3	4.2	.14	.22	.24	.14
4	.05	.07	1.2	2.1	.55	1.7	1.3	7.1	.14	.22	.22	.10
5	.09	.06	.78	.70	.54	1.5	1.2	2.1	.14	.14	.22	.10
6	.10	.05	e.45	.87	e.43	1.4	1.2	1.4	.14	.14	.22	.08
7	.08	.13	e.50	6.9	e.41	1.2	1.2	1.2	.14	.14	.17	.95
8	.07	.23	.61	12	e.39	2.4	2.1	1.1	.14	1.5	.14	3.2
9	.07	.13	.51	8.1	e.38	6.4	5.7	.94	.11	.48	.14	1.2
10	.07	.10	5.4	2.0	.40	3.3	3.3	.65	.10	.36	.52	1.0
11	.06	.07	1.6	1.3	.41	2.2	1.4	.56	.10	.24	.42	.79
12	.05	.07	.61	1.1	1.0	e1.8	1.1	.55	2.2	.15	.37	.83
13	.05	.07	.36	1.1	.47	e1.5	1.1	.46	1.5	.12	.34	.60
14	.05	.70	.30	e1.0	.38	1.4	3.6	.44	.52	.10	.31	.55
15	.05	.57	.29	1.3	.34	e1.3	2.6	.39	1.7	.25	.22	.55
16	.05	.43	.27	1.2	.48	e1.3	12	.39	1.2	.30	.18	.57
17	.03	e.30	.27	1.1	7.7	1.7	7.5	.36	.53	.18	.14	.57
18	.03	e.28	e.20	1.1	3.9	2.3	2.5	.34	.39	.16	.14	.48
19	.03	.26	.15	1.1	2.9	1.7	3.6	.34	.63	.29	.10	.42
20	.02	.29	.14	1.0	2.6	3.3	2.9	.34	.36	.30	.10	.43
21	.02	.24	.14	e.74	2.0	5.2	1.7	.34	.31	.88	.08	.79
22	.02	.44	.77	.78	1.7	2.6	1.5	.34	.16	4.2	.07	.56
23	.01	.28	.87	2.9	1.6	1.8	1.3	.34	.19	1.7	.07	.42
24	.01	.22	.61	1.3	1.4	1.5	1.2	.34	.14	.84	.67	.35
25	.01	e.21	1.6	.92	1.3	1.4	1.1	.25	.14	.71	5.2	.38
26	.71	.21	.82	.85	1.2	1.4	9.5	.22	.18	.62	.72	.37
27	1.3	.13	.43	.86	1.3	1.3	3.1	.22	1.1	.55	.38	.33
28	.33	2.7	.24	.76	1.4	1.5	1.4	.22	1.4	.49	.31	.28
29	.14	1.2	.14	.75	---	1.7	1.1	.22	1.0	.45	.28	.28
30	.10	.98	e.14	.75	---	1.4	1.1	.22	1.2	.45	.25	.26
31	.08	---	e.14	.65	---	1.3	---	.22	---	.45	.22	---
TOTAL	3.86	10.65	20.74	56.32	36.79	62.6	81.9	35.99	16.44	17.69	13.24	16.88
MEAN	.12	.35	.67	1.82	1.31	2.02	2.73	1.16	.55	.57	.43	.56
MAX	1.3	2.7	5.4	12	7.7	6.4	12	7.8	2.2	4.2	5.2	3.2
MIN	.01	.05	.14	.14	.34	1.2	1.1	.22	.10	.10	.07	.08
CFSM	.15	.43	.81	2.19	1.58	2.43	3.29	1.40	.66	.69	.51	.68
IN.	.17	.48	.93	2.52	1.65	2.81	3.67	1.61	.74	.79	.59	.76

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	.34	1.14	1.39	2.16	1.25	1.87	1.92	1.12	.92	.65	.40	.48
MAX	1.39	3.46	3.95	3.45	2.44	3.06	2.73	2.41	2.30	2.84	.86	1.09
(WY)	1997	1993	1993	1993	1997	1993	1998	1997	1997	1992	1994	1992
MIN	.012	.038	.21	1.20	.43	.83	1.26	.31	.12	.004	.000	.030
(WY)	1995	1995	1992	1992	1993	1994	1995	1993	1992	1996	1993	1993

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1992 - 1998	
ANNUAL TOTAL	450.19		373.10			
ANNUAL MEAN	1.23		1.02		1.14	
HIGHEST ANNUAL MEAN					1.74	1997
LOWEST ANNUAL MEAN					.66	1995
HIGHEST DAILY MEAN	38	Jun 1	12	Jan 8	38	Jun 1 1997
LOWEST DAILY MEAN	.01	Aug 7	.01	Oct 23	.00	Jul 17 1993
ANNUAL SEVEN-DAY MINIMUM	.01	Aug 6	.02	Oct 19	.00	Jul 17 1993
INSTANTANEOUS PEAK FLOW			37	Jan 8	162	Dec 30 1992
INSTANTANEOUS PEAK STAGE			12.20	Jan 8a	15.18	Dec 30 1992
INSTANTANEOUS LOW FLOW			.01	Oct 22	.00	Aug 21 1993
ANNUAL RUNOFF (CFSM)	1.49		1.23		1.37	
ANNUAL RUNOFF (INCHES)	20.18		16.72		18.58	
10 PERCENT EXCEEDS	2.4		2.2		2.6	
50 PERCENT EXCEEDS	.44		.46		.34	
90 PERCENT EXCEEDS	.05		.09		.01	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

04206212 NORTH FORK AT BATH CENTER, OHIO

LOCATION.--Lat 41°10'08", long 81°38'04", Summit County, Hydrologic Unit 04110002, on left upstream side of bridge on Bath Road, 750 ft east of Cleveland-Massillon Road at Bath Center, 3.1 mi northwest of Akron corporate boundary.
DRAINAGE AREA.--5.58 mi^2.
PERIOD OF RECORD.--October 1, 1991, to current year.
GAGE.--Water-stage recorder. Elevation of gage is 936 ft above sea level, from topographic map.
REMARKS.--Records fair except for periods of estimated record and discharges of less than 5 ft^3/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e.94	.62	2.3	1.8	2.4	10	8.3	11	.75	2.5	.48	.39
2	e.70	1.0	1.7	2.5	2.2	5.3	4.9	42	.78	1.2	.41	.40
3	e.64	.75	1.8	4.9	2.2	5.0	3.8	21	.88	.91	.40	.39
4	e.70	.75	5.9	16	2.2	7.8	3.8	45	.86	.73	.31	.39
5	e.87	.67	2.9	6.7	2.2	5.8	3.5	15	.75	.64	.64	.38
6	e.89	.61	2.1	7.6	2.0	4.3	3.2	9.7	.90	.49	.72	.35
7	e1.2	.95	2.2	58	2.1	3.9	3.2	8.4	.75	.55	.42	6.2
8	e1.1	1.3	2.2	85	2.1	13	9.9	7.9	.73	5.2	.39	22
9	e.97	.76	2.2	58	1.9	43	44	5.8	.70	1.2	.41	3.9
10	e1.0	.74	33	15	1.9	21	25	4.5	.92	.89	6.6	1.3
11	e1.0	.68	14	8.6	2.1	11	9.6	4.0	.84	.59	1.2	1.0
12	e1.0	.63	6.6	5.8	7.8	8.7	6.7	3.8	11	.52	.56	.74
13	e1.0	.84	3.8	5.6	3.6	7.2	5.0	3.6	11	.46	.41	.57
14	e1.4	3.9	2.9	3.9	2.4	7.2	20	3.2	1.7	.39	.39	.50
15	e.95	3.3	2.2	5.6	2.2	6.9	16	3.1	8.6	.75	.39	.43
16	e.96	2.5	2.3	5.7	2.9	7.3	87	2.2	5.6	1.6	.39	.56
17	e.96	1.6	2.5	3.9	57	10	69	2.0	1.9	.86	.36	.63
18	e.97	1.2	2.2	3.6	26	14	14	1.8	1.4	1.1	.33	.53
19	e1.2	1.3	2.1	3.3	16	10	21	1.5	2.4	.75	.31	.50
20	e1.2	1.6	2.1	3.2	13	18	23	1.5	1.3	.48	.27	.50
21	e1.1	1.3	1.8	2.7	9.5	33	11	1.4	.78	2.7	.30	1.9
22	e1.1	2.7	6.5	2.5	6.5	12	8.6	1.3	.65	32	.30	.72
23	e1.1	1.7	9.2	18	4.9	8.4	6.9	1.3	.60	12	.30	.52
24	e1.1	1.2	4.8	9.4	4.0	6.3	5.3	1.3	.50	1.9	3.5	.50
25	e2.0	.84	15	5.1	3.5	4.9	4.4	1.4	.54	1.2	33	.50
26	e5.0	1.1	7.6	4.0	3.2	5.7	62	1.3	.51	.73	4.3	.50
27	7.9	1.0	4.1	4.0	3.5	4.3	21	1.3	6.6	.61	1.2	.50
28	1.5	16	3.1	3.8	3.8	5.2	9.9	1.3	8.3	.61	.62	.44
29	.79	7.3	2.6	3.5	---	8.0	7.7	1.3	4.7	.57	.66	.43
30	.63	3.4	2.2	3.7	---	4.7	7.4	1.0	4.7	.52	.54	.41
31	.61	---	2.1	3.2	---	4.0	---	.95	---	.47	.43	---
TOTAL	42.48	62.24	156.0	364.6	193.1	315.9	525.1	210.85	81.64	75.12	60.54	48.08
MEAN	1.37	2.07	5.03	11.8	6.90	10.2	17.5	6.80	2.72	2.42	1.95	1.60
MAX	7.9	16	33	85	57	43	87	45	11	32	33	22
MIN	.61	.61	1.7	1.8	1.9	3.9	3.2	.95	.50	.39	.27	.35
CFSM	.25	.37	.90	2.11	1.24	1.83	3.14	1.22	.49	.43	.35	.29
IN.	.28	.41	1.04	2.43	1.29	2.11	3.50	1.41	.54	.50	.40	.32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	3.56	7.84	7.69	11.2	8.49	12.0	12.3	6.13	5.27	4.13	2.48	3.08
MAX	7.75	15.3	18.3	17.4	12.6	22.3	17.5	12.3	11.7	16.9	6.94	7.21
(WY)	1997	1993	1997	1993	1996	1993	1998	1997	1997	1992	1992	1992
MIN	.66	1.14	1.97	3.76	4.16	7.16	7.84	3.05	1.57	.73	.27	1.24
(WY)	1995	1995	1992	1992	1993	1995	1997	1993	1992	1996	1993	1995

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1992 - 1998	
ANNUAL TOTAL	2360.30		2135.65			
ANNUAL MEAN	6.47		5.85		7.01	
HIGHEST ANNUAL MEAN					8.97	1993
LOWEST ANNUAL MEAN					4.58	1995
HIGHEST DAILY MEAN	159	Jun 1	87	Apr 16	190	Jan 28 1994
LOWEST DAILY MEAN	.38	Aug 8	.27	Aug 20	.07	Jul 3 1992
ANNUAL SEVEN-DAY MINIMUM	.40	Aug 6	.31	Aug 17	.10	Aug 7 1993
INSTANTANEOUS PEAK FLOW			257	Apr 17a	885	Jul 30 1992
INSTANTANEOUS PEAK STAGE			11.85	Apr 17	12.93	Jul 30 1992
INSTANTANEOUS LOW FLOW			.20	Aug 4	.01	Jul 27 1997
ANNUAL RUNOFF (CFSM)	1.16		1.05		1.26	
ANNUAL RUNOFF (INCHES)	15.74		14.24		17.08	
10 PERCENT EXCEEDS	13		13		15	
50 PERCENT EXCEEDS	3.1		2.2		3.2	
90 PERCENT EXCEEDS	.51		.50		.55	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

04206215 BATH CREEK AT BATH CENTER, OHIO

LOCATION.--Lat 41°10'09", long 81°38'56", Summit County, Hydrologic Unit 04110002, on upstream left bank at bridge on Bath Road, 0.2 mi downstream from Steriner Pond, 0.6 mi west of Cleveland-Massillon Road, and 3.6 mi northwest of Akron corporate boundary.
DRAINAGE AREA.--3.52 mi^2.
PERIOD OF RECORD.--October 1, 1991, to current year (station discontinued).
GAGE.--Water-stage recorder. Elevation of gage is 961 ft above sea level, from topographic map.
REMARKS.--Records good except for periods of estimated record and discharges less than 6.0 ft^3/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.46	.50	2.1	2.7	2.1	5.5	4.8	4.1	.49	1.9	.32	.32
2	.32	.60	1.4	1.9	2.0	3.8	3.4	25	.49	.56	.21	.32
3	.34	.59	1.1	3.3	1.8	3.1	2.4	14	.50	.40	.25	.38
4	.45	.57	4.0	10	1.6	4.7	1.9	37	.45	.40	.27	.36
5	.40	.54	2.6	5.5	1.3	3.8	1.6	14	.44	.45	.36	.32
6	.40	.50	1.9	5.2	1.2	2.8	1.2	6.7	.67	.40	.40	.32
7	.40	.58	2.2	22	1.1	2.4	.82	5.3	.50	.35	.39	.85
8	.40	.72	2.0	59	1.1	6.0	4.2	4.8	.44	2.0	.32	6.4
9	.40	.67	2.0	36	.84	23	25	3.6	.42	1.4	.40	6.2
10	.57	.60	16	12	.84	13	17	2.7	.53	.44	.89	1.2
11	.52	.60	11	6.1	1.2	6.6	6.1	2.4	.55	.39	.86	.47
12	.56	.60	5.4	4.9	5.0	5.2	3.9	2.2	2.8	.32	.29	.37
13	.51	.54	3.5	4.5	3.2	4.5	2.7	1.8	4.1	.32	.05	.72
14	.59	2.4	2.6	3.2	2.2	4.5	8.4	1.2	1.4	.36	.05	.91
15	.67	4.4	2.0	3.8	1.8	4.2	11	.82	.94	.43	.05	.39
16	.69	3.7	2.1	4.4	1.9	4.6	50	.71	.96	.56	.15	.36
17	.70	2.6	2.1	3.4	31	6.3	39	.65	.74	.43	.18	.40
18	.70	2.1	1.7	2.9	22	8.9	10	.60	.56	.10	.26	.37
19	.71	2.0	1.8	2.7	11	6.1	10	.59	.66	.16	.31	.32
20	.69	2.1	1.9	2.5	8.3	7.7	14	.59	.63	.38	.25	.40
21	.66	1.9	1.6	2.0	6.1	18	6.0	.51	.50	.41	.05	.46
22	.60	2.7	3.3	2.0	5.0	7.4	4.6	.49	.50	9.8	.17	.38
23	.60	2.6	6.6	9.9	4.1	4.9	3.5	.48	.50	5.3	.15	.29
24	.60	1.9	4.1	6.8	3.4	3.4	2.7	.50	.62	1.5	.82	.05
25	.69	1.6	9.2	4.6	2.8	2.7	2.0	.58	3.0	.49	6.0	.14
26	1.0	1.8	5.5	3.6	2.4	2.7	30	.51	.55	.38	8.4	.30
27	3.4	1.6	3.5	3.2	2.7	2.4	16	.43	.81	.32	1.5	.38
28	.96	8.3	2.3	3.0	2.5	2.2	5.7	.40	1.9	.32	.45	.39
29	.58	5.5	2.0	2.8	---	4.3	4.2	.52	2.1	.31	.40	.32
30	.49	2.9	1.9	2.8	---	2.8	3.9	.55	1.1	.32	.36	.38
31	.48	---	1.7	2.5	---	2.7	---	.53	---	.32	.32	---
TOTAL	20.54	57.71	111.1	239.2	130.48	180.2	296.02	134.26	29.85	31.22	24.88	24.47
MEAN	.66	1.92	3.58	7.72	4.66	5.81	9.87	4.33	1.00	1.01	.80	.82
MAX	3.4	8.3	16	59	31	23	50	37	4.1	9.8	8.4	6.4
MIN	.32	.50	1.1	1.9	.84	2.2	.82	.40	.42	.10	.05	.05
CFSM	.19	.55	1.02	2.19	1.32	1.65	2.80	1.23	.28	.29	.23	.23
IN.	.22	.61	1.17	2.53	1.38	1.90	3.13	1.42	.32	.33	.26	.26

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	1.29	4.38	4.43	6.83	4.42	6.19	7.40	3.74	2.99	2.03	1.13	1.31
MAX	4.39	8.75	11.2	11.2	7.25	8.45	9.87	7.45	7.07	9.25	3.33	3.80
(WY)	1997	1993	1997	1993	1997	1993	1998	1996	1997	1992	1992	1992
MIN	.41	.45	.72	1.80	2.44	4.11	4.14	1.52	.81	.54	.42	.45
(WY)	1992	1992	1992	1992	1993	1995	1997	1994	1992	1996	1993	1995

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1992 - 1998	
ANNUAL TOTAL	1384.18		1279.93			
ANNUAL MEAN	3.79		3.51		3.84	
HIGHEST ANNUAL MEAN					5.15	1997
LOWEST ANNUAL MEAN					2.48	1995
HIGHEST DAILY MEAN	91	Jun 1	59	Jan 8	105	Dec 31 1992
LOWEST DAILY MEAN	.18	Sep 30	.05	Aug 13	.00	Sep 14 1993
ANNUAL SEVEN-DAY MINIMUM	.31	Sep 27	.15	Aug 12	.14	Aug 26 1996
INSTANTANEOUS PEAK FLOW			92	Apr 16a	204	Dec 31 1992
INSTANTANEOUS PEAK STAGE			13.46	Apr 16	14.49	Dec 31 1992
INSTANTANEOUS LOW FLOW			.05	Jul 18	.00	Aug 26 1993
ANNUAL RUNOFF (CFSM)	1.08		1.00		1.09	
ANNUAL RUNOFF (INCHES)	14.63		13.53		14.82	
10 PERCENT EXCEEDS	7.7		7.5		7.7	
50 PERCENT EXCEEDS	2.1		1.6		1.6	
90 PERCENT EXCEEDS	.53		.32		.40	

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a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.

04206220 YELLOW CREEK AT BOTZUM, OHIO

LOCATION.--Lat 41°09'47", long 81°35'02", Summit County, Hydrologic Unit 04110002, on right downstream bank near Bath Road truss bridge over Yellow Creek, 0.5 mi upstream from confluence with Cuyahoga River, 0.7 mi west of Akron sewage treatment plant.
DRAINAGE AREA.--30.7 mi^2.
PERIOD OF RECORD.--October 1, 1991, to current year.
GAGE.--Water-stage recorder. Elevation of gage is 743 ft above sea level, from topographic map.
REMARKS.--Records fair except for periods of estimated record, which are poor. (Formerly named Yellow Creek at Bath Road near Botzum, Ohio)

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	14	21	33	18	35	36	46	11	27	6.2	9.2
2	8.9	16	18	25	17	27	29	213	12	14	6.1	8.9
3	8.0	16	17	23	16	24	23	159	15	11	6.0	8.6
4	8.1	15	31	66	16	31	21	347	12	10	5.9	8.1
5	8.0	13	22	38	16	26	20	107	11	9.5	6.4	7.8
6	7.6	13	19	38	15	22	20	62	11	8.3	7.1	7.6
7	7.1	15	20	188	15	21	19	46	11	8.2	6.4	28
8	7.3	18	20	470	14	43	38	44	10	24	5.9	84
9	8.0	16	19	314	14	193	179	39	9.8	15	6.6	33
10	9.2	14	136	97	15	104	126	34	12	9.7	22	17
11	8.7	14	82	49	17	51	46	31	11	8.0	13	12
12	8.9	13	39	36	38	e38	36	30	47	7.3	7.8	10
13	8.8	13	26	33	25	36	28	27	75	6.8	6.6	9.1
14	10	27	21	e25	19	34	76	24	27	6.6	6.0	9.9
15	10	34	19	26	18	34	86	23	35	9.4	5.9	8.8
16	9.3	26	19	29	22	34	398	21	34	12	5.7	8.7
17	9.1	19	19	24	246	40	321	20	23	8.0	5.6	9.4
18	9.2	e17	18	21	172	58	86	19	17	7.3	5.6	8.7
19	9.6	17	17	20	86	45	87	17	17	7.3	5.5	8.4
20	10	17	17	20	66	59	119	17	13	7.0	4.7	8.5
21	9.5	16	16	e19	49	154	56	16	11	8.3	4.7	21
22	9.3	20	26	18	39	66	41	15	9.8	123	5.4	14
23	9.7	18	43	64	32	45	36	14	9.2	53	4.9	9.9
24	9.9	15	28	45	28	36	33	14	9.8	21	45	8.6
25	12	14	60	29	27	30	29	14	11	13	227	8.5
26	20	15	37	23	23	29	287	13	9.4	9.9	85	8.6
27	59	15	25	21	23	26	157	13	17	8.8	24	8.6
28	20	93	20	21	23	26	56	12	26	7.8	18	9.9
29	16	50	19	20	---	35	43	12	34	7.1	15	8.9
30	15	28	19	20	---	27	40	11	28	6.7	13	8.5
31	14	---	e19	19	---	24	---	12	---	6.6	11	---
TOTAL	368.9	631	912	1874	1109	1453	2572	1472	579.0	481.6	598.0	412.2
MEAN	11.9	21.0	29.4	60.5	39.6	46.9	85.7	47.5	19.3	15.5	19.3	13.7
MAX	59	93	136	470	246	193	398	347	75	123	227	84
MIN	7.1	13	16	18	14	21	19	11	9.2	6.6	4.7	7.6
CFSM	.39	.69	.96	1.97	1.29	1.53	2.79	1.55	.63	.51	.63	.45
IN.	.45	.76	1.11	2.27	1.34	1.76	3.12	1.78	.70	.58	.72	.50

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	16.1	37.9	38.5	60.3	44.8	58.1	62.9	37.0	32.6	21.6	16.6	17.7
MAX	40.3	76.2	94.0	98.2	66.8	108	95.4	63.6	70.5	74.8	41.1	48.3
(WY)	1997	1993	1997	1993	1997	1993	1994	1997	1997	1992	1992	1992
MIN	6.31	9.23	12.1	17.8	25.4	31.0	35.0	20.5	15.7	10.1	5.68	4.85
(WY)	1995	1992	1992	1992	1995	1995	1995	1992	1992	1993	1993	1995

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1992 - 1998	
ANNUAL TOTAL	14487.4		12462.7			
ANNUAL MEAN	39.7		34.1		36.9	
HIGHEST ANNUAL MEAN					50.2	1997
LOWEST ANNUAL MEAN					22.1	1995
HIGHEST DAILY MEAN	756	Jun 1	470	Jan 8	765	Jan 28 1994
LOWEST DAILY MEAN	5.8	Aug 9	4.7	Aug 20	2.4	Sep 5 1995
ANNUAL SEVEN-DAY MINIMUM	6.3	Aug 6	5.2	Aug 17	2.6	Sep 1 1995
INSTANTANEOUS PEAK FLOW			853	Apr 16a	1470	Jul 31 1992
INSTANTANEOUS PEAK STAGE			13.95	Apr 16	15.60	Jul 31 1992
INSTANTANEOUS LOW FLOW			4.1	Aug 20	2.4	Sep 2 1995
ANNUAL RUNOFF (CFSM)	1.29		1.11		1.20	
ANNUAL RUNOFF (INCHES)	17.55		15.10		16.35	
10 PERCENT EXCEEDS	80		65		75	
50 PERCENT EXCEEDS	24		19		20	
90 PERCENT EXCEEDS	7.6		7.9		6.4	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

04207200 TINKERS CREEK AT BEDFORD, OHIO

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 mi^2.
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 sea level.
REMARKS.--Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	53	41	98	e62	e76	138	128	127	38	179	38	29
2	60	38	80	e60	e70	104	92	358	32	82	36	30
3	39	40	82	e120	e66	118	71	256	29	64	37	26
4	30	44	134	e220	e63	149	59	369	29	52	39	30
5	33	50	101	e150	e60	130	54	224	32	44	54	25
6	31	42	79	e120	e56	97	53	131	28	42	34	23
7	30	49	83	e450	e54	80	52	104	30	44	30	83
8	29	47	90	e1800	e52	147	126	94	28	49	26	50
9	29	42	84	e950	e50	524	478	73	29	42	265	53
10	30	38	466	e600	e48	418	417	58	31	38	442	38
11	28	39	414	e400	e46	235	199	55	40	33	89	31
12	28	36	244	e280	e130	153	99	53	279	32	44	27
13	28	35	123	e220	e110	128	77	50	280	34	34	25
14	43	88	88	e180	e86	118	165	45	94	34	32	26
15	29	101	76	e150	e74	114	215	42	58	70	29	28
16	28	85	e70	e130	e64	134	1570	39	222	54	27	28
17	28	71	e66	e110	e200	167	1400	35	85	46	28	29
18	28	60	e60	e100	e400	250	647	34	51	37	30	28
19	27	64	e56	e90	e260	199	396	33	196	51	27	57
20	27	76	e52	e82	e200	277	409	32	67	39	27	31
21	27	83	e50	e76	e160	366	195	30	43	121	27	31
22	27	105	e110	e72	e130	210	120	29	39	317	25	29
23	27	68	e190	e230	e110	132	93	27	37	288	24	28
24	27	56	e120	e210	e96	104	75	26	37	108	35	26
25	33	52	e180	e160	e80	86	66	26	36	66	428	26
26	133	56	e140	e130	e72	85	1110	27	67	52	154	25
27	278	48	e110	e120	68	76	718	27	324	51	56	24
28	113	327	e90	e100	89	101	350	26	352	49	40	30
29	68	255	e80	e94	---	90	120	25	331	44	49	27
30	55	149	e72	e86	---	74	145	25	228	40	34	26
31	43	---	e66	e82	---	65	---	142	---	40	33	---
TOTAL	1489	2285	3754	7634	2970	5069	9699	2622	3172	2242	2273	969
MEAN	48.0	76.2	121	246	106	164	323	84.6	106	72.3	73.3	32.3
MAX	278	327	466	1800	400	524	1570	369	352	317	442	83
MIN	27	35	50	60	46	65	52	25	28	32	24	23
CFSM	.01	.01	.01	.03	.01	.02	.04	.01	.01	.01	.01	.00
IN.	.01	.01	.02	.03	.01	.02	.04	.01	.01	.01	.01	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	70.0	139	175	153	198	246	193	124	88.7	78.8	63.7	73.2
MAX	261	402	506	396	463	457	323	339	257	329	255	289
(WY)	1991	1986	1991	1993	1976	1963	1998	1989	1975	1969	1992	1990
MIN	8.55	13.4	16.9	33.1	39.0	81.2	54.1	33.4	16.5	13.1	11.3	8.73
(WY)	1964	1965	1964	1977	1963	1990	1971	1965	1964	1967	1963	1964

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1963 - 1998	
ANNUAL TOTAL	45854		44178			
ANNUAL MEAN	126		121		134	
HIGHEST ANNUAL MEAN					185	1975
LOWEST ANNUAL MEAN					81.7	1964
HIGHEST DAILY MEAN	1650	Jun 1	1800	Jan 8	2920	Dec 30 1990
LOWEST DAILY MEAN	22	Aug 2	23	Sep 6	5.8	Aug 10 1964
ANNUAL SEVEN-DAY MINIMUM	23	Aug 5	26	May 24	6.5	Oct 4 1963
INSTANTANEOUS PEAK FLOW			e4000	Jan 8a	7220	Jul 20 1969
INSTANTANEOUS PEAK STAGE			e8.03	Jan 8	10.10	Jul 20 1969
INSTANTANEOUS LOW FLOW			23	Sep 6	5.2	Aug 19 1963
ANNUAL RUNOFF (CFSM)	.015		.015		.016	
ANNUAL RUNOFF (INCHES)	.21		.20		.22	
10 PERCENT EXCEEDS	309		270		323	
50 PERCENT EXCEEDS	68		65		62	
90 PERCENT EXCEEDS	27		28		20	

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a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OHIO

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 sea level. 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. 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.--Records good. Natural flow of stream affected by diversion, storage reservoirs, and powerplants. 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. Satellite telemeter at gage. Water-quality data collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	535	314	696	584	765	900	854	1630	425	1260	245	365
2	437	315	636	572	752	935	718	2790	301	637	232	320
3	368	301	593	869	718	833	656	2730	400	508	232	315
4	354	314	853	1500	684	981	725	3490	279	466	224	296
5	368	316	673	1120	642	879	664	2420	266	408	239	249
6	350	271	577	1100	613	730	643	1780	285	358	262	255
7	398	295	579	3150	577	651	564	1500	278	344	242	455
8	486	369	594	7200	560	797	619	1330	269	456	220	588
9	490	336	544	5900	539	2450	2180	1160	267	443	372	512
10	506	313	1750	4080	533	2490	2930	996	291	351	1190	348
11	342	288	1900	3190	526	1860	1520	872	292	315	626	298
12	236	276	1310	2710	942	1480	1210	777	815	285	419	264
13	238	263	982	2330	829	1310	1150	732	1760	271	322	254
14	288	460	885	1860	676	1150	1220	671	781	268	298	252
15	278	572	809	1590	628	1020	2050	628	508	421	246	252
16	250	528	728	1420	607	950	4510	616	851	648	229	249
17	246	451	663	1130	1850	996	7510	585	754	348	230	249
18	228	400	595	1010	2620	1320	3530	551	478	279	235	247
19	222	389	557	914	1820	1250	2800	516	696	265	227	230
20	222	422	538	870	1510	1210	3630	506	511	271	215	270
21	232	423	490	802	1440	2480	2630	477	410	293	214	280
22	220	512	687	740	1180	1680	1980	454	361	1720	218	305
23	215	468	1250	1490	1020	1300	1650	433	335	1440	210	248
24	224	418	833	1590	880	1110	1320	419	318	739	234	226
25	261	402	1320	1240	774	1080	1050	426	306	466	2450	238
26	330	421	1070	1040	700	1300	3950	422	334	373	2040	231
27	1270	420	916	967	655	830	4160	417	946	320	651	223
28	529	1240	836	910	632	568	2580	364	1890	312	484	224
29	401	1220	789	875	---	701	1850	313	1580	284	483	223
30	367	831	729	899	---	655	1790	297	1230	270	497	215
31	361	---	680	829	---	756	---	444	---	263	468	---
TOTAL	11252	13548	26062	54481	25672	36652	62643	30746	18217	15082	14454	8681
MEAN	363	452	841	1757	917	1182	2088	992	607	487	466	289
MAX	1270	1240	1900	7200	2620	2490	7510	3490	1890	1720	2450	588
MIN	215	263	490	572	526	568	564	297	266	263	210	215

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	378	650	946	1130	1306	1667	1461	945	630	457	362	372
MAX	1747	2713	2889	3585	3217	3008	3175	2396	2450	1543	1363	1866
(WY)	1955	1986	1978	1952	1959	1963	1957	1984	1989	1992	1992	1979
MIN	65.8	74.9	115	191	194	584	244	120	111	82.9	62.3	61.0
(WY)	1934	1931	1964	1945	1934	1931	1946	1934	1934	1954	1933	1933

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1922 - 1998	
ANNUAL TOTAL	354986		317490			
ANNUAL MEAN	973		870		860	
HIGHEST ANNUAL MEAN					1393	1975
LOWEST ANNUAL MEAN					278	1934
HIGHEST DAILY MEAN	9400	Jun 1	7510	Apr 17	16700	Jan 22 1959
LOWEST DAILY MEAN	209	Sep 7	210	Aug 23	21	Aug 28 1933
ANNUAL SEVEN-DAY MINIMUM	223	Oct 18	221	Aug 17	37	Aug 26 1933
INSTANTANEOUS PEAK FLOW			9450	Apr 17	16700	Jan 22 1959
INSTANTANEOUS PEAK STAGE			18.05	Apr 17	22.41	Jan 22 1959
INSTANTANEOUS LOW FLOW			189	Aug 23	21	Aug 28 1933
10 PERCENT EXCEEDS	1920		1830		2020	
50 PERCENT EXCEEDS	696		577		486	
90 PERCENT EXCEEDS	265		248		130	

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OHIO--Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1948 to September 1949, October 1950 to current year.
PERIOD OF DAILY RECORD.--
CHLORIDE: October 1987 to September 1994.
NITROGEN, NITRITE + NITRATE: October 1987 to September 1994.
NITROGEN, AMMONIA + ORGANIC: October 1987 to September 1994.
PHOSPHORUS: October 1987 to September 1994.
SUSPENDED SEDIMENT DISCHARGE: Water years 1950-74, December 1976 to September 1984, October 1987 to current year.
INSTRUMENTATION.--Alcohol-actuated thermograph October 1956 to June 1965, water-quality monitor from July 1965 to September 1991, and a refrigerated water-quality pumping sampler, operated by Heidelberg College Water Quality Laboratory, from October 1987 to September 1994.
REMARKS.--Sediment samples were collected by a local observer on an approximate once daily basis. Sediment loads were calculated using the mean-interval method (Porterfield, George, 1972, Computation of Fluvial-Sediment Discharge: U.S. Geological Survey, Techniques of Water-Resources Investigations, Book 3, Chap. C3, 66 p.). For days with unsteady concentration, discharge, or both, the day was subdivided into half-hour intervals and the daily load was calculated by summing the loads for these half-hour intervals. This required interpolation between measured and estimated concentrations.
EXTREMES FOR PERIOD OF DAILY RECORD.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 3,400 mg/L, Dec. 31, 1992; minimum daily mean, 1 mg/L, Feb. 12, 13, 1989.
SEDIMENT LOADS: Maximum daily, 82,900 tons, Dec. 31, 1992; minimum daily, 1.2 tons, Feb. 13, 1989.
EXTREMES FOR CURRENT YEAR.--
SEDIMENT CONCENTRATIONS: Maximum daily mean, 1,420 mg/L, Apr. 17; minimum daily mean, 2 mg/L, Oct. 23.
SEDIMENT LOADS: Maximum daily, 30,600 tons, Apr. 17; minimum daily, 1.3 tons, Oct. 23.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SAMPLING METHOD, CODES* (82398)	DISCHARGE, INST. CUBIC FEET PER SECOND (00061)	SPECIFIC CONDUCTANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	TEMPERATURE AIR (DEG C) (00020)	TEMPERATURE WATER (DEG C) (00010)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	NITROGEN, NO2+NO3 DISSOLVED (MG/L AS N) (00631)	NITROGEN,AMMONIA + ORGANIC TOTAL (MG/L AS N) (00625)	PHOSPHORUS TOTAL (MG/L AS P) (00665)	SEDIMENT, SUSPENDED (MG/L) (80154)
NOV												
24...	1550	10	401	920	8.0	0.5	4.5	160	3.2	0.6	0.10	4
24...	1645	50	397	--	--	--	--	160	3.3	0.6	0.11	--
MAY												
19...	1320	10	513	760	7.9	30.5	21.5	100	3.0	0.6	0.14	18
19...	1420	50	513	--	--	--	--	110	2.9	0.7	0.18	--
JUL												
23...	1135	10	2090	580	7.7	29.0	24.0	81	1.6	1.6	0.55	--
23...	1310	50	1790	--	--	--	--	84	2.0	1.6	0.44	--

*10 - Stream cross-section sample using equal-width-increment (EWI) sampling method.
*50 - Point sample obtained from flow tank.

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OHIO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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	535	83	126	314	7	6.0	696	23	44
2	437	22	27	315	6	5.2	636	14	25
3	368	11	11	301	5	4.2	593	12	19
4	354	15	14	314	5	4.5	853	48	114
5	368	14	14	316	6	5.5	673	18	33
6	350	14	14	271	5	3.9	577	13	20
7	398	21	23	295	6	4.8	579	10	16
8	486	22	29	369	7	7.4	594	12	19
9	490	20	27	336	6	5.7	544	9	14
10	506	19	26	313	6	4.9	1750	294	2390
11	342	11	10	288	5	3.8	1900	191	1040
12	236	7	4.3	276	4	2.9	1310	73	260
13	238	9	5.8	263	3	2.2	982	46	121
14	288	11	8.2	460	16	24	885	33	80
15	278	6	4.8	572	19	30	809	29	63
16	250	5	3.4	528	7	9.5	728	22	43
17	246	4	2.7	451	7	8.7	663	15	28
18	228	4	2.4	400	7	7.6	595	12	19
19	222	3	1.9	389	6	6.8	557	12	17
20	222	4	2.3	422	9	9.7	538	9	13
21	232	4	2.4	423	8	9.5	490	7	9.8
22	220	3	1.7	512	14	19	687	53	198
23	215	2	1.3	468	7	9.6	1250	131	480
24	224	3	1.8	418	4	4.0	833	42	94
25	261	4	2.8	402	3	3.6	1320	95	351
26	330	22	51	421	5	6.3	1070	39	114
27	1270	266	1020	420	10	11	916	25	62
28	529	36	54	1240	223	1000	836	17	38
29	401	12	13	1220	117	409	789	14	29
30	367	9	9.1	831	46	105	729	12	24
31	361	8	7.7	---	---	---	680	10	18
TOTAL	11252	---	1521.6	13548	---	1734.3	26062	---	5795.8

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	584	9	14	765	23	48	900	77	189
2	572	9	15	752	15	31	935	33	83
3	869	44	105	718	15	28	833	27	60
4	1500	176	820	684	10	19	981	24	64
5	1120	76	238	642	8	15	879	18	43
6	1100	66	200	613	9	16	730	10	20
7	3150	945	11800	577	9	14	651	9	16
8	7200	1080	21100	560	8	12	797	57	185
9	5900	516	8480	539	8	11	2450	641	5610
10	4080	284	3160	533	6	9.3	2490	312	2200
11	3190	225	1940	526	8	11	1860	98	501
12	2710	181	1330	942	58	172	1480	53	214
13	2330	160	1010	829	28	64	1310	47	167
14	1860	138	695	676	9	17	1150	35	110
15	1590	98	418	628	8	14	1020	27	76
16	1420	70	270	607	9	14	950	23	58
17	1130	54	165	1850	493	5540	996	25	66
18	1010	42	114	2620	456	3920	1320	43	154
19	914	33	83	1820	127	634	1250	39	131
20	870	29	68	1510	72	293	1210	43	161
21	802	30	66	1440	49	192	2480	181	1250
22	740	26	52	1180	37	120	1680	58	273
23	1490	77	381	1020	33	91	1300	27	94
24	1590	77	337	880	34	80	1110	22	65
25	1240	37	125	774	34	70	1080	24	70
26	1040	27	77	700	22	42	1300	54	196
27	967	26	69	655	18	32	830	36	87
28	910	22	55	632	14	24	568	16	25
29	875	18	42	---	---	---	701	16	30
30	899	17	41	---	---	---	655	16	28
31	829	15	33	---	---	---	756	30	62
TOTAL	54481	---	53303	25672	---	11533.3	36652	---	12288

04208000 CUYAHOGA RIVER AT INDEPENDENCE, OHIO--Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

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	854	51	119	1630	87	382	425	83	112
2	718	25	49	2790	536	4570	301	35	29
3	656	15	27	2730	335	2630	400	30	32
4	725	18	35	3490	513	5140	279	30	23
5	664	16	28	2420	206	1390	266	23	17
6	643	17	30	1780	124	598	285	20	15
7	564	14	21	1500	110	444	278	14	10
8	619	38	74	1330	126	450	269	13	9.6
9	2180	364	3580	1160	74	233	267	15	11
10	2930	353	2950	996	60	162	291	14	11
11	1520	114	484	872	59	139	292	13	11
12	1210	73	239	777	77	162	815	483	1400
13	1150	66	205	732	46	92	1760	1220	5750
14	1220	80	292	671	43	78	781	940	2100
15	2050	236	1410	628	44	74	508	216	291
16	4510	638	10300	616	31	51	851	154	460
17	7510	1420	30600	585	25	39	754	124	288
18	3530	385	3790	551	20	30	478	51	66
19	2800	255	2020	516	16	23	696	120	276
20	3630	324	3220	506	16	21	511	76	106
21	2630	170	1210	477	15	19	410	50	56
22	1980	144	767	454	14	17	361	29	28
23	1650	121	540	433	14	17	335	30	27
24	1320	104	372	419	15	17	318	24	21
25	1050	84	238	426	11	13	306	21	18
26	3950	534	7780	422	16	18	334	21	19
27	4160	352	3740	417	20	22	946	591	3290
28	2580	190	1280	364	21	21	1890	950	5490
29	1850	115	567	313	15	13	1580	406	1800
30	1790	102	494	297	15	12	1230	279	1000
31	---	---	---	444	52	111	---	---	---
TOTAL	62643	---	76461	30746	---	16988	18217	---	22766.6

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	1260	334	1320	245	13	8.5	365	32	32
2	637	85	149	232	12	7.6	320	25	22
3	508	60	83	232	15	9.4	315	20	17
4	466	48	60	224	25	15	296	16	13
5	408	39	43	239	54	35	249	14	9.6
6	358	28	27	262	28	20	255	11	7.8
7	344	25	23	242	20	13	455	119	205
8	456	43	64	220	18	11	588	102	204
9	443	46	58	372	96	190	512	108	163
10	351	17	16	1190	592	2980	348	33	32
11	315	11	9.4	626	218	410	298	26	21
12	285	9	7.1	419	59	69	264	23	17
13	271	9	6.6	322	38	33	254	19	13
14	268	9	6.5	298	32	26	252	17	12
15	421	65	111	246	29	19	252	17	11
16	648	197	447	229	26	16	249	17	11
17	348	39	37	230	20	12	249	16	11
18	279	27	20	235	25	16	247	16	11
19	265	22	16	227	25	15	230	16	10
20	271	19	14	215	21	12	270	41	31
21	293	22	18	214	17	9.9	280	32	27
22	1720	1200	7560	218	18	11	305	26	22
23	1440	401	1710	210	18	10	248	13	8.8
24	739	183	377	234	25	19	226	12	7.4
25	466	104	132	2450	677	5100	238	13	8.2
26	373	55	56	2040	591	3820	231	13	8.0
27	320	31	27	651	148	272	223	12	7.3
28	312	29	25	484	68	90	224	12	7.3
29	284	26	20	483	64	84	223	14	8.4
30	270	23	17	497	43	57	215	12	6.8
31	263	19	14	468	44	55	---	---	---
TOTAL	15082	---	12473.6	14454	---	13445.4	8681	---	964.6
YEAR	317490		229275.2						

04208504 CUYAHOGA RIVER AT LTV STEEL AT CLEVELAND, OHIO

LOCATION.--Lat 41°27'45", long 81°40'52", Cuyahoga County, Hydrologic Unit 04110002, on left bank, at LTV Steel Company footbridge, 1.2 mi downstream from Big Creek, 5.5 mi upstream from mouth at Cleveland.
DRAINAGE AREA.--788 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1, 1991, to current year.
GAGE.--Water-stage and acoustic velocity meter recorder. Elevation of gage is 583.57 ft above sea level, from topographic map.
REMARKS.--Estimated daily discharges are marked in table. Records fair except for periods of estimated record, which are poor.
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 15,500 ft^3/s Aug. 13, 1994; minimum daily discharge, 310 ft^3/s Aug. 29, 1993.
EXTREMES FOR CURRENT YEAR.--Maximum discharge, 11,300 ft^3/s Apr. 17; minimum daily discharge, 333 ft^3/s Oct. 13.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	984	660	1280	1140	1020	1480	1280	e2100	709	1550	498	625
2	756	612	1200	1070	1060	1480	1040	e3200	506	979	511	585
3	676	604	e1100	1500	1030	1470	1020	e3100	668	810	505	564
4	610	665	e1500	2280	905	1660	1100	e4200	507	765	502	564
5	693	637	e1200	1840	955	1400	1010	e2700	562	713	698	509
6	726	550	e1100	1900	923	1240	996	e2200	504	618	533	492
7	967	633	e1000	4470	813	978	850	1810	502	677	553	1120
8	839	715	e980	e7400	885	1320	1170	1650	483	872	458	1090
9	799	654	e960	e6000	823	3140	3980	1460	475	698	914	902
10	776	664	e2700	e4400	724	3150	3290	1310	535	640	3140	650
11	834	651	e3100	e3500	872	2340	1840	1210	664	565	1070	592
12	548	610	e2200	e3000	1580	1860	1610	1060	2240	520	794	530
13	333	572	e1800	2420	1280	1660	1510	981	2420	513	672	536
14	679	1030	e1600	2010	1090	1510	2010	903	1090	479	600	525
15	599	1200	e1400	1740	975	1330	2300	852	895	1140	516	526
16	635	1040	e1200	1550	1040	1350	7500	824	1240	955	541	556
17	521	942	e1100	1360	2660	1450	8270	770	996	622	507	558
18	587	875	e1050	1050	3230	1790	3770	723	744	535	570	542
19	490	892	e1000	953	2480	1630	3900	643	1350	502	542	570
20	506	915	966	1070	2120	2350	4410	688	835	496	488	571
21	493	826	966	1200	2040	3100	3030	662	677	1200	476	687
22	534	1100	1150	996	1670	1950	2420	643	646	2630	481	658
23	572	923	2060	2120	1700	1650	2120	621	596	2210	458	588
24	519	980	1440	1970	1440	1470	1790	551	599	1080	773	487
25	541	1100	2080	1650	1310	1430	1560	568	544	742	4800	541
26	768	806	1710	1370	1180	1640	e4600	558	721	647	2100	515
27	2320	825	1470	1370	993	1030	e4900	575	2840	554	1020	537
28	1120	2320	1360	1330	1100	1060	e3700	513	2270	539	813	565
29	773	1980	1280	1210	---	1050	e2300	506	2100	550	891	523
30	753	1490	1030	1220	---	964	e2200	549	1890	524	837	518
31	732	---	1070	1170	---	1070	---	1450	---	576	742	---
TOTAL	22683	27471	44052	66259	37898	51002	81476	39580	30808	25901	28003	18226
MEAN	732	916	1421	2137	1354	1645	2716	1277	1027	836	903	608
MAX	2320	2320	3100	7400	3230	3150	8270	4200	2840	2630	4800	1120
MIN	333	550	960	953	724	964	850	506	475	479	458	487

CAL YR 1997 TOTAL 523290 MEAN 1434 MAX 11000 MIN 333
WTR YR 1998 TOTAL 473359 MEAN 1297 MAX 8270 MIN 333

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e Estimated.

04208504 CUYAHOGA RIVER AT LTV STEEL AT CLEVELAND, OHIO--Continued
National Water-Quality Assessment Program, Lake Erie-Lake St. Clair Basin Study Unit

WATER-QUALITY RECORDS

The data described in the following table were collected and analyzed as part of the NAWQA (National Water-Quality Assessment Program) project in the Lake Erie-Lake St. Clair Basin. The objectives of the NAWQA program are to broadly characterize the water quality of the Nation’s streams and aquifers in relation to human and natural factors. This project is one of 59 river basin and aquifer assessment projects being implemented across the nation. At any one time, 15 to 20 of these projects are actively collecting data. The period of high-intensity data collection for the Lake Erie-Lake St. Clair Basin project is in water years 1996-98.

There are four stream sites in Ohio for which data are being reported in this publication as part of the NAWQA study: Auglaize River near Ft. Jennings (04186500), Maumee River at Waterville (04193500), Cuyahoga River at LTV Steel at Cleveland (04208504), and Grand River at Harpersfield (04211820). Three sites are reported in the 1998 Michigan annual data report: Black River near Jeddo, MI (04159492), Clinton River at Sterling Heights, MI (04161820) and River Raisin near Manchester, MI (04175600). Two Sites are reported in the 1998 Indiana annual data report: St. Joseph River near Newville, IN (04178000), and Maumee River at New Haven, IN (04183000). One site is reported in the 1998 New York annual data report: Cattaraugus Creek at Gowanda, NY (04213500).

These data also can be obtained electronically at http//www-oh.er.usgs.gov/nawqa.index.html.

[---, no data; <, concentration or value reported is less than that indicated; E, estimated value; K, value is estimated from a non-ideal colony count]
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WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)
OCT												
21...	0830	1150	7.7	6.5	6.5	748	9.7	97	320	240	70	17
NOV												
25...	0900	1200	7.7	3.0	6.0	749	11.3	88	--	230	66	17
DEC												
17...	1400	913	7.5	7.0	4.5	746	10.2	81	1900	210	59	15
JAN												
13...	0930	545	7.7	-2.0	4.0	750	12.1	95	2200	130	38	9.2
FEB												
18...	1430	--	--	--	--	--	--	--	23000	--	--	--
24...	0845	806	7.9	2.0	6.0	744	11.7	97	3300	210	61	14
JUN												
22...	1000	--	--	--	--	--	--	--	830	--	--	--

DATE	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)
OCT												
21...	111	19	146	119	110	190	1.1	5.2	694	0.05	10.3	0.19
NOV												
25...	133	14	154	126	94	220	1.0	5.6	666	.02	5.1	.04
DEC												
17...	93	11	145	119	81	150	.8	7.3	538	.02	5.1	<.02
JAN												
13...	50	5.5	101	83	49	84	.3	6.5	313	.03	2.2	<.02
FEB												
18...	--	--	--	--	--	--	--	--	--	--	--	--
24...	75	8.4	132	109	73	130	.5	5.7	478	.04	3.6	.12
JUN												
22...	--	--	--	--	--	--	--	--	--	--	--	--

04208504 CUYAHOGA RIVER AT LTV STEEL AT CLEVELAND, OHIO--Continued
National Water-Quality Assessment Program, Lake Erie-Lake St. Clair Basin Study Unit

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS- PENDED TOTAL (MG/L AS C) (00689)	SEDI- MENT, SUS- PENDED (MG/L) (80154)	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)
OCT												
21...	1.7	1.3	0.25	0.22	0.17	80	51	8.0	0.50	12	<.002	<.002
NOV												
25...	1.1	1.0	.12	.08	.11	66	51	6.5	.70	7	<.002	<.002
DEC												
17...	.9	.8	.10	.06	.04	67	54	6.6	.60	10	<.002	<.002
JAN												
13...	.8	.6	.14	.05	.02	68	48	5.7	1.5	96	<.002	<.002
FEB												
18...	--	--	--	--	--	--	--	--	--	--	--	--
24...	.8	.7	.10	.04	.04	52	59	5.0	.70	39	<.002	<.002
JUN												
22...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	P,P' DDE DISSOLV (UG/L) (34653)	DI- AZINON, DIS- SOLVED (UG/L) (39572)
OCT												
21...	0.099	E.018	<.200	<.002	<.002	<.003	<.003	<.004	<.010	<.002	<.006	0.026
NOV												
25...	.061	E.014	<.400	<.002	<.002	E.143	<.003	.007	.014	<.002	<.006	.030
DEC												
17...	.034	<.010	<1.10	<.002	<.002	E.040	<.003	.006	.011	<.002	<.006	.016
JAN												
13...	.044	E.012	<.400	<.002	<.002	<.003	<.003	<.004	<.004	<.002	<.006	.005
FEB												
18...	--	--	--	--	--	--	--	--	--	--	--	--
24...	.017	E.006	<.500	<.002	<.002	<.003	<.003	<.004	<.004	<.002	<.006	.011
JUN												
22...	--	--	--	--	--	--	--	--	--	--	--	--

DATE	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO- PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	ALPHA BHC DIS- SOLVED (UG/L) (34253)	LINDANE DIS- SOLVED (UG/L) (39341)	LIN- URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA- THION, DIS- SOLVED (UG/L) (39532)
OCT											
21...	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.005
NOV											
25...	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.005
DEC											
17...	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.005
JAN											
13...	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.005
FEB											
18...	--	--	--	--	--	--	--	--	--	--	--
24...	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.005
JUN											
22...	--	--	--	--	--	--	--	--	--	--	--

04208504 CUYAHOGA RIVER AT LTV STEEL AT CLEVELAND, OHIO--Continued
National Water-Quality Assessment Program, Lake Erie-Lake St. Clair Basin Study Unit

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	METO- LACHLOR WATER DISSOLV (UG/L) (39415)	METRI- BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL- INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PARA- THION, DIS- SOLVED (UG/L) (39542)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO- METON, WATER, DISS, REC (UG/L) (04037)
OCT											
21...	0.029	<.004	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	0.031
NOV											
25...	.022	<.004	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	.018
DEC											
17...	.019	<.004	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	E.013
JAN											
13...	.019	<.004	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	E.012
FEB											
18...	--	--	--	--	--	--	--	--	--	--	--
24...	.009	<.004	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	E.009
JUN											
22...	--	--	--	--	--	--	--	--	--	--	--

DATE	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROP- CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO- PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO- PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI- MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU- THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER- BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER- BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO- BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL- LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)
OCT											
21...	<.003	<.007	<.004	<.013	0.013	<.010	<.007	<.013	<.002	<.001	<.002
NOV											
25...	<.003	<.007	<.004	<.013	.010	E.007	<.007	<.013	<.002	<.001	<.002
DEC											
17...	<.003	<.007	<.004	<.013	.009	<.010	<.007	<.013	<.002	<.001	<.002
JAN											
13...	<.003	<.007	<.004	<.013	.012	<.010	<.007	<.013	<.002	<.001	<.002
FEB											
18...	--	--	--	--	--	--	--	--	--	--	--
24...	<.003	<.007	<.004	<.013	.006	<.010	<.007	<.013	<.002	<.001	<.002
JUN											
22...	--	--	--	--	--	--	--	--	--	--	--

04209000 CHAGRIN RIVER AT WILLOUGHBY, OHIO

LOCATION.--Lat 41°37'51", long 81°24'13", in T.9 N., R.10 W., Lake County, Hydrologic Unit 04110003, on left bank, 150 ft downstream from city waterworks dam, 800 ft downstream from East Branch, 1.0 mi southeast of Willoughby, and 5.0 mi upstream from mouth.
DRAINAGE AREA.--246 mi^2.
PERIOD OF RECORD.--July 1925 to November 1935, October 1939 to 1984, March 25, 1988 to September 1994, October 1, 1995, to September, 1996. (July 1925 to September 1932 monthly runoff in inches, adjusted for diversion, published in WSP 1307; previously published runoff was unadjusted and should not be used).
REVISED RECORDS.--WSP 1084: 1929(M), 1931(M). WSP 1307: 1926-28(M), 1930(M), 1932-35(M), 1942(M). WSP 1912: Drainage area. See also PERIOD OF RECORD.
GAGE.--Water-stage recorder. Datum of gage is 594.57 ft above sea level. Prior to Dec. 20, 1939, nonrecording gage at site 150 ft upstream at datum 7 ft higher.
REMARKS.--Records fair, except for periods of estimated record, which are poor. Water diverted 200 ft upstream from station for municipal supply of city of Willoughby until 1988, when water treatment plant was relocated downstream of gaging station. Water-quality and sediment data collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	350	113	376	215	309	443	384	390	286	96	43	e100
2	192	120	244	222	276	382	392	561	106	88	41	e80
3	122	118	197	499	252	274	279	640	83	75	40	e66
4	99	114	344	1270	221	465	215	752	71	67	39	e58
5	139	111	304	720	199	515	183	723	66	65	41	e52
6	105	104	243	626	178	521	161	374	68	61	56	e58
7	89	105	250	2330	167	392	146	253	80	58	56	e130
8	81	132	299	5310	167	407	190	260	79	60	50	e230
9	78	127	294	3370	158	1450	1070	228	69	63	53	e150
10	76	116	868	1710	157	1620	1730	181	70	58	635	e90
11	66	127	1200	989	157	906	720	139	74	52	645	e70
12	63	127	628	623	487	560	352	109	208	49	153	e50
13	61	125	424	518	671	374	243	94	630	47	88	e40
14	96	165	313	395	313	372	344	84	272	45	71	e37
15	89	265	252	397	225	309	980	79	123	48	63	e35
16	66	270	230	642	197	303	2430	71	326	92	59	e33
17	59	229	233	415	720	452	4150	66	659	101	53	e31
18	58	189	226	331	1670	945	1270	60	160	85	57	e30
19	56	186	227	292	858	766	748	57	342	66	56	e28
20	55	235	284	275	615	549	1710	54	240	63	50	e35
21	54	357	242	239	630	1630	917	53	113	63	46	e45
22	56	514	285	236	524	1060	519	52	92	112	43	e56
23	66	359	1140	706	366	639	366	50	81	185	41	e47
24	59	248	616	1100	296	411	277	47	74	172	58	e42
25	66	199	963	563	255	302	232	46	69	95	424	e38
26	90	293	726	360	226	252	2180	46	60	69	498	e35
27	624	313	465	320	215	223	2110	47	90	61	e130	e33
28	307	670	341	336	213	236	746	49	173	56	e120	e31
29	186	838	267	326	---	522	424	52	142	52	e120	e30
30	147	594	231	626	---	309	375	51	108	47	e130	e29
31	121	---	206	448	---	222	---	54	---	44	e120	---
TOTAL	3776	7463	12918	26409	10722	17811	25843	5722	5014	2295	4079	1789
MEAN	122	249	417	852	383	575	861	185	167	74.0	132	59.6
MAX	624	838	1200	5310	1670	1630	4150	752	659	185	645	230
MIN	54	104	197	215	157	222	146	46	60	44	39	28
CFSM	.50	1.01	1.69	3.46	1.56	2.34	3.50	.75	.68	.30	.53	.24
IN.	.57	1.13	1.95	3.99	1.62	2.69	3.91	.87	.76	.35	.62	.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	157	313	422	484	550	691	551	358	217	128	124	128
MAX	976	850	1284	1312	1242	1234	1409	1088	781	698	602	641
(WY)	1927	1984	1991	1952	1982	1963	1957	1989	1947	1969	1992	1926
MIN	21.9	44.3	60.4	115	48.1	179	120	53.4	23.1	20.3	16.8	17.6
(WY)	1954	1965	1964	1977	1934	1990	1946	1934	1934	1934	1930	1933

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1925 - 1998	
ANNUAL TOTAL	130779		123841			
ANNUAL MEAN	358		339		342	
HIGHEST ANNUAL MEAN					465	1975
LOWEST ANNUAL MEAN					148	1934
HIGHEST DAILY MEAN	6640	Feb 27	5310	Jan 8	12300	Mar 22 1948
LOWEST DAILY MEAN	31	Aug 9	28	Sep 19	3.0	Jul 25 1934
ANNUAL SEVEN-DAY MINIMUM	41	Aug 6	33	Sep 14	7.0	Aug 25 1933
INSTANTANEOUS PEAK FLOW			6970	Jan 8a	28000	Mar 22 1948
INSTANTANEOUS PEAK STAGE			9.39	Jan 8	17.95	Mar 22 1948
INSTANTANEOUS LOW FLOW			e28	Sep 19	3.0	Jul 25 1934
ANNUAL RUNOFF (CFSM)	1.46		1.38		1.39	
ANNUAL RUNOFF (INCHES)	19.78		18.73		18.88	
10 PERCENT EXCEEDS	736		721		778	
50 PERCENT EXCEEDS	210		189		150	
90 PERCENT EXCEEDS	61		50		36	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

04211820 GRAND RIVER AT HARPERSFIELD, OHIO

LOCATION.--Lat 41°45'19", long 80°56'55", Ashtabula County, Hydrologic Unit 04110004, on left bank, 2000 ft downstream of bridge on State Highway 534, 0.25 mi south of Harpersfield, 4.85 mi upstream of Mill Creek confluence.
DRAINAGE AREA.--552 mi^2.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--March 1996 to current year.
GAGE.--Water-stage recorder. Altitude of gage is 735 ft above sea level.
REMARKS.--Records fair except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28	89	978	e1000	746	322	417	1040	26	25	7.8	15
2	30	82	646	e400	575	424	594	768	30	29	6.4	13
3	86	76	400	615	491	507	613	1030	31	24	5.6	10
4	80	73	343	e2600	416	493	489	1220	32	21	5.3	8.4
5	61	76	461	e2200	349	496	369	1710	30	18	5.2	7.0
6	49	77	497	e1800	284	519	284	1440	28	16	5.2	6.2
7	57	73	438	e1700	251	465	224	943	25	14	4.8	6.5
8	62	69	439	e5200	234	449	185	600	23	13	4.4	6.0
9	58	65	480	e7000	215	1170	494	560	21	13	4.3	5.6
10	53	68	707	e4500	200	2030	4550	690	20	12	7.4	5.6
11	47	85	e2000	1480	195	1860	3330	523	20	11	15	5.8
12	43	90	e2200	e1000	259	1560	2030	332	29	11	24	8.4
13	45	80	e1600	e800	496	1140	1620	247	43	10	37	9.1
14	45	81	1130	e700	448	801	984	198	75	9.5	28	8.6
15	44	91	802	e600	344	613	797	161	127	9.6	19	7.9
16	56	113	540	e540	279	560	1880	135	132	9.4	13	7.5
17	69	172	369	e500	391	676	6220	109	104	13	10	5.9
18	69	181	306	e470	2220	1490	5440	91	94	34	9.4	5.1
19	67	163	351	e430	2120	1790	3440	77	86	22	7.1	4.9
20	66	158	328	e390	1590	1490	4990	66	137	15	5.8	32
21	67	212	264	e360	1300	1620	4130	56	108	14	5.3	136
22	66	344	336	e350	1040	1940	2200	49	67	15	4.9	43
23	67	435	e900	e600	790	1690	1450	43	46	24	4.6	21
24	66	383	e1500	e860	596	1400	841	39	36	31	5.3	16
25	66	267	e2100	1440	463	954	464	36	30	35	6.7	14
26	69	220	e1900	1110	374	631	909	34	25	33	6.5	12
27	97	321	e1300	854	318	464	3920	32	23	24	8.9	10
28	119	564	e800	819	291	374	2750	31	25	19	16	8.1
29	156	869	e660	882	---	523	2010	31	25	14	28	6.2
30	140	1110	465	1230	---	631	1690	30	23	12	27	5.1
31	109	---	362	1070	---	491	---	28	---	9.5	19	---
TOTAL	2137	6687	25602	43500	17275	29573	59314	12349	1521	560.0	356.9	449.9
MEAN	68.9	223	826	1403	617	954	1977	398	50.7	18.1	11.5	15.0
MAX	156	1110	2200	7000	2220	2030	6220	1710	137	35	37	136
MIN	28	65	264	350	195	322	185	28	20	9.4	4.3	4.9
CFSM	.12	.40	1.50	2.54	1.12	1.73	3.58	.72	.09	.03	.02	.03
IN.	.14	.45	1.73	2.93	1.16	1.99	4.00	.83	.10	.04	.02	.03

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1996 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	479	1194	1336	1151	1242	1481	1462	919	898	66.3	35.2	180
MAX	889	2165	1846	1403	1867	1985	1977	1424	1823	150	56.9	474
(WY)	1997	1997	1997	1998	1997	1997	1998	1996	1997	1996	1996	1996
MIN	68.9	223	826	899	617	954	655	398	50.7	18.1	11.5	15.0
(WY)	1998	1998	1998	1997	1998	1998	1997	1998	1998	1998	1998	1998

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1996 - 1998	
ANNUAL TOTAL	283088.9		199324.8			
ANNUAL MEAN	776		546		819	
HIGHEST ANNUAL MEAN					1091	1997
LOWEST ANNUAL MEAN					546	1998
HIGHEST DAILY MEAN	12600	Jun 3	7000	Jan 9	12600	Jun 3 1997
LOWEST DAILY MEAN	7.4	Aug 10	4.3	Aug 9	4.3	Aug 9 1998
ANNUAL SEVEN-DAY MINIMUM	8.3	Aug 6	5.0	Aug 3	5.0	Aug 3 1998
INSTANTANEOUS PEAK FLOW			e7650	Jan 9	16000	Jun 3 1997
INSTANTANEOUS PEAK STAGE			e8.66	Jan 9	11.38	Jun 3 1997
INSTANTANEOUS LOW FLOW			3.5	Aug 8	3.5	Aug 8 1998
ANNUAL RUNOFF (CFSM)	1.41		.99		1.48	
ANNUAL RUNOFF (INCHES)	19.08		13.43		20.15	
10 PERCENT EXCEEDS	2030		1590		2330	
50 PERCENT EXCEEDS	320		137		344	
90 PERCENT EXCEEDS	26		8.8		16	

e Estimated.

04211820 GRAND RIVER AT HARPERSFIELD, OHIO--Continued

National Water-Quality Assessment Program, Lake Erie-Lake St. Clair Basin Study Unit

WATER-QUALITY RECORDS

The data described in the following table were collected and analyzed as part of the NAWQA (National Water-Quaity Assessment Program) project in the Lake Erie-Lake St. Clair Basin. The objectives of the NAWQA program are to broadly characterize the water quality of the Nation's streams and aquifers in relation to human and natural factors. This project is one of 59 river basin and aquifer assessment projects being implemented across the nation. At any one time, 15 to 20 of these projects are actively collecting data. The period of high-intensity data collection for the Lake Erie-Lake St. Clair Basin project is in water years 1996-98.

There are four stream sites in Ohio for which data are being reported in this publication as part of the NAWQA study: Auglaize River near Ft. Jennings (04186500), Maumee River at Waterville (04193500), Cuyahoga River at LTV Steel at Cleveland (04208504), and Grand River at Harpersfield (04211820). Three sites are reported in the 1998 Michigan annual data report: Black River near Jeddo, MI (04159492), Clinton River at Sterling Heights, MI (04161820) and River Raisin near Manchester, MI (04175600). Two Sites are reported in the 1998 Indiana annual data report: St. Joseph River near Newville, IN (04178000), and Maumee River at New Haven, IN (04183000). One site is reported in the 1998 New York annual data report: Cattaraugus Creek at Gowanda, NY (04213500).

These data also can be obtained electronically at http//www-oh.er.usgs.gov/nawqa.index.html.

[---, no data; <, concentration or value reported is less than that indicated; E, estimated value; K, value is estimated from a non-ideal colony coun]

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE AIR (DEG C) (00020)	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	OXYGEN, DIS-SOLVED (MG/L) (00300)	OXYGEN, DIS-SOLVED (PER-CENT SATUR-ATION) (00301)	E. COLI WATER WHOLE TOTAL UREASE (COL / 100 ML) (31633)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)
OCT												
20...	1300	65	263	7.8	14.0	11.0	744	10.3	96	K23	99	27
NOV												
24...	1330	376	460	7.8	2.0	3.0	749	13.3	99	--	140	38
DEC												
18...	0945	236	299	7.7	1.5	.5	746	11.9	84	130	94	26
JAN												
12...	1400	3650	157	7.2	.0	3.0	746	11.4	87	K630	50	13
FEB												
23...	1300	773	243	7.5	4.0	4.0	738	13.4	106	200	80	22

DATE	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
OCT												
20...	7.3	11	3.1	93	78	20	19	0.2	3.7	169	<.01	<.05
NOV												
24...	10	31	4.3	102	83	47	56	.1	4.7	265	<.01	1.4
DEC												
18...	7.2	19	3.1	60	49	41	33	.1	5.8	204	<.01	1.2
JAN												
12...	4.2	8.4	2.9	31	26	24	14	<.1	5.4	106	.01	.39
FEB												
23...	6.0	14	2.3	51	41	31	24	<.1	5.0	147	.01	.48

DATE	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CARBON, ORGANIC SUS-PENDED TOTAL (MG/L AS C) (00689)	SEDI-MENT, SUS-PENDED (MG/L) (80154)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
OCT												
20...	<.02	0.55	0.40	0.04	0.02	<.01	42	24	7.5	0.8	8	0.079
NOV												
24...	<.02	.44	.38	.03	.02	.04	100	32	6.2	.7	11	.012
DEC												
18...	<.02	.55	.43	.05	.02	.01	140	59	6.0	.5	10	.007
JAN												
12...	<.02	.63	.41	.09	.03	<.01	160	38	7.0	1.1	55	<.002
FEB												
23...	.05	.55	.37	.06	.02	.03	140	31	5.6	.7	23	<.002

04211820 GRAND RIVER AT HARPERSFIELD, OHIO--Continued
National Water-Quality Assessment Program, Lake Erie-Lake St. Clair Basin Study Unit

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	P,P' DDE DISSOLV (UG/L) (34653)
OCT												
20...	<.002	1.46	E.186	<.001	<.002	<.002	<.003	<.003	<.004	0.055	<.002	<.006
NOV												
24...	<.002	.194	E.047	<.200	<.002	<.002	<.003	<.003	<.004	<.004	<.002	<.006
DEC												
18...	<.002	.175	E.020	<.600	<.002	<.002	<.003	<.003	<.004	.009	<.002	<.006
JAN												
12...	<.002	.054	E.007	<.500	<.002	<.002	<.003	<.003	<.004	<.004	<.002	<.006
FEB												
23...	<.002	.032	E.007	<.100	<.002	<.002	<.003	<.003	<.004	<.004	<.002	<.006

DATE	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)
OCT												
20...	0.092	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.010
NOV												
24...	<.002	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.005
DEC												
18...	<.002	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.005
JAN												
12...	.017	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.005
FEB												
23...	.005	<.001	<.003	<.017	<.002	<.004	<.003	<.003	<.002	<.004	<.002	<.005

DATE	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)	PARA-THION, DIS-SOLVED (UG/L) (39542)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRO-METON, WATER, DISS, REC (UG/L) (04037)
OCT											
20...	0.736	0.018	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	<.018
NOV											
24...	.101	<.004	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	<.018
DEC											
18...	.110	.010	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	<.018
JAN											
12...	.040	<.004	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	<.018
FEB											
23...	.027	<.004	<.004	<.003	<.004	<.006	<.004	<.004	<.005	<.002	<.018

DATE	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)
OCT											
20...	<.003	<.007	<.004	<.013	0.033	<.010	<.007	<.013	<.002	<.001	<.002
NOV											
24...	<.003	<.007	<.004	<.013	.009	<.010	<.007	<.013	<.002	<.001	<.002
DEC											
18...	<.003	<.007	<.004	<.013	.007	<.010	<.007	<.013	<.002	<.001	<.002
JAN											
12...	<.003	<.007	<.004	<.013	E.005	<.010	<.007	<.013	<.002	<.001	<.002
FEB											
23...	<.003	<.007	<.004	<.013	E.004	<.010	<.007	<.013	<.002	<.001	<.002

04212100 GRAND RIVER NEAR PAINESVILLE, OHIO

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 mi^2.
PERIOD OF RECORD.--October 1974 to current year.
GAGE.--Water-stage recorder. Datum of gage is 596.37 ft above sea level. Previously published, in error, as 620.37 ft above sea level.
REMARKS.--Records good. Water-quality data collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	75	139	1150	1670	985	460	649	1320	59	45	17	31
2	54	124	833	843	813	541	730	981	48	39	14	30
3	47	114	584	915	747	613	784	1030	47	42	12	28
4	115	108	544	3320	632	664	685	1350	48	39	12	21
5	131	103	596	3250	537	683	562	1770	49	35	12	16
6	94	103	643	2270	454	731	457	1630	49	30	12	14
7	70	102	617	3580	399	707	382	1140	49	27	11	13
8	75	95	642	9680	367	715	331	804	45	28	11	12
9	78	90	665	10900	340	1580	768	657	41	26	12	12
10	74	88	985	8190	326	2650	4570	750	40	23	138	11
11	68	92	2560	5390	320	2340	4100	691	39	21	90	11
12	61	123	2670	4030	496	1780	2320	504	87	19	36	9.7
13	54	131	1940	2960	744	1340	1750	381	139	19	34	8.6
14	57	138	1530	1700	683	999	1270	312	87	18	49	10
15	57	169	1130	973	549	814	1240	259	127	18	42	11
16	55	196	809	910	462	730	2790	220	338	35	32	14
17	63	227	690	874	867	827	6840	185	276	30	25	15
18	80	287	641	789	2790	1680	6300	153	156	24	25	11
19	80	284	614	694	2620	2100	3970	130	142	38	23	11
20	79	283	707	623	1850	1710	5840	112	145	40	17	12
21	79	398	737	571	1520	2190	5030	97	186	38	13	97
22	81	714	695	535	1280	2270	2700	87	129	68	12	115
23	85	648	1580	743	1000	1980	1670	79	90	91	11	55
24	88	563	1850	1360	812	1630	1060	70	70	56	19	33
25	85	441	2710	1580	662	1180	684	64	56	48	85	24
26	87	417	2450	1250	552	853	2000	60	48	48	50	20
27	306	602	1730	1020	485	662	4260	57	42	47	28	17
28	209	791	1200	953	443	588	3360	53	43	37	19	14
29	198	1110	882	1050	---	845	2210	52	44	30	22	12
30	215	1370	689	1590	---	846	1870	50	46	25	40	11
31	175	---	539	1320	---	705	---	49	---	21	41	---
TOTAL	3075	10050	35612	75533	23735	37413	71182	15097	2765	1105	964	699.3
MEAN	99.2	335	1149	2437	848	1207	2373	487	92.2	35.6	31.1	23.3
MAX	306	1370	2710	10900	2790	2650	6840	1770	338	91	138	115
MIN	47	88	539	535	320	460	331	49	39	18	11	8.6
CFSM	.14	.49	1.68	3.56	1.24	1.76	3.46	.71	.13	.05	.05	.03
IN.	.17	.55	1.93	4.10	1.29	2.03	3.87	.82	.15	.06	.05	.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1975 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	509	1250	1612	1474	1804	2021	1483	834	686	274	251	429
MAX	1880	4026	3816	3327	4044	3753	2598	3214	2851	1106	1106	1854
(WY)	1991	1986	1978	1993	1981	1993	1987	1989	1986	1987	1980	1990
MIN	42.1	67.1	363	109	322	577	450	106	39.8	30.5	17.0	11.0
(WY)	1992	1979	1992	1977	1987	1990	1975	1987	1988	1991	1991	1995

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1975 - 1998	
ANNUAL TOTAL	369290		277230.3			
ANNUAL MEAN	1012		760		1047	
HIGHEST ANNUAL MEAN					1406	1997
LOWEST ANNUAL MEAN					668	1992
HIGHEST DAILY MEAN	13400	Jun 3	10900	Jan 9	15300	Nov 6 1985
LOWEST DAILY MEAN	11	Aug 9	8.6	Sep 13	5.1	Aug 4 1991
ANNUAL SEVEN-DAY MINIMUM	13	Aug 5	10	Sep 9	5.3	Aug 2 1991
INSTANTANEOUS PEAK FLOW			12600	Jan 9	18700	Jun 11 1986
INSTANTANEOUS PEAK STAGE			10.34	Jan 9a	13.16	Dec 25 1979
INSTANTANEOUS LOW FLOW			7.7	Sep 14	5.1	Aug 4 1991
ANNUAL RUNOFF (CFSM)	1.48		1.11		1.53	
ANNUAL RUNOFF (INCHES)	20.05		15.06		20.78	
10 PERCENT EXCEEDS	2590		1960		2810	
50 PERCENT EXCEEDS	540		227		428	
90 PERCENT EXCEEDS	31		19		39	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.

04213000 CONNEAUT CREEK AT CONNEAUT, OHIO

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 mi^2.
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 sea level. Prior to Aug. 17, 1924, nonrecording gage at same site and datum.
REMARKS.--Records good except for periods of estimated record, which are poor. Water-quality and sediment data collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	32	351	129	320	111	197	274	78	19	e7.0	e11
2	37	29	227	140	233	139	406	734	74	19	e6.6	e10
3	37	26	137	269	209	157	346	1610	78	18	e6.2	e8.6
4	28	29	139	1420	191	139	224	926	58	15	e6.0	e7.8
5	31	33	311	1850	155	159	168	970	48	14	e5.6	e7.0
6	21	28	271	720	130	192	136	681	46	11	e5.4	e6.4
7	20	24	204	873	102	182	112	535	44	9.7	e5.2	e6.0
8	24	21	236	2820	85	160	100	346	43	11	e5.0	e5.6
9	18	19	260	4760	78	247	242	377	40	e11	e10	e5.2
10	15	17	350	2900	71	490	1660	352	39	e10	e54	e5.0
11	12	19	1190	831	71	400	1220	258	40	e9.4	e40	e4.8
12	10	23	1010	451	120	275	353	236	50	e8.8	e15	e4.6
13	8.8	25	534	326	314	239	211	242	79	e8.4	e12	e4.5
14	9.4	35	376	303	258	231	170	209	85	e8.0	e19	e6.0
15	9.6	47	285	261	161	213	410	175	63	e7.6	e17	e8.2
16	9.5	100	242	299	117	202	730	156	165	e14	e15	e9.0
17	10	73	228	335	183	222	2650	141	129	e11	e11	e7.2
18	11	83	220	255	811	650	1990	130	61	e9.4	e9.8	e6.0
19	12	70	212	214	772	1480	550	117	47	e15	e7.6	e5.2
20	12	65	265	192	476	942	1580	109	42	e17	e6.2	e7.0
21	13	122	364	173	330	821	1610	97	36	e14	e5.4	e32
22	17	271	291	162	281	987	489	96	32	e20	e5.0	e40
23	19	301	782	206	237	579	297	92	30	e30	e4.6	e27
24	18	203	1120	517	197	469	211	88	30	e23	e10	e20
25	18	128	1350	474	164	375	165	86	25	e16	e25	e13
26	21	116	1510	311	143	271	238	83	25	e12	e9.8	e10
27	51	205	729	212	127	210	977	76	23	e11	e7.4	e9.0
28	81	260	405	223	116	181	578	75	23	e10	e6.0	e8.0
29	101	224	265	294	---	261	311	70	21	e9.4	e8.0	e7.4
30	62	303	201	651	---	343	308	62	20	e8.6	e16	e6.8
31	40	---	168	594	---	224	---	72	---	e7.8	e13	---
TOTAL	792.3	2931	14233	23165	6452	11551	18639	9475	1574	408.1	373.8	308.3
MEAN	25.6	97.7	459	747	230	373	621	306	52.5	13.2	12.1	10.3
MAX	101	303	1510	4760	811	1480	2650	1610	165	30	54	40
MIN	8.8	17	137	129	71	111	100	62	20	7.6	4.6	4.5
CFSM	.15	.56	2.62	4.27	1.32	2.13	3.55	1.75	.30	.08	.07	.06
IN.	.17	.62	3.03	4.92	1.37	2.46	3.96	2.01	.33	.09	.08	.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	138	321	422	423	460	539	392	234	135	76.5	65.8	105
MAX	804	1373	1049	929	1115	987	839	670	1013	415	493	709
(WY)	1927	1986	1928	1990	1981	1972	1957	1953	1986	1969	1980	1990
MIN	4.95	17.1	35.1	81.0	39.6	235	69.9	20.2	5.46	2.79	3.19	3.56
(WY)	1924	1954	1961	1977	1934	1969	1935	1934	1934	1934	1923	1932

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1922 - 1998	
ANNUAL TOTAL	103738.5		89902.5			
ANNUAL MEAN	284		246		275	
HIGHEST ANNUAL MEAN					401	1986
LOWEST ANNUAL MEAN					140	1931
HIGHEST DAILY MEAN	4560	Feb 28	4760	Jan 9	11000	Jan 31 1968
LOWEST DAILY MEAN	8.8	Oct 13	4.5	Sep 13	.30	Jul 30 1933
ANNUAL SEVEN-DAY MINIMUM	9.8	Oct 12	5.1	Sep 7	.64	Aug 27 1933
INSTANTANEOUS PEAK FLOW			6070	Jan 9a	17000	Jan 22 1959
INSTANTANEOUS PEAK STAGE			8.15	Jan 9	12.94	Mar 4 1934
INSTANTANEOUS LOW FLOW			4.5	Sep 13	.20	Jul 31 1933
ANNUAL RUNOFF (CFSM)	1.62		1.41		1.57	
ANNUAL RUNOFF (INCHES)	22.05		19.11		21.38	
10 PERCENT EXCEEDS	750		616		685	
50 PERCENT EXCEEDS	128		96		97	
90 PERCENT EXCEEDS	15		8.0		10	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
e Estimated.

PEAK DISCHARGES AND STAGES AT CONTINUOUS-RECORD SURFACE DISCHARGE STATIONS

For continuous-record surface-water-discharge stations meeting certain criteria, all peak discharges and stages occurring during the water year and greater than a selected base discharge are presented in this table. The peaks greater than the base discharge, excluding the highest one, are referred to as secondary peaks. The peaks are listed in chronological order. Peak discharges are not published for canals, ditches, drains, or streams for which the peaks are subject to substantial control by human intervention. 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 maximum peak discharge and gage height for the water year are flagged with an asterisk (*).

[e, estimated]

PEAK DISCHARGES EQUAL TO OR GREATER THAN BASE DISCHARGES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DISCHARGE (FT^3/S)	GAGE HEIGHT (FT)	DATE	TIME	DISCHARGE (FT^3/S)	GAGE HEIGHT (FT)
LAKE ERIE BASIN							
OTTAWA RIVER BASIN							
04177000 OTTAWA RIVER AT TOLEDO UNIVERSITY, TOLEDO, OH (Base discharge: 1,150 ft^3/s)							
Jan. 9	0600	1,680	10.67	Apr. 10	2130	1,320	9.60
Feb. 18	1600	*2,320	*12.03	Apr. 27	1800	1,350	9.70
Mar. 10	1430	1,690	10.71	May 3	0900	1,170	9.12
MAUMEE RIVER BASIN							
04185000 TIFFIN RIVER AT STRYKER, OH (Base discharge: 1,850 ft^3/s)							
Jan. 10	0400	3,230	13.85	Mar. 22	0300	2,030	12.22
Feb. 20	0300	3,600	14.29	Apr. 12	0900	1,940	12.07
Mar. 11	1600	2,950	13.51	Aug. 25	1900	*5,110	*15.93
04185440 UNNAMED TRIBUTARY TO LOST CREEK NR FARMER, OH (Base discharge: 120 ft^3/s)							
Jan. 8	0730	171	3.69	Apr. 9	1415	568	5.21
Feb. 17	1945	286	4.26	Apr. 16	0615	268	4.18
Mar. 9	0915	370	4.59	Aug. 6	2315	382	4.63
Mar. 19	0145	173	3.70	Aug. 25	1245	*1,770	*7.59
Mar. 28	1500	164	11.94				
04186500 AUGLAIZE RIVER NEAR FORT JENNINGS, OH (Base discharge: 2,700 ft^3/s)							
Jan. 9	2400	*4,360	*13.59	Apr. 11	0400	3,440	12.31
Feb. 19	0430	3,220	11.94	June 13	2130	2,770	11.12
04187100 OTTAWA RIVER AT LIMA, OH (Base discharge: 1,300 ft^3/s)							
Jan. 8	2000	*2,930	*15.58	June 12	0830	1,710	13.59
Feb. 18	0030	1,660	13.52	July 4	0430	1,730	13.63
Mar. 21	0900	1,560	13.35	Aug. 6	2300	1,520	13.28
04189000 BLANCHARD RIVER NEAR FINDLAY, OH (Base discharge: 2,800 ft^3/s)							
Jan. 8	2330	*5,990	*12.21	Apr. 10	1100	3,830	9.71
Feb. 18	1900	4,180	10.22	June 12	2330	3,500	9.07
Mar. 21	2400	3,120	8.42	June 30	0900	2,840	7.80
PORTAGE RIVER BASIN							
04195500 PORTAGE RIVER AT WOODVILLE, OH (Base discharge: 3,500 ft^3/s)							
Dec. 25	2400	3,530	8.35	Apr. 10	1730	4,370	9.19
Jan. 9	1400	7,510	11.63	May 5	1600	5,260	9.99
Feb. 19	0830	8,670	12.37	Aug. 27	0500	*11,500	*13.98

PEAK DISCHARGES EQUAL TO OR GREATER THAN BASE DISCHARGES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998—Continued

DATE	TIME	DISCHARGE (FT^3/S)	GAGE HEIGHT (FT)	DATE	TIME	DISCHARGE (FT^3/S)	GAGE HEIGHT (FT)
SANDUSKY RIVER BASIN							
04196000 SANDUSKY RIVER NEAR BUCYRUS, OH (Base discharge: 1,200 ft^3/s)							
Jan. 8	1500	*3,210	*8.43	Apr. 17	1500	1,500	6.27
Feb. 19	0500	1,590	6.46	June 13	1330	1,280	5.79
Mar.21	2000	1,570	6.42				
04196800 TYMOCHTEE CREEK AT CRAWFORD, OH (Base discharge: 1,800 ft^3/s)							
Jan. 9	1930	*5,190	*8.82	Apr. 11	1330	2,310	6.60
Mar. 22	2230	2,340	6.63	Apr. 18	1100	1,950	6.23
04197100 HONEY CREEK AT MELMORE, OH (Base discharge: 1,500 ft^3/s)							
Jan. 8	1800	*3,550	10.11	June 28	2200	2,020	7.95
Feb. 18	2330	2,390	8.52	Aug. 26	1000	2,650	8.90
Mar. 22	0100	1,800	7.59				
04198000 SANDUSKY RIVER NEAR FREMONT, OH (Base discharge: 10,000 ft^3/s)							
Jan. 9	0230	*18,500	8.76	Mar. 21	2330	10,300	6.18
Feb. 18	2300	15,900	7.93	Aug. 26	0730	17,700	8.51
HURON RIVER BASIN							
04199000 HURON RIVER AT MILAN, OH (Base discharge: 4,700 ft^3/s)							
Jan. 8	1200	12,200	20.54	Apr. 17	0745	7,870	17.23
Feb. 18	0645	7,230	16.67	Jan. 30	2115	7,300	16.73
Mar. 21	1200	7,860	17.22	Aug. 26	0830	*16,800	*23.36
OLD WOMAN’S CREEK BASIN							
04199155 OLD WOMAN’S CREEK AT BERLIN ROAD NEAR HURON, OH (Base discharge: 400 ft^3/s)							
Jan. 7	2345	*1,270	*10.60	Apr. 17	0245	1,050	10.04
Feb. 17	2130	881	9.52	June 30	2115	689	8.76
Mar. 21	0315	878	9.51	July 22	0700	624	8.47
Apr. 9	1800	764	9.07				
BLACK RIVER BASIN							
04200500 BLACK RIVER AT ELYRIA, OH (Base discharge: 3,200 ft^3/s)							
Jan. 9	0900	*10,400	*15.03	Apr. 17	0930	5,600	10.96
Feb. 18	2100	3,560	8.67	Aug. 27	0430	4,060	9.28
Mar. 21	2330	4,860	10.19				
ROCKY RIVER BASIN							
04201500 ROCKY RIVER NEAR BEREA, OH (Base discharge: 4,000 ft^3/s)							
Jan. 8	1030	*9,010	*6.76	Apr. 17	1330	8,880	6.71
Feb. 18	0130	4,900	5.04	Apr. 27	0100	4,730	4.96
Apr. 9	2200	4,360	4.78	May 4	0900	4,240	4.72
CUYAHOGA RIVER BASIN							
04206208 YELLOW CREEK AT GHENT, OH (Base discharge: 140 ft^3/s)							
Jan. 8	0420	158	*12.50	May 4	0145	*164	12.47
Apr. 16	1405	158	12.44	Aug. 25	2030	153	12.41
Apr. 26	1920	143	12.35				

PEAK DISCHARGES EQUAL TO OR GREATER THAN BASE DISCHARGES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998—Continued

DATE	TIME	DISCHARGE (FT^3/S)	GAGE HEIGHT (FT)	DATE	TIME	DISCHARGE (FT^3/S)	GAGE HEIGHT (FT)
			04206210 NORTH FORK AT BATH, OH (Base discharge 140 ft^3/s)				
Jan. 7	1955	150	12.24	Apr. 17	0115	*204	12.60
Jan. 8	0445	157	*13.29	July 22	0110	179	12.44
			04206211 PARK CREEK AT BATH CENTER, OH (Base discharge: 60.0 ft^3/s)				
Jan. 8	0325	*37	*12.20				
			04206212 NORTH FORK AT BATH CENTER, OH (Base discharge: 230 ft^3/s)				
Jan. 8	0445	237	11.76	Apr. 17	0130	*257	*11.85
Apr. 16	1050	237	11.76				
			04206215 BATH CREEK AT BATH CENTER, OH (Base discharge: 80.0 ft^3/s)				
Jan. 8	0525	88	13.42	Apr. 16	1320	*92	*13.46
			04206220 YELLOW CREEK AT BOTZUM, OH (Base discharge: 650 ft^3/s)				
Jan. 8	0420	831	13.90	Apr. 26	1705	712	13.61
Apr. 16	1050	*853	*13.95	Aug. 25	1655	665	13.50
			04207200 TINKERS CREEK AT BEDFORD, OH (Base discharge: 1,500 ft^3/s)				
Jan. 8	unknown	*e4,000	unknown	Apr. 26	0530	1,770	6.31
Apr. 16	0630	1,800	6.34	Aug. 10	0900	1,560	6.11
Aor, 16	2300	3,730	7.82				
			CHAGRIN RIVER BASIN				
			04209000 CHAGRIN RIVER AT WILLOUGHBY, OH (Base discharge: 4,000 ft^3/s)				
Jan. 8	1000	*6,970	9.39	Apr. 17	0630	6,150	8.80
Jan. 9	1400	4,410	7.33	Apr. 26	2000	4,490	7.40
			GRAND RIVER BASIN				
			04211820 GRAND RIVER AT HARPERSFIELD, OH (Base discharge: 5,500 ft^3/s)				
Jan.9	unknown	*7,650	8.66	Apr. 17	1915	7,250	8.47
Apr. 10	1545	5,250	7.40	Apr. 20	1930	5,710	7.67
			04212100 GRAND RIVER NEAR PAINESVILLE, OH (Base discharge: 6,500 ft^3/s)				
Jan. 9	1300	*12,600	10.34	Apr. 18	0100	7,420	7.79
			CONNEAUT RIVER BASIN				
			04213000 CONNEAUT CREEK AT CONNEAUT, OH (Base discharge: 2,900 ft^3/s)				
Jan. 9	1030	*6,070	*8.15	Apr. 17	1830	3,190	6.04

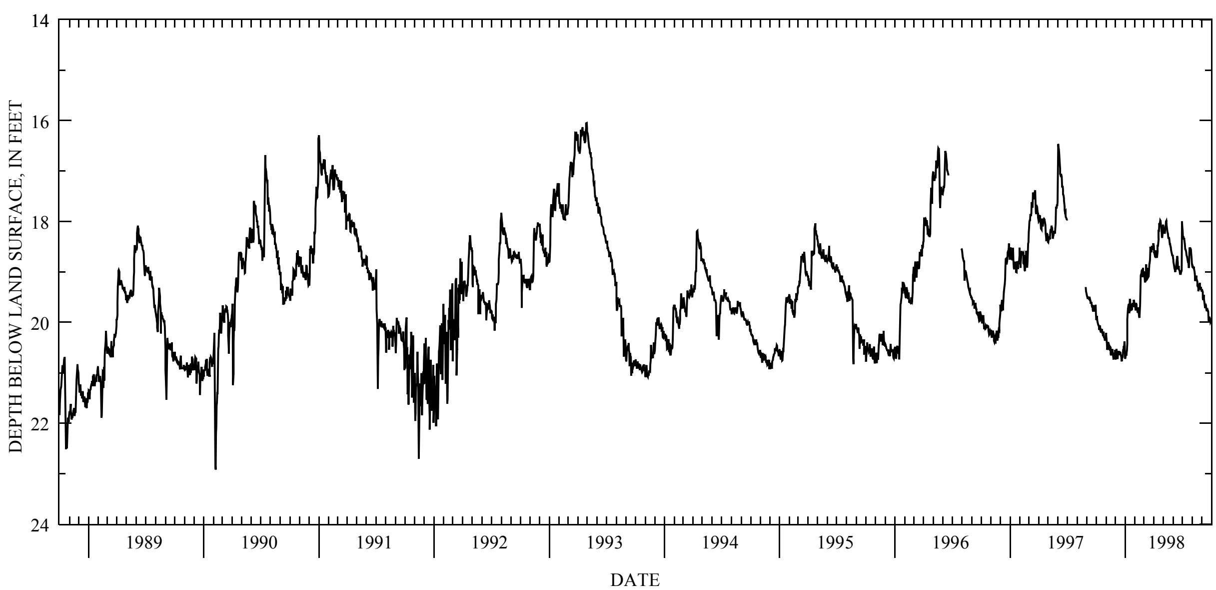
404838082563100. LOCAL NUMBER, CR-1

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 sea level.
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, 16.04 ft below land-surface datum, Apr. 29, 1993.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.95	20.21	20.69	20.70	19.65	19.03	18.48	18.06	18.72	18.11	18.88	19.37
2	19.93	20.25	20.73	20.64	19.75	18.99	18.63	18.15	18.76	18.18	18.91	19.36
3	19.87	20.40	20.64	20.64	19.76	19.11	18.60	18.18	18.79	18.32	18.89	19.40
4	19.95	20.52	20.52	20.66	19.62	19.19	18.67	18.16	18.86	18.29	18.91	19.51
5	19.99	20.54	20.56	20.59	19.65	19.19	18.68	18.21	18.90	18.34	18.93	19.55
6	20.02	20.47	20.59	20.55	19.72	19.18	18.68	18.24	18.92	18.34	18.89	19.48
7	20.04	20.43	20.71	20.42	19.72	19.17	18.69	18.19	18.96	18.34	18.95	19.45
8	20.06	20.39	20.71	19.93	19.75	18.85	18.72	18.10	19.00	18.39	18.98	19.55
9	20.07	20.43	20.59	19.73	19.78	19.15	18.57	18.09	18.99	18.45	19.03	19.60
10	20.15	20.49	20.56	19.71	19.81	19.15	18.68	17.99	18.92	18.54	19.18	19.65
11	20.13	20.53	20.63	19.68	19.70	19.13	18.70	17.98	18.95	18.56	19.10	19.71
12	20.06	20.54	20.65	19.63	19.79	19.08	18.70	18.08	18.87	18.57	19.13	19.63
13	20.08	20.52	20.57	19.79	19.83	18.92	18.58	18.13	18.73	18.60	19.11	19.65
14	20.17	20.48	20.63	19.82	19.89	19.07	18.48	18.18	18.72	18.66	19.07	19.67
15	20.19	20.50	20.61	19.53	19.91	19.09	18.48	18.22	18.68	18.69	19.13	19.73
16	20.19	20.63	20.58	19.56	19.78	19.08	18.34	18.24	18.82	18.70	19.17	19.76
17	20.14	20.65	20.62	19.63	19.66	18.96	18.19	18.31	18.92	18.74	19.19	19.76
18	20.15	20.57	20.65	19.66	19.27	18.84	18.19	18.34	18.94	18.78	19.27	19.75
19	20.13	20.52	20.67	19.68	19.07	18.81	18.03	18.31	18.88	18.82	19.30	19.74
20	20.21	20.57	20.75	19.75	19.05	18.75	18.09	18.33	18.92	18.80	19.31	19.77
21	20.21	20.53	20.77	19.74	19.07	18.56	18.03	18.39	18.96	18.92	19.38	19.79
22	20.27	20.58	20.65	19.73	18.97	18.50	17.98	18.45	18.99	18.89	19.32	19.95
23	20.24	20.63	20.70	19.65	18.96	18.55	17.99	18.45	19.00	18.61	19.27	19.97
24	20.18	20.73	20.67	19.62	19.10	18.61	18.05	18.49	19.04	18.51	19.25	19.90
25	20.31	20.66	20.53	19.68	19.06	18.61	18.11	18.51	19.04	18.54	19.22	19.90
26	20.29	20.64	20.54	19.68	18.92	18.48	18.19	18.57	19.04	18.55	19.25	19.92
27	20.32	20.70	20.47	19.62	19.02	18.53	18.30	18.60	19.01	18.54	19.35	19.93
28	20.36	20.62	20.50	19.55	19.02	18.51	18.32	18.63	18.97	18.56	19.30	19.99
29	20.34	20.62	20.38	19.57	---	18.56	18.25	18.66	18.61	18.65	19.34	19.98
30	20.36	20.54	20.47	19.64	---	18.47	18.19	18.68	18.00	18.72	19.34	19.99
31	20.26	---	20.72	19.69	---	18.43	---	18.66	---	18.83	19.39	---
MAX	20.36	20.73	20.77	20.70	19.91	19.19	18.72	18.68	19.04	18.92	19.39	19.99

CAL YR 1997 LOW 20.77
WTR YR 1998 LOW 20.77



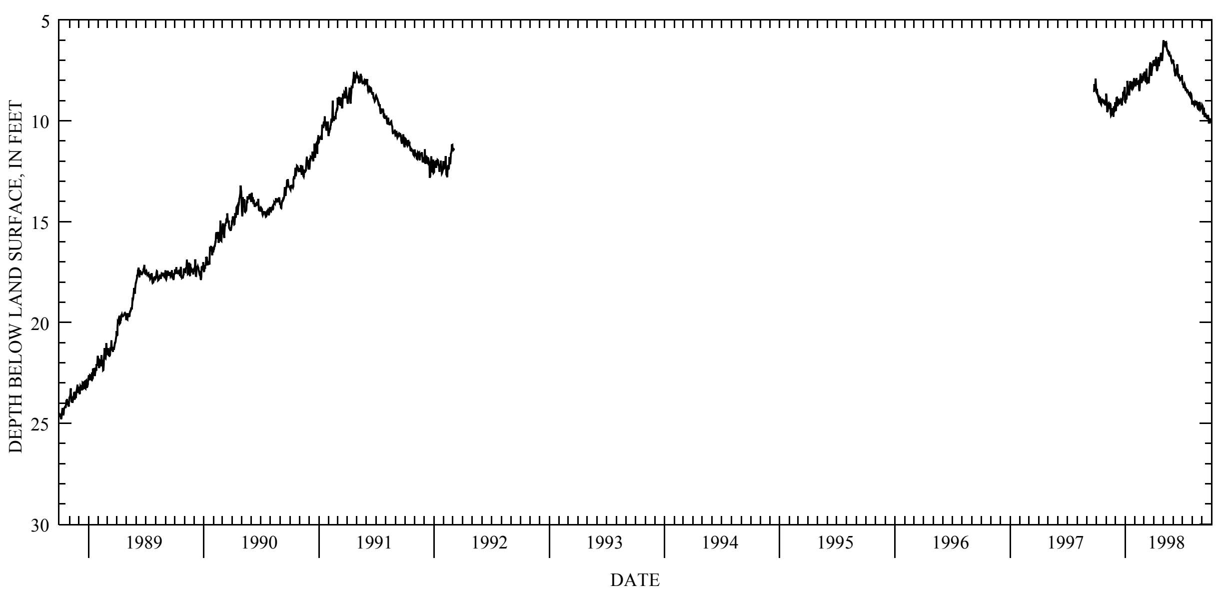
412518081221500. LOCAL NUMBER, GE-3A

LOCATION.--Lat 41°25'18", long 81°22'15", Hydrologic Unit 04110003, 1.2 miles 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 sea level.
Measuring point: Floor of instrument shelter 3.50 ft above sea level, from topographic map. Measuring point: Floor of instrument shelter 3.0 ft above land-surface datum.
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water. Water level affected by pumping wells nearby for Chagrin Falls municipal supply.
PERIOD OF RECORD.--September 1951 to September 1991 continuous. Discontinued October 1991 to March 1996. Periodic measurements April 1996 to September 1997. Continuous September 1997 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 52.85 ft below land-surface datum, Oct. 2, 1965; minimum daily low, 5.99 ft below land-surface datum, May 2, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.58	8.85	9.36	9.07	8.14	7.64	7.01	6.24	7.07	8.03	9.18	9.41
2	8.61	8.64	9.50	8.91	8.21	7.62	7.24	5.99	7.00	8.18	9.13	9.21
3	8.41	9.04	9.35	8.86	8.28	7.54	7.24	6.09	7.13	8.20	9.05	9.29
4	8.54	9.45	8.86	8.93	8.07	7.78	7.23	6.12	7.21	8.15	9.05	9.52
5	8.68	9.57	8.83	8.86	7.87	8.01	7.27	6.24	7.34	8.32	9.09	9.68
6	8.72	9.49	8.83	8.67	8.00	8.02	7.24	6.26	7.49	8.32	9.03	9.58
7	8.80	9.32	9.19	8.51	8.01	7.98	7.22	6.20	7.62	8.22	9.11	9.34
8	8.87	9.14	9.27	8.01	8.05	7.82	7.03	6.04	7.77	8.17	9.20	9.48
9	8.83	9.10	9.05	8.34	8.14	7.41	6.82	6.19	7.77	8.24	9.16	9.69
10	9.04	9.23	8.89	8.49	8.20	8.04	7.30	6.17	7.60	8.39	9.02	9.81
11	9.09	9.34	9.14	8.57	8.05	8.11	7.43	6.13	7.62	8.44	9.04	9.74
12	8.93	9.38	9.18	8.53	8.02	8.10	7.52	6.32	7.43	8.43	9.18	9.62
13	8.78	9.38	8.98	8.69	8.16	8.03	7.37	6.42	7.36	8.41	9.18	9.67
14	9.02	9.10	9.14	8.73	8.43	7.83	7.00	6.50	7.36	8.48	9.06	9.73
15	9.15	9.22	9.09	8.19	8.52	8.04	7.02	6.55	7.19	8.51	9.01	9.78
16	9.18	9.62	9.02	8.02	8.32	8.11	6.83	6.48	7.46	8.48	9.12	9.86
17	9.07	9.72	8.96	8.03	8.05	7.95	7.17	6.66	7.75	8.47	9.11	9.87
18	8.98	9.67	9.00	8.13	7.65	7.63	7.29	6.70	7.79	8.52	9.28	9.85
19	8.89	9.47	8.96	8.14	7.86	7.31	7.09	6.60	7.67	8.55	9.40	9.73
20	8.98	9.49	9.11	8.37	7.83	7.27	7.04	6.54	7.74	8.58	9.43	9.73
21	8.98	9.35	9.23	8.42	8.06	7.10	7.00	6.66	7.79	8.66	9.41	9.74
22	9.02	9.37	9.02	8.33	8.12	7.22	6.88	6.77	7.90	8.65	9.32	9.95
23	9.01	9.46	8.92	8.09	7.91	7.42	6.72	6.79	7.89	8.57	9.24	10.12
24	8.93	9.78	8.92	8.09	7.79	7.71	6.62	6.80	7.97	8.73	9.06	10.05
25	9.11	9.73	8.55	8.31	7.99	7.75	6.75	6.79	7.95	8.79	9.12	9.97
26	9.11	9.29	8.68	8.36	7.97	7.47	6.73	6.94	7.88	8.82	9.34	10.01
27	8.97	9.56	8.62	8.28	7.65	7.36	6.96	7.02	7.90	8.74	9.42	9.87
28	9.14	9.36	8.65	8.05	7.70	7.15	7.03	7.08	7.93	8.64	9.36	10.04
29	9.15	9.38	8.46	7.87	---	7.28	6.84	7.05	7.93	8.68	9.24	10.05
30	9.23	9.07	8.31	8.03	---	7.12	6.59	7.13	7.72	8.77	9.31	9.91
31	9.03	---	9.06	8.15	---	7.03	---	6.95	---	9.05	9.41	---
MAX	9.23	9.78	9.50	9.07	8.52	8.11	7.52	7.13	7.97	9.05	9.43	10.12

CAL YR 1997 LOW 9.78
WTR YR 1998 LOW 10.12



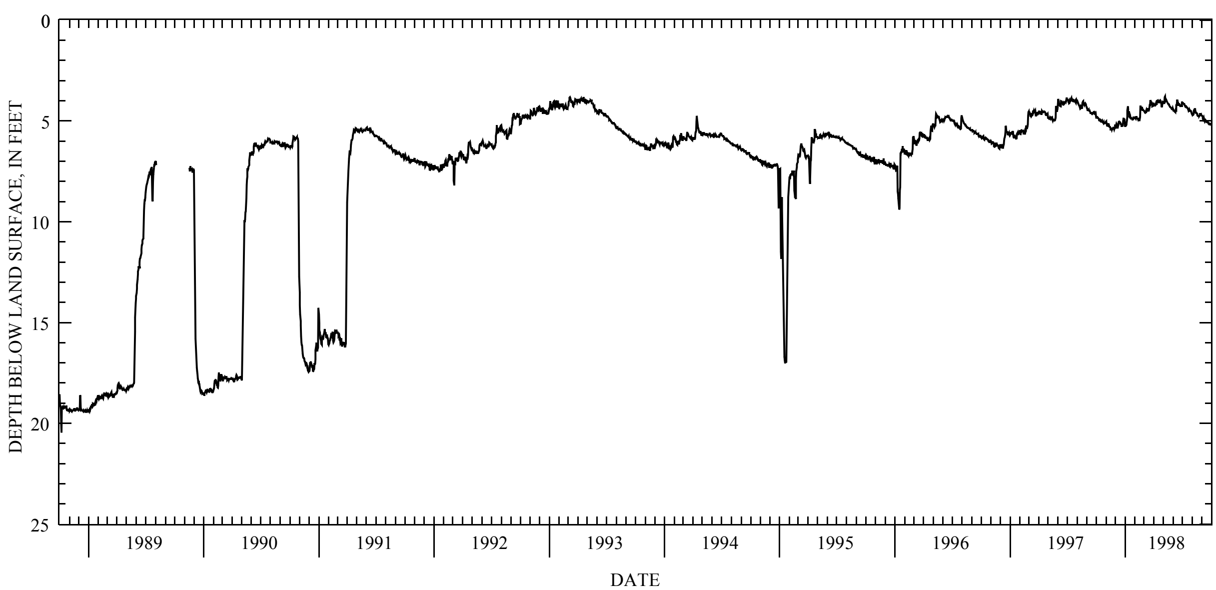
405940083275500. LOCAL NUMBER, HA-3

LOCATION.--Lat 40°59`40", long 83°27'55", Hydrologic Unit 0410008, 2 miles south of Vanlue.
Owner: City of Findlay.
AQUIFER.--Limestone of Silurian Age.
WELL CHARACTERISTICS.--Drilled artesian well, diameter 10 in., diameter 6 in. below 55 ft., depth 240 ft, cased to 55 ft.
INSTRUMENTATION.--Type F continuous recorder.
DATUM.--Elevation of land-surface datum is 815 ft above sea level, from topographic map.
Measuring point: Floor of instrument shelter 1.40 ft above land-surface datum.
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.
PERIOD OF RECORD.--May 1947 to October 1972 and August 1988 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 20.67 ft below land-surface datum, Sept. 22, 1988; minimum daily low, 3.76 ft below land-surface datum, May 7, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.85	5.02	5.29	5.25	4.84	4.51	4.14	4.08	4.43	4.10	4.70	4.74
2	4.84	5.05	5.30	5.16	4.89	4.51	4.22	4.08	4.45	4.10	4.67	4.75
3	4.76	5.16	5.22	5.16	4.89	4.52	4.22	4.14	4.48	4.10	4.68	4.79
4	4.83	5.26	5.14	5.17	4.81	4.58	4.23	4.07	4.48	4.14	4.70	4.87
5	4.83	5.27	5.18	5.06	4.81	4.61	4.24	4.01	4.51	4.16	4.69	4.92
6	4.86	5.21	5.21	4.95	4.86	4.59	4.24	3.80	4.52	4.16	4.47	4.85
7	4.86	5.15	5.33	4.80	4.86	4.57	4.21	3.76	4.55	4.16	4.43	4.85
8	4.88	5.15	5.33	4.48	4.87	4.49	4.16	4.00	4.57	4.21	4.42	4.93
9	4.89	5.16	5.25	4.27	4.89	4.44	4.11	3.97	4.55	4.25	4.42	4.96
10	4.96	5.22	5.20	4.46	4.91	4.49	4.20	3.93	4.45	4.29	4.42	5.01
11	4.96	5.27	5.05	4.56	4.84	4.47	4.01	3.96	4.46	4.28	4.52	4.98
12	4.89	5.29	5.03	4.56	4.94	4.43	3.99	4.02	4.19	4.27	4.59	4.95
13	4.93	5.27	5.03	4.81	4.95	4.37	3.96	4.05	4.13	4.28	4.59	4.99
14	5.01	5.31	5.09	4.82	4.97	4.43	4.11	4.09	3.93	4.33	4.55	5.02
15	5.03	5.35	5.09	4.70	4.97	4.49	4.07	4.10	3.94	4.33	4.62	5.05
16	5.02	5.43	5.08	4.75	4.89	4.49	4.04	4.14	4.08	4.33	4.64	5.07
17	4.99	5.43	5.14	4.82	4.79	4.43	4.03	4.17	4.21	4.36	4.66	5.07
18	4.98	5.39	5.14	4.83	4.24	4.34	4.04	4.18	4.21	4.38	4.73	5.07
19	4.97	5.34	5.16	4.85	4.31	4.23	4.02	4.18	4.14	4.42	4.76	5.06
20	5.05	5.43	5.25	4.90	4.36	4.23	4.10	4.23	4.15	4.46	4.76	5.07
21	5.05	5.34	5.25	4.90	4.47	4.02	4.01	4.28	4.16	4.51	4.76	5.08
22	5.08	5.36	5.19	4.88	4.35	3.96	3.99	4.30	4.22	4.49	4.75	5.14
23	5.06	5.35	5.27	4.87	4.30	4.05	4.01	4.32	4.24	4.45	4.73	5.15
24	5.03	5.43	5.23	4.88	4.41	4.16	4.06	4.32	4.28	4.49	4.74	5.13
25	5.13	5.36	5.00	4.92	4.49	4.16	4.09	4.33	4.28	4.49	4.70	5.13
26	5.11	5.36	4.90	4.92	4.45	4.12	4.27	4.36	4.26	4.50	4.67	5.13
27	5.11	5.41	4.89	4.89	4.47	4.18	4.32	4.40	4.28	4.49	4.67	5.14
28	5.11	5.35	4.94	4.83	4.49	4.28	4.20	4.41	4.27	4.50	4.66	5.17
29	5.09	5.34	4.89	4.83	---	4.25	4.15	4.40	4.24	4.54	4.68	5.15
30	5.10	5.17	5.05	4.86	---	4.16	4.06	4.41	4.03	4.61	4.71	5.17
31	5.03	---	5.25	4.87	---	4.14	---	4.37	---	4.67	4.75	---
MAX	5.13	5.43	5.33	5.25	4.97	4.61	4.32	4.41	4.57	4.67	4.76	5.17

CAL YR 1997 LOW 5.86
WTR YR 1998 LOW 5.43



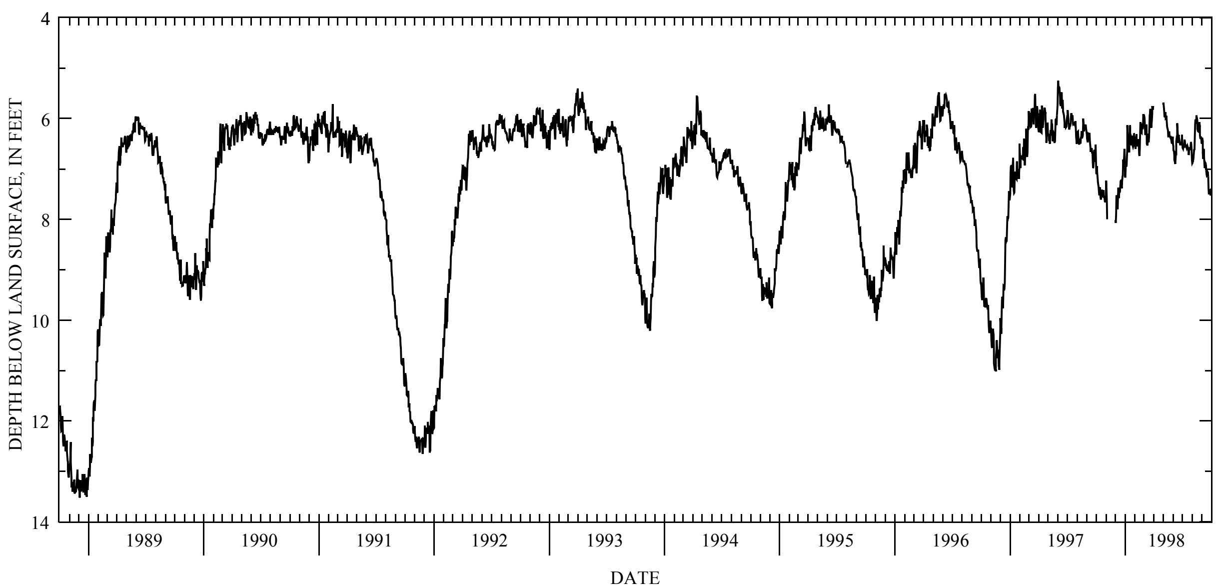
404648083412600. LOCAL NUMBER, HN-2A

LOCATION.--Lat 40°46'48", long 83°41'26", Hydrologic Unit 04100007, at southeast edge of Dola.
Owner: Kevin Eikenbary.
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 sea level, 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, 5.25 ft below land-surface datum, June 2, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	7.08	7.30	8.01	7.15	6.49	5.96	---	5.72	6.51	6.51	6.88	6.48
2	7.08	7.23	8.07	6.95	6.60	5.95	---	5.68	6.54	6.59	6.87	6.38
3	6.94	7.62	7.91	6.91	6.60	5.99	---	5.75	6.62	6.60	6.80	6.44
4	7.09	8.00	7.52	6.95	6.45	6.18	---	5.82	6.65	6.53	6.81	6.68
5	7.16	---	7.54	6.90	6.31	6.31	---	5.93	6.73	6.58	6.77	6.80
6	7.25	---	7.57	6.77	6.41	6.31	---	5.97	6.82	6.55	6.69	6.72
7	7.30	---	7.78	6.58	6.44	6.31	---	5.95	6.86	6.51	6.61	6.60
8	7.34	---	7.78	6.13	6.47	6.12	---	5.87	6.90	6.42	6.63	6.77
9	7.42	---	7.51	6.43	6.51	6.13	---	6.00	6.89	6.44	6.35	6.90
10	7.50	---	7.37	6.55	6.55	6.50	---	5.99	6.68	6.53	6.13	6.98
11	7.52	---	7.56	6.57	6.41	6.52	---	5.94	6.69	6.57	6.02	6.96
12	7.38	---	7.58	6.48	6.50	6.52	---	6.03	6.45	6.55	6.09	6.88
13	7.36	---	7.43	6.67	6.55	6.45	---	6.12	6.35	6.51	6.08	6.89
14	7.55	---	7.46	6.67	6.70	6.30	---	6.19	6.33	6.57	5.98	6.93
15	7.59	---	7.45	6.15	6.74	6.44	---	6.20	6.09	6.59	5.93	7.04
16	7.59	---	7.34	6.15	6.60	6.47	---	6.23	6.32	6.56	6.00	7.11
17	7.54	---	7.25	6.30	6.33	6.37	---	6.35	6.47	6.54	6.04	7.14
18	7.47	---	7.23	6.34	6.07	6.11	---	6.35	6.47	6.57	6.20	7.13
19	7.41	---	7.23	6.40	6.14	5.93	---	6.30	6.32	6.60	6.25	7.06
20	7.48	---	7.34	6.51	6.13	5.93	---	6.25	6.38	6.61	6.26	7.07
21	7.49	---	7.38	6.51	6.28	5.81	---	6.33	6.39	6.72	6.26	7.15
22	7.56	---	7.22	6.47	6.29	5.92	---	6.36	6.47	6.65	6.24	7.40
23	7.53	---	7.15	6.34	6.11	6.04	---	6.37	6.47	6.57	6.18	7.50
24	7.42	---	7.13	6.46	6.11	6.18	---	6.36	6.51	6.60	6.07	7.44
25	7.57	---	6.81	6.54	6.21	6.18	---	6.36	6.51	6.61	6.14	7.41
26	7.55	---	6.87	6.56	6.16	6.02	---	6.40	6.52	6.61	6.32	7.43
27	7.59	---	6.84	6.52	5.91	5.90	---	6.45	6.46	6.54	6.38	7.42
28	7.65	---	6.78	6.37	5.94	5.75	---	6.48	6.51	6.46	6.37	7.51
29	7.63	---	6.60	6.29	---	5.83	---	6.48	6.51	6.51	6.35	7.51
30	7.66	---	6.75	6.43	---	5.75	---	6.49	6.32	6.61	6.39	7.48
31	7.52	---	7.15	6.50	---	---	---	6.36	---	6.82	6.50	---
MAX	7.66	8.00	8.07	7.15	6.74	6.52	---	6.49	6.90	6.82	6.88	7.51

CAL YR 1997 LOW 8.07
WTR YR 1998 LOW 8.07



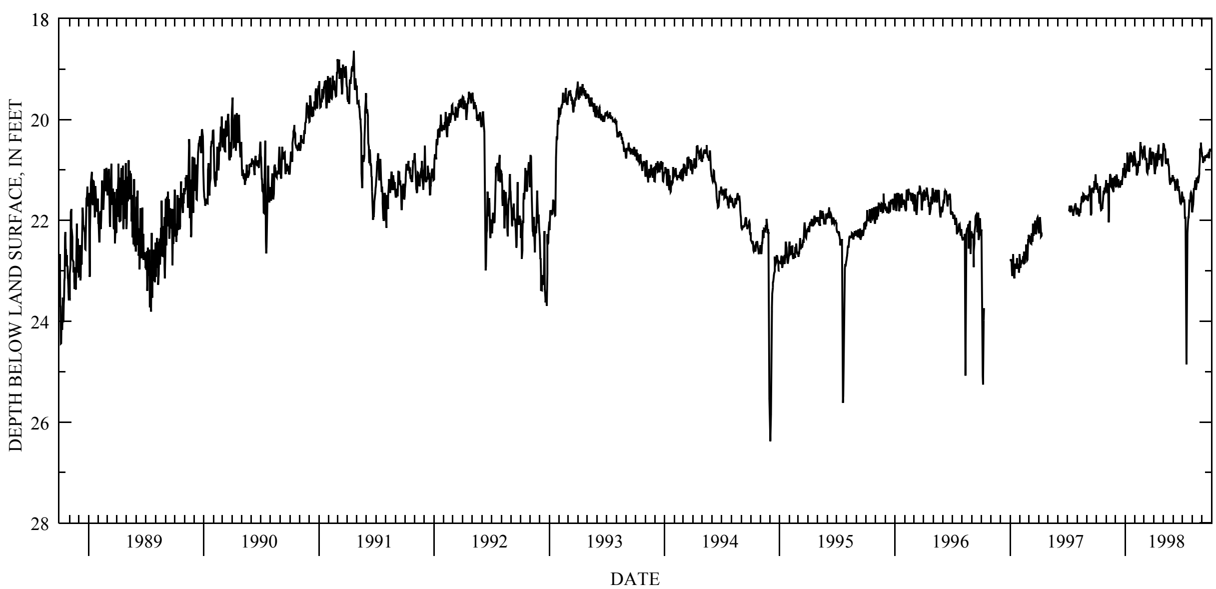
412123083574000. LOCAL NUMBER, HY-2

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 sea level, 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, 26.38 ft below land-surface datum, Dec. 3, 1994; minimum daily low, 14.55 ft below land-surface datum, Mar. 22, 1978.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.37	21.20	21.30	21.16	20.76	20.56	20.70	20.58	21.23	21.50	21.84	20.66
2	21.37	21.34	21.33	21.08	20.83	20.54	20.91	20.47	21.14	21.56	21.77	20.73
3	21.27	21.26	21.34	21.05	20.93	20.52	20.92	20.51	21.19	21.61	21.72	20.74
4	21.28	21.40	21.11	21.01	20.90	20.67	21.08	20.51	21.20	21.53	21.68	20.75
5	21.33	21.43	21.11	20.99	20.89	20.79	21.08	20.60	21.20	21.64	21.57	20.86
6	21.38	21.42	21.16	20.91	21.08	20.79	21.01	20.60	21.21	21.61	21.38	20.74
7	21.45	21.30	21.30	20.85	21.11	20.79	20.95	20.57	21.28	21.58	21.38	20.81
8	21.43	21.26	21.31	20.66	21.08	20.76	20.78	20.64	21.41	21.68	21.37	20.81
9	21.38	22.04	21.23	20.74	21.01	20.79	20.67	20.85	21.40	21.95	21.32	20.81
10	21.62	21.81	21.18	20.86	21.02	21.02	20.88	20.88	21.35	21.95	21.23	20.83
11	21.67	21.36	21.32	21.01	20.91	21.06	20.91	20.82	21.34	21.93	21.20	20.75
12	21.43	21.28	21.32	21.01	20.82	21.07	20.91	20.81	21.23	22.31	21.25	20.71
13	21.32	21.27	21.27	20.99	20.86	21.00	20.79	20.83	21.20	22.73	21.40	20.75
14	21.62	21.08	21.32	21.04	20.90	20.87	20.62	20.88	21.23	24.86	21.32	20.73
15	21.76	21.12	21.35	20.76	20.92	20.97	20.63	20.82	21.18	23.63	21.17	20.72
16	21.80	21.30	21.31	20.67	20.88	20.97	20.50	20.77	21.23	22.53	21.17	20.76
17	21.79	21.33	21.22	20.67	20.69	20.89	20.71	20.90	21.39	22.25	21.16	20.73
18	21.75	21.35	21.27	20.67	20.45	20.72	20.80	20.90	21.41	22.14	21.16	20.72
19	21.74	21.21	21.20	20.69	20.54	20.61	20.73	20.93	21.32	22.02	21.26	20.72
20	21.77	21.20	21.26	20.83	20.53	20.58	20.76	21.08	21.39	21.94	21.22	20.72
21	21.66	21.18	21.30	20.82	20.65	20.56	20.75	21.18	21.41	21.94	21.21	20.69
22	21.60	21.16	21.21	20.77	20.65	20.75	20.73	21.25	21.52	21.77	21.14	20.70
23	21.50	21.41	21.14	20.73	20.59	20.77	20.70	21.29	21.55	21.62	21.07	20.75
24	21.41	21.44	21.13	20.75	20.72	20.90	20.68	21.24	21.63	21.63	21.00	20.75
25	21.44	21.39	20.96	20.80	20.75	20.88	20.75	21.15	21.68	21.61	20.78	20.62
26	21.42	21.16	20.97	20.91	20.74	20.76	20.74	21.21	21.64	21.60	20.59	20.60
27	21.35	21.24	20.97	20.90	20.61	20.72	20.90	21.22	21.66	21.47	20.57	20.58
28	21.43	21.16	21.09	20.74	20.63	20.64	20.93	21.21	21.63	21.45	20.55	20.63
29	21.42	21.16	21.09	20.63	---	20.72	20.84	21.19	21.62	21.47	20.46	20.61
30	21.42	21.12	20.87	20.67	---	20.71	20.78	21.18	21.43	21.51	20.55	20.58
31	21.28	---	21.14	20.71	---	20.65	---	21.10	---	21.79	20.67	---
MAX	21.80	22.04	21.35	21.16	21.11	21.07	21.08	21.29	21.68	24.86	21.84	20.86

CAL YR 1997 LOW 23.15
WTR YR 1998 LOW 24.86



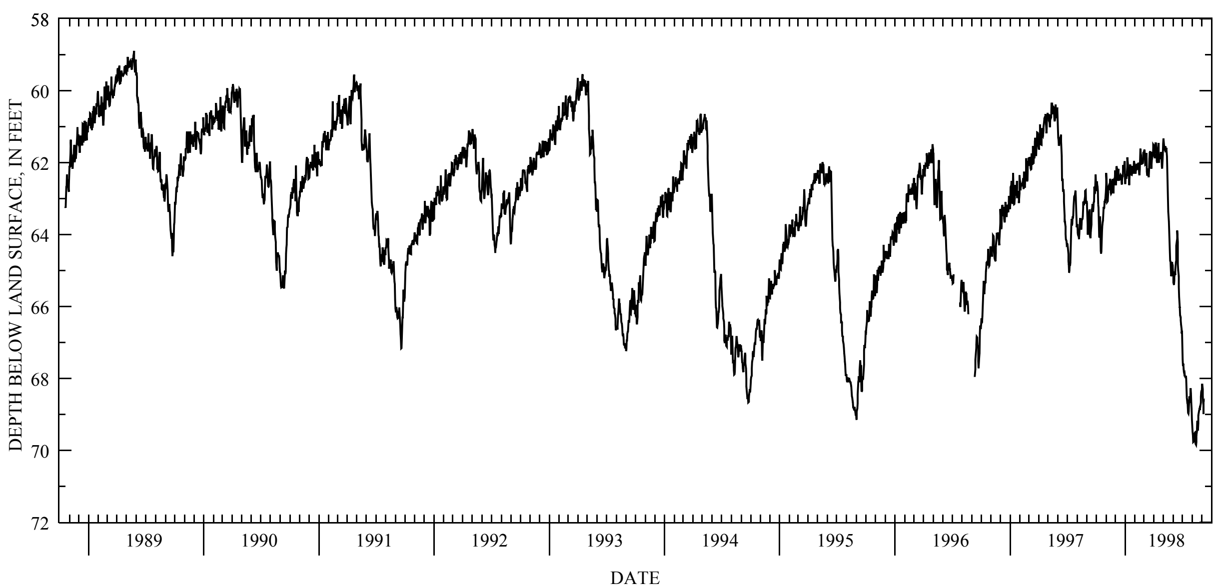
413704083362200. LOCAL NUMBER, LU-1

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 sea level, 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.
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, 56.87 ft below land-surface datum, Apr. 16, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	62.79	62.60	62.54	62.57	62.13	61.69	61.52	61.48	65.16	67.06	69.30	68.34
2	62.77	62.29	62.63	62.34	62.27	61.67	61.83	61.33	65.03	67.47	69.47	68.15
3	62.52	62.65	62.54	62.34	62.31	61.64	61.82	61.42	65.33	67.66	69.56	68.30
4	62.62	62.99	62.10	62.45	62.19	61.87	61.87	61.52	65.40	67.59	69.77	68.49
5	62.67	63.09	62.13	62.34	62.03	62.06	61.88	61.63	65.28	67.72	69.76	68.65
6	62.79	63.06	62.16	62.25	62.12	62.05	61.84	61.65	65.16	67.82	69.72	68.63
7	63.16	62.88	62.46	62.12	62.11	62.06	61.75	61.62	65.06	67.86	69.56	68.97
8	63.25	62.72	62.50	61.85	62.11	61.87	61.47	61.54	65.12	67.84	69.52	68.97
9	63.68	62.66	62.31	62.04	62.17	61.74	61.47	61.71	64.99	67.95	69.51	---
10	64.05	62.69	62.17	62.28	62.16	62.24	61.84	61.65	64.76	67.92	69.50	---
11	64.08	62.74	62.48	62.35	62.00	62.34	61.94	61.59	64.72	67.99	69.58	---
12	63.75	62.74	62.48	62.35	62.02	62.34	62.00	61.69	64.31	67.92	69.82	---
13	63.50	62.74	62.36	62.61	62.13	62.24	61.87	61.83	64.17	67.99	69.85	---
14	64.10	62.45	62.48	62.63	62.31	62.16	61.59	62.30	64.12	68.32	69.76	---
15	64.45	62.53	62.46	62.16	62.35	62.34	61.66	62.57	63.89	68.53	69.58	---
16	64.53	62.82	62.37	62.05	62.19	62.40	61.45	62.98	64.21	68.61	69.45	---
17	64.47	62.86	62.34	62.05	61.92	62.22	61.91	63.36	64.82	68.59	69.18	---
18	64.18	62.82	62.36	62.13	61.61	61.89	62.00	63.51	64.98	68.76	69.41	---
19	63.91	62.60	62.34	62.15	61.75	61.72	61.82	63.64	65.16	68.96	69.42	---
20	63.73	62.60	62.53	62.33	61.79	61.71	61.88	63.90	65.45	68.98	69.25	---
21	63.66	62.46	62.61	62.34	62.03	61.68	61.88	64.26	65.74	68.91	69.03	---
22	63.60	62.48	62.45	62.27	62.06	61.74	61.85	64.54	66.03	68.69	68.92	---
23	63.44	62.60	62.38	62.09	61.91	61.92	61.76	64.75	66.01	68.50	68.87	---
24	63.23	62.86	62.38	62.16	61.93	62.17	61.70	64.73	66.24	68.65	68.85	---
25	63.28	62.77	62.07	62.28	62.03	62.16	61.81	64.91	66.31	68.65	68.85	---
26	63.25	62.45	62.16	62.29	61.99	61.90	61.87	65.16	66.39	68.52	68.79	---
27	63.06	62.60	62.16	62.29	61.71	61.82	62.10	65.13	66.49	68.27	68.79	---
28	63.12	62.45	62.16	62.09	61.73	61.70	62.16	64.94	66.64	68.41	68.67	---
29	63.03	62.45	62.00	61.95	---	61.81	61.98	64.76	66.75	68.68	68.51	---
30	63.04	62.22	61.96	62.09	---	61.60	61.79	64.84	66.67	68.84	68.38	---
31	62.81	---	62.57	62.16	---	61.50	---	64.86	---	69.14	68.33	---
MAX	64.53	63.09	62.63	62.63	62.35	62.40	62.16	65.16	66.75	69.14	69.85	68.97

CAL YR 1997 LOW 65.06
WTR YR 1998 LOW 69.85



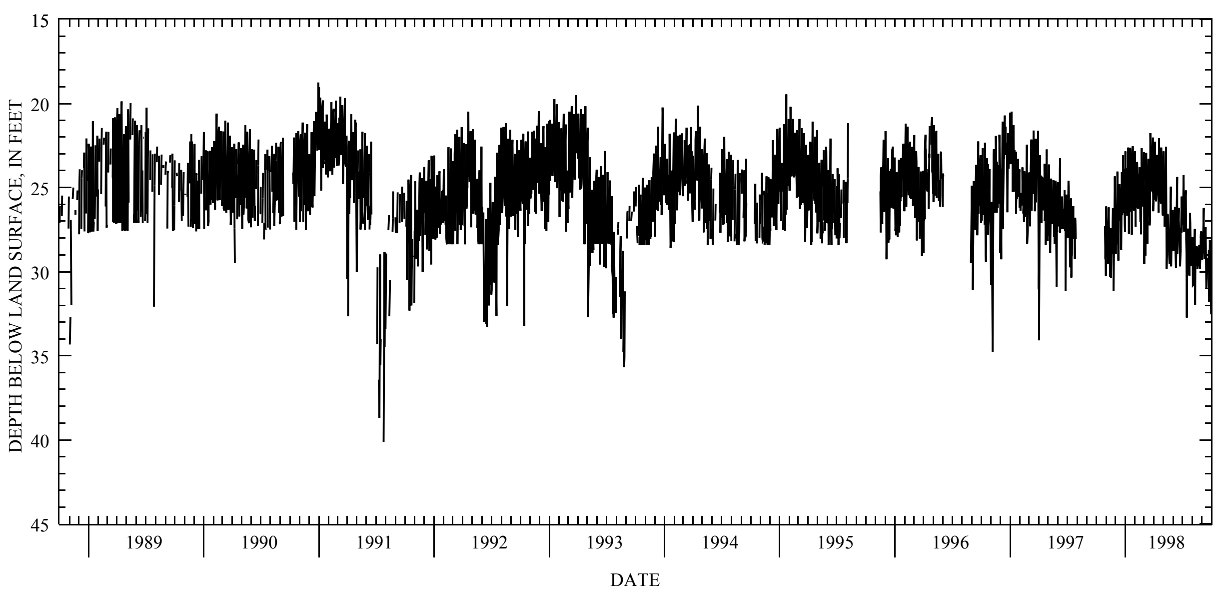
410142082005900. LOCAL NUMBER, MD-1

LOCATION.--Lat 41°01'42", long 82°00'59", Hydrologic Unit 04110001, at 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 sea level, 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, 45.21 ft below land-surface datum, July 8, 1988; minimum daily low, 7.60 ft below land-surface datum, July 6, 1969.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	28.22	26.42	22.85	22.85	22.90	25.03	24.98	28.70	27.22	28.01	28.81
2	---	26.12	28.94	24.92	27.32	29.53	24.91	22.91	27.47	26.67	28.01	29.29
3	---	29.09	28.06	23.84	25.07	26.52	24.48	22.84	28.76	27.08	30.82	28.50
4	---	28.36	26.80	24.47	25.21	27.90	24.84	26.45	28.19	26.18	30.79	28.13
5	---	27.04	28.37	24.49	25.87	26.49	22.27	26.17	26.77	24.24	28.85	28.08
6	---	27.41	25.63	25.53	25.77	29.03	25.72	27.32	26.93	27.11	28.38	26.21
7	---	29.53	24.04	26.67	23.47	24.19	25.19	26.01	26.14	27.62	28.04	27.49
8	---	27.57	25.37	23.93	23.56	22.93	25.10	24.26	28.63	26.93	28.27	28.26
9	---	26.17	26.38	25.10	26.20	27.51	25.81	24.75	28.40	26.88	27.45	28.89
10	---	28.37	29.34	22.61	24.20	25.03	25.12	22.58	29.77	25.52	31.96	29.24
11	---	27.34	26.55	22.81	26.26	27.16	24.00	26.05	28.95	25.50	29.14	27.92
12	---	28.88	27.00	27.73	24.30	28.33	23.04	29.84	28.00	25.16	29.65	27.84
13	---	27.82	25.45	23.07	25.81	25.17	25.17	29.08	26.21	28.08	28.45	27.35
14	---	30.29	24.80	24.63	24.45	23.85	23.40	28.99	24.37	28.85	29.03	29.07
15	---	27.40	25.74	25.33	23.80	23.29	23.87	26.55	28.93	32.73	29.57	30.99
16	---	27.46	25.65	24.45	25.56	25.54	26.48	26.64	27.36	28.91	28.50	30.79
17	---	30.35	25.04	22.64	25.89	26.42	26.32	27.46	28.18	28.59	29.22	30.34
18	---	28.14	28.60	23.05	27.06	24.39	22.06	28.81	27.82	27.49	29.83	29.18
19	---	28.58	28.68	26.43	24.08	27.24	23.36	28.16	26.19	27.48	29.63	29.86
20	---	27.48	25.75	23.56	27.77	26.88	24.07	29.17	26.91	30.16	28.87	29.79
21	---	28.96	24.08	27.79	24.27	22.60	24.37	29.54	27.37	28.85	29.33	29.46
22	---	27.02	26.64	24.63	22.66	21.75	25.86	28.02	28.65	28.33	29.24	29.55
23	---	26.22	26.25	25.69	25.02	24.12	24.80	27.10	28.68	30.22	28.40	28.70
24	---	27.84	24.85	23.54	25.76	23.06	25.94	26.34	29.67	27.83	28.90	31.81
25	---	31.14	23.07	22.54	24.48	25.13	22.62	24.94	28.74	26.50	29.52	30.04
26	---	29.68	26.51	24.14	24.75	25.20	23.49	29.68	27.42	27.13	29.83	28.10
27	---	26.97	25.11	26.32	26.12	24.88	24.61	28.69	27.69	28.73	29.36	28.46
28	---	25.76	23.92	24.62	25.02	22.88	24.62	28.60	25.53	29.64	27.78	30.87
29	29.26	24.32	25.31	26.37	---	22.03	26.22	26.87	27.65	29.27	27.98	30.78
30	27.28	25.10	27.23	24.80	---	24.17	26.66	26.41	26.14	28.73	27.59	32.53
31	30.26	---	27.62	23.77	---	26.41	---	26.33	---	28.55	28.21	---
MAX	30.26	31.14	29.34	27.79	27.77	29.53	26.66	29.84	29.77	32.73	31.96	32.53

CAL YR 1997 LOW 34.07
WTR YR 1998 LOW 32.73



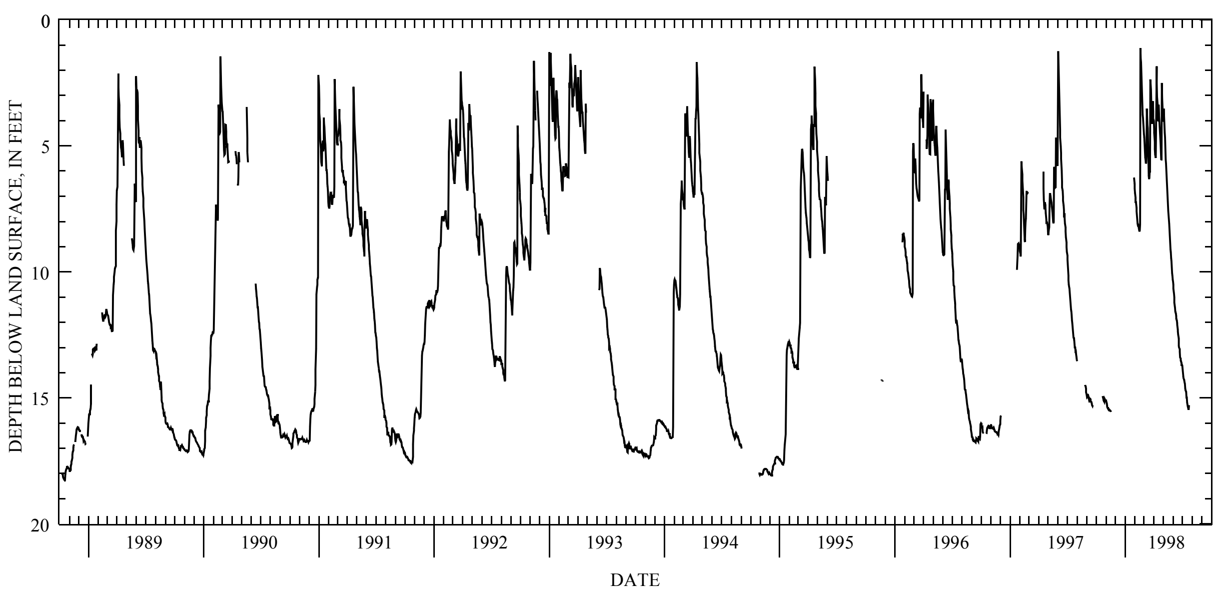
413434082494000. LOCAL NUMBER, O-2

LOCATION.--Lat 41°34'34", long 82°49'40", Hydrologic Unit 04100010. Catawba Island near Port Clinton.
Owner: William Williams.
AQUIFER.--Limestone of Silurian Age.
WELL CHARACTERISTICS.--Drilled water table well, diameter 6 in., depth 62 ft, cased to 26 ft.
INSTRUMENTATION.--Type F continuous recorder.
DATUM.--Elevation of land-surface datum is 591 ft above sea level, from topographic map.
Measuring point: Floor of instrument shelter 1.60 ft above land-surface datum.
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.
PERIOD OF RECORD.--March 1988 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 18.27 ft below land-surface datum, Sept. 17, 1989; minimum daily low, 1.12 ft below land-surface datum, Feb. 18, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	15.11	---	---	6.84	4.51	4.00	4.00	10.38	13.73	---	---
2	---	15.14	---	---	7.07	4.65	4.36	4.00	10.50	13.85	---	---
3	---	15.23	---	---	7.23	4.94	4.49	3.51	10.66	13.98	---	---
4	---	15.31	---	---	7.23	5.20	4.84	3.82	10.86	14.13	---	---
5	---	15.37	---	---	7.46	5.45	5.13	4.19	11.01	14.23	---	---
6	---	15.41	---	---	7.59	5.53	5.33	4.47	11.21	14.26	---	---
7	---	15.36	---	---	7.76	5.70	5.48	4.66	11.40	14.29	---	---
8	---	15.42	---	---	7.90	5.67	5.48	5.10	11.57	14.37	---	---
9	---	15.44	---	---	8.06	5.35	4.92	5.53	11.57	14.43	---	---
10	---	15.45	---	---	8.14	3.52	1.84	5.68	11.66	14.60	---	---
11	---	15.49	---	---	8.12	3.88	2.51	5.93	11.74	14.69	---	---
12	---	15.51	---	---	8.18	4.16	3.05	6.23	11.85	14.73	---	---
13	---	15.53	---	---	8.26	4.29	3.39	6.46	11.93	14.76	---	---
14	---	15.49	---	---	8.33	5.27	3.80	6.75	12.03	14.98	---	---
15	---	15.51	---	---	8.39	5.84	3.99	7.01	12.08	14.99	---	---
16	---	15.52	---	---	8.34	6.17	4.00	7.31	12.29	15.17	---	---
17	---	15.56	---	---	8.12	6.31	3.37	7.58	12.35	15.25	---	---
18	---	---	---	---	1.12	6.28	3.73	7.74	12.49	15.32	---	---
19	---	---	---	---	1.54	6.02	3.96	7.94	12.64	15.38	---	---
20	---	---	---	---	1.68	6.06	4.23	8.09	12.92	15.44	---	---
21	14.92	---	---	---	2.11	3.42	4.47	8.34	13.01	15.44	---	---
22	14.98	---	---	---	2.50	2.36	4.68	8.63	13.07	15.29	---	---
23	15.02	---	---	---	2.90	2.75	4.90	8.88	13.17	---	---	---
24	15.11	---	---	---	3.38	3.28	5.28	9.09	13.40	---	---	---
25	15.14	---	---	---	3.74	3.47	5.56	9.21	13.43	---	---	---
26	15.16	---	---	---	3.88	3.78	5.54	9.44	13.52	---	---	---
27	15.04	---	---	---	4.09	4.06	2.50	9.56	13.55	---	---	---
28	15.06	---	---	---	4.28	4.13	3.12	9.82	13.64	---	---	---
29	15.10	---	---	6.25	---	3.22	3.44	10.03	13.69	---	---	---
30	15.11	---	---	6.50	---	3.63	3.69	10.14	13.68	---	---	---
31	15.11	---	---	6.70	---	3.90	---	10.29	---	---	---	---
MAX	15.16	15.56	---	6.70	8.39	6.31	5.56	10.29	13.69	15.44	---	---

CAL YR 1997 LOW 15.56
WTR YR 1998 LOW 15.56



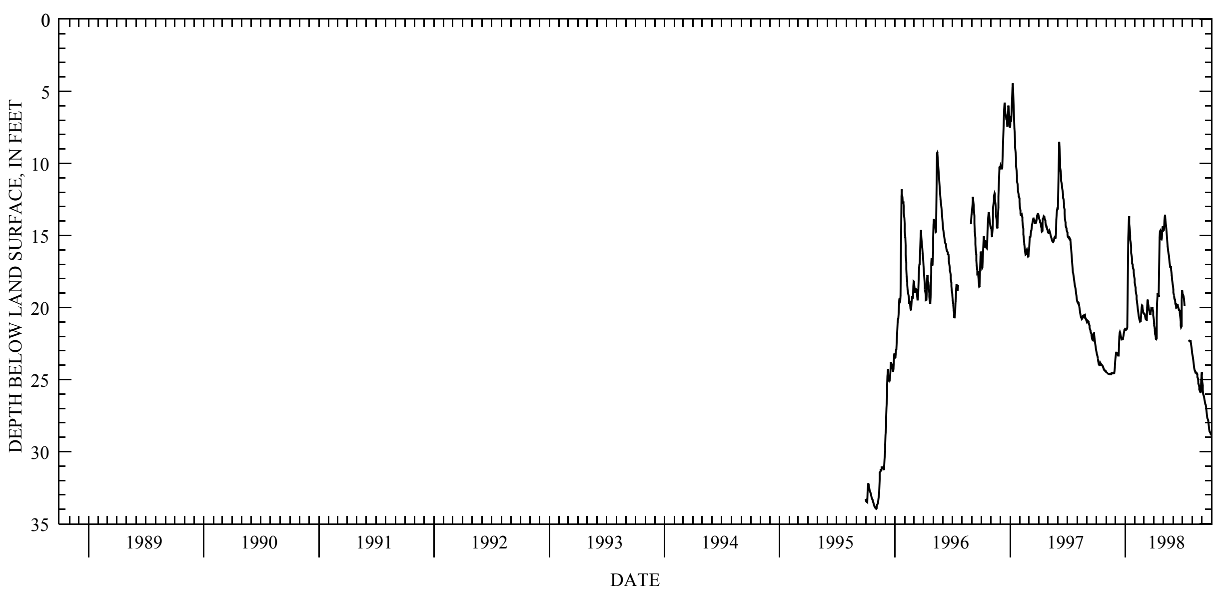
410931081192900. LOCAL NUMBER, PO-123

LOCATION.--Lat 41°09'31", long 81°19'29", Hydrologic Unit 04110002, east of Kent.
Owner: City of Kent.
AQUIFER.--Sand and gravel of Pleistocene Age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., cased.
INSTRUMENTATION.--Digitial recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 1042 ft above sea level, from topographic map.
Measuring point: Floor of instrument shelter 3.5 ft above land-surface datum.
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.
PERIOD OF RECORD.--October 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 33.97 ft below land-surface datum, Nov. 3, 1995;
minimum daily low, 4.43 ft below land-surface datum, Jan. 9, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.00	24.46	23.48	21.57	18.39	20.43	20.83	14.55	18.53	18.86	23.19	24.77
2	23.10	24.46	23.30	21.52	18.61	20.41	21.08	14.66	18.75	19.06	23.29	25.09
3	23.23	24.49	23.14	21.51	18.76	20.44	21.23	14.64	18.95	19.11	23.42	25.39
4	23.30	24.53	23.13	21.52	18.94	20.51	21.44	14.49	19.15	19.18	23.60	25.72
5	23.39	24.54	23.17	21.51	19.16	20.64	21.60	13.98	19.28	19.21	23.79	25.97
6	23.53	24.57	23.18	21.44	19.39	20.74	21.82	13.71	19.39	19.37	23.97	26.13
7	23.70	24.58	23.22	21.35	19.53	20.81	21.99	13.55	19.44	19.59	24.16	26.13
8	23.82	24.59	23.25	21.19	19.70	20.84	22.18	13.88	19.61	19.88	24.28	26.19
9	23.94	24.59	23.34	19.48	19.92	20.87	22.20	14.13	19.73	---	24.37	26.35
10	23.99	24.59	23.34	17.14	20.13	20.85	22.10	14.30	19.83	---	24.40	26.47
11	23.98	24.59	23.32	15.18	20.27	20.00	20.72	14.53	19.97	---	24.49	26.60
12	23.89	24.58	22.66	13.87	20.47	19.52	19.69	14.81	19.99	---	24.51	26.69
13	23.82	24.58	22.02	13.67	20.61	19.43	18.97	15.08	19.96	---	24.51	26.74
14	23.87	24.63	21.76	14.20	20.73	19.70	19.08	15.40	19.89	---	24.57	26.83
15	23.92	24.63	21.70	14.61	20.82	19.85	19.19	15.72	19.80	---	24.57	27.03
16	23.93	24.58	21.78	15.01	20.89	20.02	19.19	15.94	19.81	---	24.57	27.24
17	23.98	24.55	21.91	15.28	20.96	20.16	18.28	16.10	19.89	---	24.63	27.45
18	24.00	24.54	22.00	15.52	20.95	20.24	16.78	16.25	19.98	---	24.81	27.64
19	24.00	24.53	22.10	15.82	20.94	20.37	15.98	16.36	20.13	---	24.93	27.73
20	24.03	24.56	22.21	16.19	20.57	20.46	15.13	16.60	20.17	---	25.09	27.76
21	24.06	24.57	22.22	16.47	20.22	20.46	14.68	16.82	20.18	---	25.26	27.84
22	24.09	24.57	22.20	16.67	19.97	20.43	14.63	17.01	20.19	22.21	25.38	28.07
23	24.18	24.57	22.20	16.94	19.83	20.21	14.70	17.17	20.34	22.32	25.47	28.27
24	24.24	24.53	22.20	17.03	19.85	20.06	15.01	17.16	20.55	22.35	25.70	28.43
25	24.30	24.54	22.06	17.12	20.10	20.03	15.23	17.11	20.91	22.35	25.80	28.57
26	24.30	24.55	21.95	17.26	20.20	20.07	15.26	17.38	21.25	22.31	25.84	28.64
27	24.35	24.55	21.78	17.40	20.35	20.07	15.17	17.54	21.35	22.31	25.85	28.67
28	24.36	24.38	21.68	17.53	20.42	20.09	14.70	17.76	21.25	22.48	25.82	28.68
29	24.37	24.15	21.54	17.78	---	20.17	14.48	18.05	19.54	22.63	25.69	28.79
30	24.41	23.77	21.50	18.01	---	20.28	14.35	18.22	18.79	22.79	25.05	28.87
31	24.46	---	21.57	18.23	---	20.52	---	18.40	---	22.98	24.48	---
MAX	24.46	24.63	23.48	21.57	20.96	20.87	22.20	18.40	21.35	22.98	25.85	28.87

CAL YR 1997 LOW 24.63
WTR YR 1998 LOW 28.87



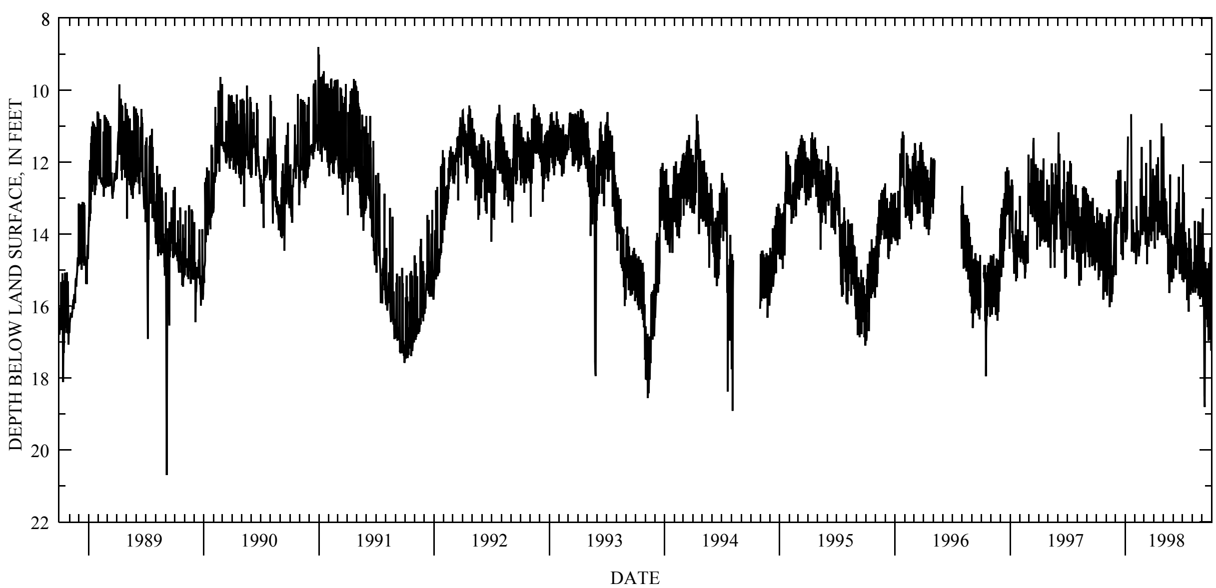
405505084032900. LOCAL NUMBER, PU-1

LOCATION.--Lat 40°55'05", long 84°03'29", Hydrologic Unit 04100007, Center and Broadway Streets, Columbus Grove.
Owner: Columbus Grove Water Department.
AQUIFER.--Limestone of Silurian Age.
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 110 ft, cased.
INSTRUMENTATION.--Digital recorder--60-minute punch.
DATUM.--Elevation of land-surface datum is 770 ft above sea level, from topographic map.
Measuring point: Floor of instrument shelter 3.00 ft above land-surface datum.
REMARKS.--Station operated by Ohio Department of Natural Resource, Division of Water.
PERIOD OF RECORD.--July 1946 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 24.30 ft below land-surface datum, Aug. 24, 1962;
minimum daily low, 8.80 ft below land-surface datum, Dec. 30, 1990.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.15	15.04	13.51	14.22	14.15	12.94	13.75	13.02	14.76	15.28	15.00	15.75
2	14.79	14.80	15.14	13.30	13.95	13.79	13.39	11.29	15.24	14.25	15.51	14.22
3	14.61	13.51	13.80	12.88	14.22	13.91	13.78	13.61	14.41	12.06	15.20	13.29
4	13.26	14.26	14.00	13.72	14.83	13.93	14.41	14.02	14.51	14.97	15.63	13.75
5	14.71	15.71	12.49	14.15	14.59	13.39	12.37	13.05	14.30	15.34	15.28	16.01
6	14.61	15.05	13.33	13.98	13.22	14.29	13.50	12.73	14.72	12.84	14.77	14.38
7	13.69	15.14	12.93	13.84	13.88	13.43	13.62	13.99	13.97	14.22	15.01	14.90
8	15.28	15.04	13.71	12.91	14.20	12.02	13.50	13.01	14.52	14.18	15.47	16.20
9	15.00	13.34	12.24	11.29	14.12	13.71	12.70	13.17	14.95	15.25	13.64	18.48
10	13.62	13.32	13.55	---	14.33	13.95	13.65	14.10	13.30	13.94	14.08	18.81
11	15.18	15.25	13.09	---	13.90	14.83	12.06	13.09	14.94	14.15	15.62	15.45
12	14.65	14.96	13.29	---	14.40	13.52	12.96	13.44	15.00	15.00	14.69	14.77
13	13.41	16.04	12.98	---	14.62	13.87	12.90	13.85	13.12	14.24	14.31	15.39
14	14.84	15.11	13.03	---	14.50	13.66	14.17	13.73	13.31	14.94	14.82	15.02
15	14.93	14.65	12.24	---	14.36	13.90	11.86	14.26	13.71	14.38	14.78	16.37
16	13.86	13.43	13.27	---	14.23	14.36	12.96	14.13	14.45	15.84	15.51	15.55
17	15.02	15.13	12.22	---	14.33	13.86	13.39	15.12	13.58	14.71	14.75	15.10
18	14.67	15.13	14.08	---	13.96	14.02	13.53	14.24	14.59	15.16	15.33	14.96
19	13.45	15.89	14.56	10.66	12.46	13.24	13.43	14.24	13.06	14.77	15.19	16.58
20	14.56	15.23	14.49	13.13	13.84	13.82	13.95	15.63	12.41	15.02	13.65	16.17
21	15.00	14.87	13.38	14.49	12.87	12.69	13.07	15.60	14.04	16.16	15.72	16.27
22	13.98	15.67	14.59	14.07	11.58	11.38	13.78	14.51	15.11	13.84	15.00	16.97
23	15.82	14.88	13.96	14.14	13.33	13.01	13.57	12.34	13.72	14.67	14.38	14.80
24	15.08	15.19	14.72	13.96	14.02	13.03	13.09	15.12	14.24	15.12	14.76	15.81
25	13.67	15.03	13.61	14.02	13.90	14.20	13.88	14.59	15.10	14.50	15.81	15.12
26	15.27	14.60	13.24	13.60	12.99	12.63	10.92	14.06	15.09	14.12	14.88	16.94
27	14.88	14.07	13.65	14.43	13.54	13.22	14.03	14.41	14.89	15.69	13.68	14.45
28	13.85	13.73	13.48	13.95	13.89	13.93	13.31	15.34	13.68	14.41	15.72	14.37
29	15.61	13.68	13.82	14.52	---	12.18	13.95	14.27	14.85	14.78	14.03	14.99
30	15.20	13.65	13.96	14.19	---	13.66	13.41	14.88	14.46	15.57	15.52	17.24
31	13.86	---	12.53	14.47	---	13.29	---	14.76	---	15.25	15.46	---
MAX	15.82	16.04	15.14	14.52	14.83	14.83	14.41	15.63	15.24	16.16	15.81	18.81

CAL YR 1997 LOW 16.04
WTR YR 1998 LOW 18.81



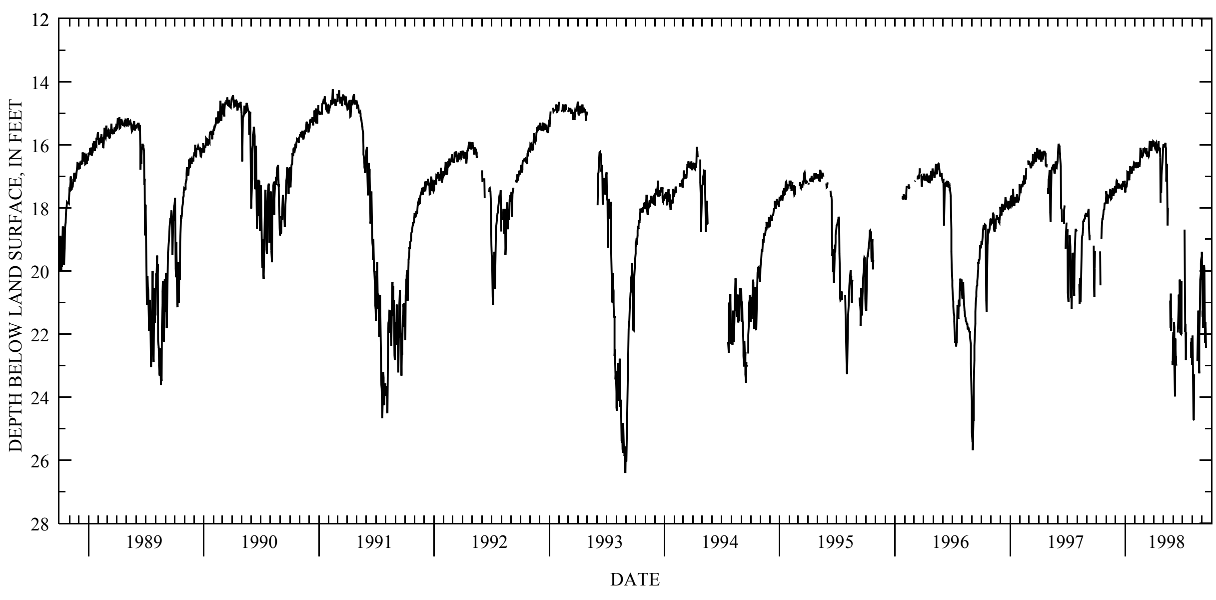
411914083045300. LOCAL NUMBER, S-3

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 sea level, 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, 26.38 ft below land-surface datum, Aug. 30, 1993;
minimum daily low, 14.02 ft below land-surface datum, Mar. 24, 1975.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	17.61	17.48	17.51	16.61	16.14	15.91	16.08	22.19	---	22.98	19.39
2	---	17.47	17.51	17.33	16.72	16.13	16.05	15.98	21.94	---	22.05	20.05
3	---	17.68	17.45	17.31	16.74	16.12	16.04	16.04	22.99	---	22.68	21.46
4	---	17.83	17.15	17.33	16.68	16.16	16.06	16.03	21.63	---	24.04	21.26
5	---	17.84	17.12	17.30	16.56	16.25	16.07	16.06	21.79	---	24.71	21.80
6	---	17.84	17.13	17.23	16.59	16.26	16.11	16.06	22.95	---	24.73	21.44
7	---	17.72	17.34	17.12	16.62	16.21	16.05	16.00	23.98	---	23.28	20.19
8	---	17.60	17.38	16.85	16.65	16.14	15.94	15.94	23.35	18.69	---	19.80
9	---	17.61	17.32	16.86	16.71	16.11	15.92	16.09	22.14	19.96	---	19.94
10	---	17.64	17.22	17.00	16.71	16.33	16.06	16.11	22.94	21.93	---	21.82
11	---	17.66	17.30	17.03	16.62	16.36	16.16	17.16	22.96	21.68	---	22.27
12	---	17.65	17.32	17.04	16.55	16.36	16.26	16.79	22.71	22.82	---	21.62
13	19.38	17.65	17.25	17.10	16.58	16.29	16.14	16.60	---	21.95	---	21.84
14	20.46	17.43	17.36	17.12	16.68	16.21	15.99	17.32	---	---	---	22.44
15	---	17.44	17.36	16.84	16.68	16.33	16.05	18.56	---	---	---	---
16	---	17.66	17.32	16.73	16.62	16.36	15.88	18.00	21.94	---	---	---
17	18.98	17.71	17.30	16.68	16.48	16.32	16.04	---	21.95	---	---	---
18	18.65	17.68	17.31	16.77	16.10	16.07	16.18	---	21.71	---	22.87	---
19	18.48	17.56	17.29	16.79	16.23	15.91	16.08	---	20.99	---	21.83	---
20	18.36	17.48	17.38	16.89	16.22	15.91	16.13	---	20.75	---	21.26	---
21	18.35	17.39	17.42	16.89	16.38	15.88	16.10	---	21.70	---	21.67	---
22	18.27	17.38	17.38	16.86	16.38	15.97	16.40	20.95	21.82	---	23.09	---
23	18.20	17.49	17.30	16.72	16.30	16.08	17.84	20.95	20.28	---	23.25	---
24	18.07	17.62	17.31	16.70	16.29	16.20	---	21.81	21.95	---	22.00	---
25	18.06	17.62	17.15	16.79	16.34	16.19	17.52	20.72	21.98	---	21.20	---
26	18.05	17.41	17.23	16.79	16.32	16.04	16.96	21.90	21.79	---	21.19	---
27	17.84	17.54	17.26	16.79	16.14	16.00	16.79	21.50	21.99	---	20.28	---
28	17.85	17.46	17.27	16.65	16.14	15.89	16.68	---	21.98	22.24	20.08	---
29	17.84	17.33	17.25	16.56	---	16.04	16.54	---	20.33	22.76	19.74	---
30	17.84	17.31	17.14	16.57	---	15.94	16.31	22.87	---	22.12	19.62	---
31	17.79	---	17.48	16.61	---	15.89	---	22.98	---	22.44	19.53	---
MAX	20.46	17.84	17.51	17.51	16.74	16.36	17.84	22.98	23.98	22.82	24.73	22.44

CAL YR 1997 LOW 21.20
WTR YR 1998 LOW 24.73



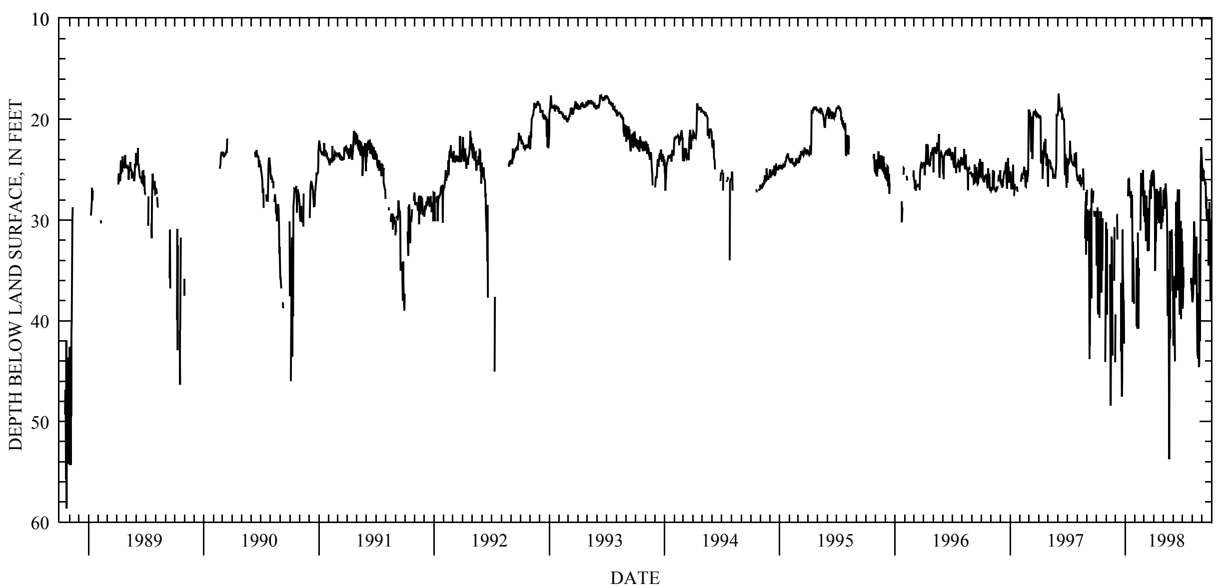
412703083213600. LOCAL NUMBER, S-2

LOCATION.--Lat 41°27'03", long 83°21'36", Hydrologic Unit 04100010, at waterworks 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 sea level 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, 17.43 ft below land-surface datum, June 3, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.12	30.23	39.37	---	---	29.61	25.40	29.63	35.96	32.16	38.00	24.04
2	34.51	36.03	---	42.24	---	27.46	26.39	27.02	42.49	38.82	38.17	24.62
3	29.26	---	30.24	---	33.89	27.06	26.69	27.44	---	38.11	37.79	26.18
4	29.74	39.37	---	---	---	30.22	27.32	27.87	37.71	34.70	37.30	24.89
5	28.79	30.85	29.47	---	33.78	28.66	29.17	27.78	35.56	36.70	35.94	25.19
6	38.88	---	29.48	---	40.52	28.56	35.04	26.88	36.91	---	34.25	25.19
7	39.37	---	31.97	---	34.00	32.11	30.01	28.90	44.04	---	30.16	25.98
8	29.47	---	---	---	40.81	---	32.13	26.93	---	---	31.56	25.79
9	29.13	---	38.50	27.66	---	27.56	30.17	26.40	31.56	---	32.51	26.15
10	---	---	---	26.71	31.25	29.71	30.23	27.19	31.23	---	36.40	25.93
11	39.74	---	---	25.99	35.48	28.90	27.02	27.61	28.20	---	33.79	26.33
12	29.90	---	---	25.92	40.82	28.89	27.02	28.26	37.72	---	31.81	26.31
13	---	---	---	26.10	34.77	33.08	27.94	29.29	---	---	36.44	26.22
14	30.67	34.40	---	26.69	35.52	29.25	29.98	31.98	29.61	---	36.32	28.83
15	29.15	46.75	---	27.45	---	29.19	28.79	39.52	29.94	---	31.68	27.69
16	29.35	48.44	---	27.61	---	33.07	27.16	---	26.98	---	35.37	29.56
17	37.22	35.44	---	27.41	---	29.99	28.92	---	37.00	---	39.55	30.16
18	29.84	31.68	43.06	27.81	31.06	28.51	30.31	34.92	27.90	---	43.10	28.90
19	---	32.51	36.26	27.15	27.30	27.11	30.24	46.98	34.17	---	43.75	29.77
20	35.04	31.98	43.50	29.79	25.36	27.05	30.24	53.76	29.51	---	38.04	29.09
21	29.83	43.49	47.54	29.21	26.29	26.51	27.55	48.40	26.96	---	37.31	29.47
22	---	---	46.18	27.55	25.72	26.06	26.99	31.08	39.41	---	44.61	34.51
23	---	31.63	30.93	33.43	25.86	27.91	26.74	41.77	32.86	---	44.24	33.83
24	30.15	---	35.04	37.60	27.63	25.90	27.53	40.92	32.64	---	33.34	30.16
25	---	---	36.01	38.15	26.62	25.61	30.90	---	30.12	---	42.04	28.25
26	29.71	---	38.46	32.13	25.02	25.28	30.17	43.02	32.22	---	41.23	34.54
27	---	36.03	37.99	35.95	26.56	25.23	30.27	---	39.87	---	28.35	30.16
28	41.95	30.70	42.29	35.91	28.03	25.59	29.01	30.94	30.87	36.34	24.09	37.92
29	---	---	---	38.33	---	26.65	30.24	32.99	32.09	35.76	25.85	37.27
30	44.10	44.16	---	---	---	25.51	28.66	37.08	32.27	36.91	22.79	37.83
31	39.43	---	---	31.06	---	25.03	---	---	---	37.07	24.01	---
MAX	44.10	48.44	47.54	42.24	40.82	33.08	35.04	53.76	44.04	38.82	44.61	37.92

CAL YR 1997 LOW 48.44
WTR YR 1998 LOW 53.76



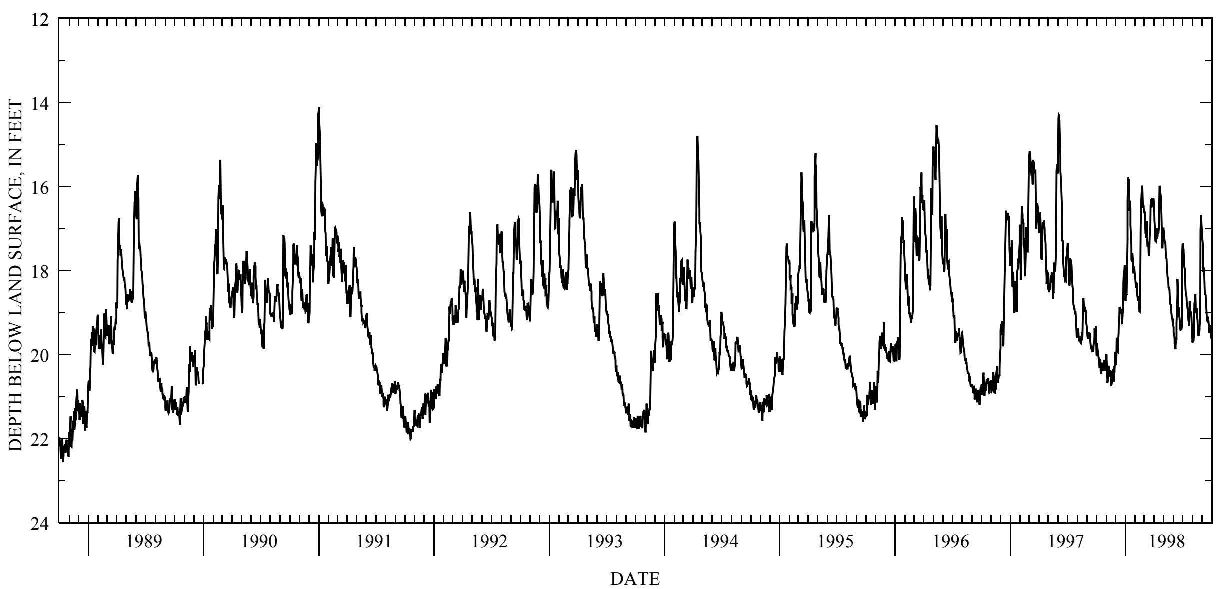
410802083093900. LOCAL NUMBER, SE-2

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 sea level, 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, 14.11 ft below land-surface datum, Jan. 2, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.02	20.03	20.21	18.72	18.18	16.60	16.44	16.98	19.32	17.36	19.71	17.20
2	20.03	19.99	20.25	18.51	18.39	16.59	16.79	17.04	19.35	17.37	19.64	17.26
3	19.73	20.35	20.10	18.54	18.42	16.62	16.80	17.20	19.48	17.45	19.60	17.44
4	19.85	20.61	19.62	18.58	18.27	16.88	17.04	17.25	19.54	17.50	19.67	17.81
5	19.92	20.67	19.62	17.97	18.32	17.12	17.12	17.29	19.62	17.73	19.59	18.04
6	19.96	20.58	19.66	17.57	18.50	17.14	17.30	17.34	19.73	17.89	19.09	17.98
7	20.04	20.38	19.94	17.27	18.56	17.23	17.31	17.31	19.80	17.94	18.76	17.93
8	20.10	20.27	19.95	16.33	18.60	17.14	17.14	17.47	19.87	17.96	18.78	18.25
9	20.08	20.31	19.61	15.78	18.71	16.83	16.99	17.68	19.81	18.18	18.84	18.44
10	20.30	20.43	19.51	15.84	18.71	17.14	17.21	17.70	19.60	18.43	18.57	18.55
11	20.32	20.49	19.16	15.85	18.60	17.41	17.24	17.73	19.66	18.54	18.81	18.57
12	20.14	20.52	19.15	15.85	18.63	17.43	17.23	17.94	19.25	18.56	18.99	18.58
13	20.11	20.52	18.87	16.56	18.82	17.31	17.05	18.04	18.88	18.60	19.01	18.71
14	20.39	20.37	18.95	16.58	18.97	17.37	16.99	18.15	18.55	18.75	18.90	18.83
15	20.44	20.43	18.97	16.34	18.98	17.60	17.13	18.18	18.20	18.81	18.99	18.99
16	20.44	20.70	18.92	16.54	18.83	17.65	16.98	18.21	18.66	18.87	19.13	19.16
17	20.33	20.75	18.94	16.93	18.33	17.54	16.43	18.39	19.01	18.93	19.20	19.19
18	20.23	20.66	18.99	17.19	16.98	17.23	16.39	18.44	19.11	19.05	19.25	19.17
19	20.19	20.44	18.98	17.42	16.71	17.06	15.98	18.39	18.88	19.17	19.51	19.10
20	20.29	20.45	19.21	17.75	16.30	17.04	16.05	18.46	19.04	19.21	19.55	19.17
21	20.31	20.35	19.28	17.76	16.15	16.57	16.11	18.63	19.10	19.32	19.52	19.20
22	20.38	20.39	19.13	17.79	16.11	16.45	16.18	18.80	19.26	19.22	19.49	19.32
23	20.34	20.45	18.99	17.58	15.98	16.31	16.23	18.81	19.29	18.72	19.40	19.48
24	20.13	20.64	18.97	17.78	16.25	16.50	16.52	18.81	19.41	18.77	19.32	19.40
25	20.38	20.57	18.27	18.01	16.47	16.48	16.70	18.89	19.40	18.96	19.18	19.30
26	20.35	20.28	18.10	18.05	16.46	16.27	17.01	19.01	19.34	19.04	17.64	19.35
27	20.33	20.43	18.05	18.04	16.46	16.41	17.33	19.08	19.41	18.97	17.04	19.36
28	20.38	20.26	18.00	17.91	16.57	16.34	17.47	19.13	19.32	19.01	16.68	19.54
29	20.31	20.23	17.88	17.93	---	16.47	17.32	19.14	18.76	19.17	16.68	19.57
30	20.32	19.93	18.04	18.12	---	16.29	17.17	19.23	17.53	19.32	16.90	19.55
31	20.17	---	18.69	18.18	---	16.30	---	19.14	---	19.58	17.12	---
MAX	20.44	20.75	20.25	18.72	18.98	17.65	17.47	19.23	19.87	19.58	19.71	19.57

CAL YR 1997 LOW 20.75
WTR YR 1998 LOW 20.75



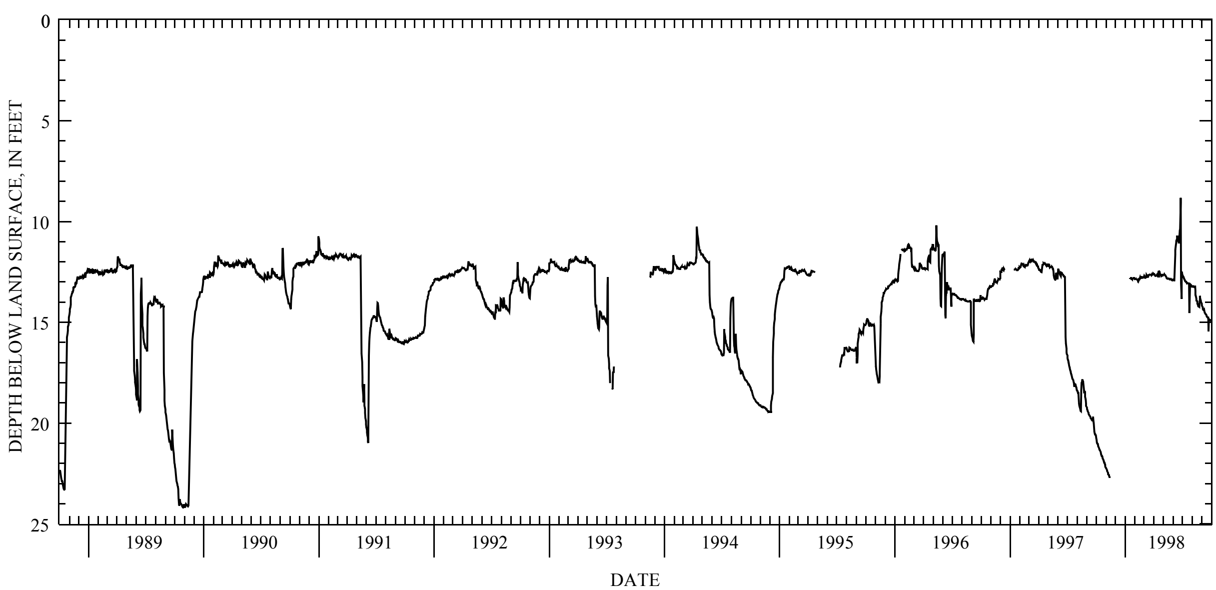
410330081282000. LOCAL NUMBER, SU-6

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 sea level 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-WDR-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, 8.82 ft below land-surface datum, June 26, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.75	22.24	---	---	12.85	12.74	12.60	12.67	12.87	12.62	13.24	14.13
2	20.83	22.26	---	---	12.82	12.70	12.61	12.65	12.87	12.68	13.23	14.20
3	20.96	22.31	---	---	12.84	12.73	12.61	12.63	12.90	12.71	13.20	14.26
4	21.01	22.35	---	---	12.85	12.75	12.65	12.60	12.91	12.73	13.21	14.34
5	21.02	22.39	---	---	12.87	12.79	12.67	12.64	12.91	12.76	13.24	14.38
6	21.04	22.44	---	---	12.88	12.79	12.70	12.65	12.91	12.81	13.24	14.38
7	21.14	22.48	---	---	12.88	12.78	12.70	12.65	12.15	12.86	13.26	14.37
8	21.19	22.54	---	---	12.88	12.75	12.70	12.67	11.63	12.88	13.25	14.35
9	21.22	22.55	---	---	12.88	12.65	12.68	12.71	11.39	12.92	13.25	14.44
10	21.25	22.59	---	---	12.91	12.69	12.64	12.73	11.14	12.96	13.18	14.50
11	21.31	22.64	---	---	12.89	12.71	12.67	12.76	11.03	12.98	13.44	14.55
12	21.33	22.69	---	---	12.94	12.70	12.68	12.81	10.97	12.98	13.63	14.58
13	21.38	22.71	---	---	12.89	12.78	12.66	12.83	10.89	12.99	13.74	14.59
14	21.42	---	---	---	12.88	12.69	12.69	12.84	10.77	13.03	13.83	14.60
15	21.45	---	---	---	12.87	12.68	12.72	12.84	10.75	13.07	13.92	14.64
16	21.54	---	---	12.80	12.83	12.66	12.72	12.83	10.75	13.05	13.94	14.69
17	21.59	---	---	12.79	12.78	12.65	12.44	12.83	10.70	13.06	13.97	14.72
18	21.64	---	---	12.79	12.84	12.64	12.49	12.83	11.00	13.07	14.06	14.75
19	21.64	---	---	12.79	12.75	12.64	12.48	12.84	10.84	13.07	14.14	14.76
20	21.67	---	---	12.84	12.74	12.64	12.50	12.84	11.09	13.06	14.19	14.76
21	21.75	---	---	12.86	12.76	12.61	12.58	12.87	10.94	13.08	14.21	14.76
22	21.79	---	---	12.87	12.76	12.62	12.62	12.88	10.46	13.09	14.23	15.44
23	21.83	---	---	12.85	12.71	12.64	12.65	12.88	10.45	14.54	14.24	14.84
24	21.85	---	---	12.83	12.80	12.67	12.68	12.88	10.37	13.91	14.24	14.86
25	21.91	---	---	12.82	12.79	12.67	12.71	12.85	9.06	13.25	13.85	14.89
26	21.96	---	---	12.81	12.77	12.62	12.70	12.86	8.82	13.19	13.69	14.89
27	21.97	---	---	12.81	12.77	12.62	12.61	12.89	13.07	13.13	13.84	14.89
28	22.03	---	---	12.83	12.78	12.60	12.65	12.90	13.84	13.14	13.93	14.90
29	22.08	.00	---	12.83	---	12.62	12.67	12.91	12.48	13.18	13.98	14.92
30	22.17	---	---	12.86	---	12.57	12.69	12.91	12.54	13.21	14.02	14.95
31	22.22	---	---	12.86	---	12.57	---	12.89	---	13.24	14.08	---
MAX	22.22	22.71	---	12.87	12.94	12.79	12.72	12.91	13.84	14.54	14.24	15.44

CAL YR 1997 LOW 22.71
WTR YR 1998 LOW 22.71



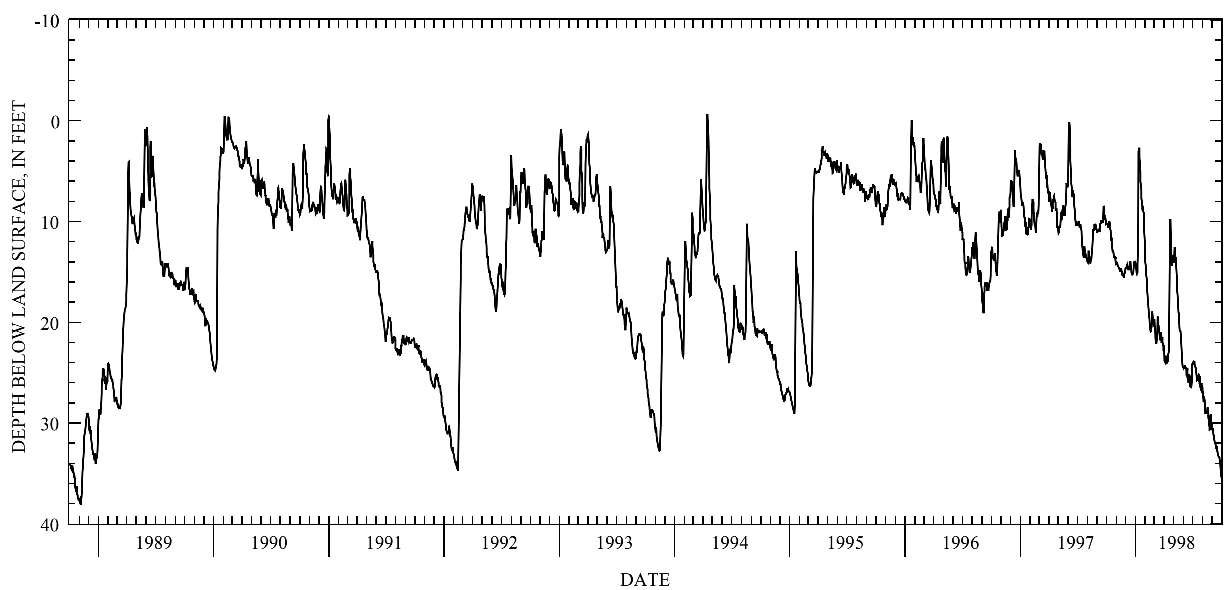
410846081271600. LOCAL NUMBER, SU-7

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 sea level, 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, 0.67 ft above land-surface datum, Apr. 15, 1994.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.19	14.14	14.64	14.13	13.97	19.76	22.43	13.86	24.45	24.01	26.47	30.54
2	10.22	14.19	14.65	14.29	14.43	19.74	23.56	14.06	24.54	23.98	27.46	30.67
3	10.27	14.13	14.61	14.62	14.65	20.60	23.83	13.86	24.54	24.16	26.80	30.69
4	10.31	14.17	14.49	15.05	15.25	20.40	23.99	13.10	24.43	24.16	27.83	30.54
5	10.39	14.24	14.24	15.19	15.68	21.55	23.99	12.52	24.46	23.94	27.90	31.11
6	10.53	14.45	14.19	15.07	16.35	21.87	23.78	13.69	24.26	23.94	27.33	31.31
7	10.53	14.51	14.43	15.02	16.76	22.07	23.32	13.79	24.41	23.94	27.54	31.43
8	10.39	14.51	14.64	14.20	17.13	22.07	23.58	13.48	24.45	24.37	27.78	31.64
9	10.16	14.63	14.76	12.25	17.66	21.80	23.79	14.00	24.49	24.38	28.93	31.81
10	9.99	14.67	14.76	5.60	18.08	21.47	23.98	14.43	24.52	24.44	29.07	31.96
11	10.13	14.73	14.70	3.04	18.43	20.74	23.98	14.96	24.96	24.54	28.95	32.05
12	10.34	14.84	14.79	2.79	18.82	19.42	23.87	15.54	25.24	24.79	28.94	32.13
13	10.82	14.93	14.47	2.66	19.32	20.00	23.61	16.92	25.30	25.14	28.78	32.27
14	10.89	14.93	14.34	3.64	19.52	20.32	23.91	17.18	24.53	25.44	28.75	32.50
15	11.60	14.92	14.08	4.38	19.99	20.37	23.15	17.83	25.53	25.73	28.91	32.54
16	11.91	14.69	13.96	5.14	20.53	20.83	22.90	18.48	25.59	25.71	28.88	32.27
17	11.60	14.70	14.43	6.01	20.75	20.99	21.87	19.01	25.68	25.70	28.46	32.77
18	12.56	15.00	14.62	6.46	20.91	21.27	16.99	19.12	25.94	25.72	29.04	32.85
19	12.60	15.12	15.05	6.86	20.90	21.49	13.60	19.81	25.98	25.52	28.75	33.05
20	12.94	15.32	15.14	7.69	20.61	21.72	11.58	20.50	25.19	25.19	29.58	33.20
21	12.91	15.38	15.24	8.10	20.43	21.80	9.83	20.90	25.23	25.21	29.17	33.26
22	13.04	15.17	15.33	8.55	19.76	21.81	9.82	20.93	25.42	25.20	30.18	33.39
23	13.10	15.18	15.11	8.71	18.93	20.98	10.90	20.79	26.32	26.14	30.37	33.39
24	13.39	15.43	15.10	8.62	19.26	21.61	12.50	21.09	26.32	25.33	30.64	33.42
25	13.56	15.57	15.00	8.65	19.66	22.05	13.80	21.83	26.33	26.35	30.59	33.65
26	13.56	15.37	14.57	9.05	19.81	21.53	14.42	22.52	26.53	26.50	29.62	33.82
27	13.47	15.18	14.18	9.13	20.09	21.45	14.26	23.06	26.46	26.55	30.24	34.33
28	13.62	15.11	14.03	9.85	20.43	22.03	13.44	23.56	25.77	26.77	29.15	34.70
29	13.62	14.97	14.07	11.08	---	22.19	13.48	24.02	25.19	26.00	30.09	34.95
30	13.86	14.73	14.03	12.07	---	22.43	13.41	24.38	24.10	27.03	30.09	35.40
31	14.18	---	14.14	12.85	---	22.54	---	24.44	---	26.23	30.23	---
MAX	14.18	15.57	15.33	15.19	20.91	22.54	23.99	24.44	26.53	27.03	30.64	35.40

CAL YR 1997 LOW 15.57
WTR YR 1998 LOW 35.40



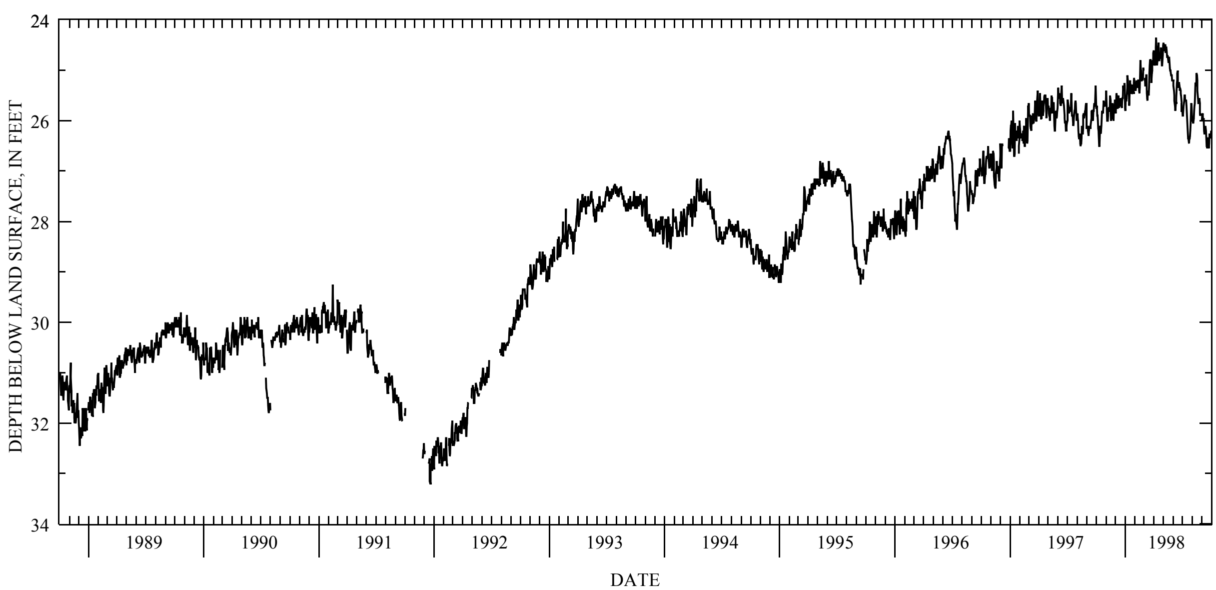
405215084335400. LOCAL NUMBER, VW-1

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 sea level.
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 33.20 ft below land-surface datum, Dec. 20-21, 1991; minimum daily low, 18.85 ft below land-surface datum, Mar. 6, 1959.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.75	25.40	25.80	25.80	25.30	---	24.60	24.50	25.20	25.80	26.00	26.00
2	25.75	25.40	25.85	25.60	25.40	---	24.85	24.45	25.20	25.90	26.00	25.90
3	25.70	25.75	25.70	25.60	25.40	---	24.80	24.50	25.30	25.90	26.00	25.85
4	25.90	26.00	25.45	25.60	25.35	25.15	24.90	24.50	25.40	25.80	26.05	25.90
5	25.90	26.00	25.50	25.55	25.20	25.30	24.90	24.60	25.50	25.70	26.00	26.00
6	26.00	26.00	25.55	25.45	25.25	25.30	24.85	24.60	25.60	25.65	25.95	25.95
7	26.15	25.90	25.75	25.35	25.30	25.30	24.80	24.50	25.70	25.60	25.80	26.00
8	26.20	25.80	25.75	25.10	25.30	25.10	24.55	24.50	25.80	25.50	25.70	26.20
9	26.35	25.75	25.60	25.20	25.30	25.10	24.35	24.65	25.80	25.50	25.65	26.25
10	26.50	25.75	25.50	25.45	25.35	25.45	24.70	24.55	25.65	25.60	25.40	26.25
11	26.50	25.80	25.70	25.45	25.20	25.55	24.80	24.55	25.65	25.60	25.25	26.15
12	26.30	25.80	25.75	25.45	25.20	25.60	24.90	24.60	25.55	25.60	25.30	26.10
13	26.10	25.80	25.65	25.65	25.25	25.45	24.75	24.70	25.25	25.60	25.30	26.15
14	26.20	25.50	25.70	25.70	25.40	25.40	24.55	24.75	25.20	25.70	25.20	26.20
15	26.25	25.60	25.70	25.30	25.45	25.45	24.60	24.70	25.05	25.85	25.05	26.35
16	26.20	25.85	25.60	25.20	25.35	25.50	24.45	24.75	25.00	26.00	25.10	26.50
17	26.10	26.00	25.55	25.25	25.10	25.35	24.70	24.80	25.25	26.15	25.20	26.50
18	25.95	25.95	25.60	25.30	24.80	25.05	24.80	24.85	25.35	26.25	25.40	26.55
19	25.80	25.80	25.60	25.35	24.95	24.90	24.80	24.75	25.30	26.35	25.55	26.40
20	25.85	25.75	25.70	25.45	25.00	24.80	24.75	24.75	25.25	26.35	25.65	26.35
21	25.80	25.65	25.75	25.45	25.20	24.80	24.75	24.85	25.25	26.40	25.65	26.35
22	25.85	25.65	25.60	25.40	25.20	24.90	24.70	24.95	25.35	26.45	25.65	26.50
23	25.75	25.70	25.55	25.30	25.10	25.05	24.65	25.00	25.40	26.35	25.60	26.55
24	25.60	26.00	25.55	25.30	25.10	25.20	24.55	25.00	25.35	26.35	25.55	26.45
25	25.70	26.00	25.30	25.40	25.20	25.25	24.65	25.05	25.40	26.30	25.65	26.25
26	25.70	25.75	25.35	25.45	25.15	25.05	24.65	25.10	25.45	26.20	25.85	26.30
27	25.65	25.80	25.35	25.45	24.95	25.00	24.90	25.10	25.50	26.05	25.90	26.25
28	25.70	25.80	25.40	25.30	25.00	24.80	24.90	25.10	25.65	25.80	25.85	26.35
29	25.70	25.60	25.25	25.15	---	24.90	24.80	25.20	25.80	25.65	25.85	26.30
30	25.70	25.60	25.30	25.25	---	24.75	24.70	25.20	25.80	25.70	---	26.20
31	25.60	---	25.75	25.30	---	24.65	---	---	---	25.90	26.00	---
MAX	26.50	26.00	25.85	25.80	25.45	25.60	24.90	25.20	25.80	26.45	26.05	26.55

CAL YR 1997 LOW 26.70
WTR YR 1998 LOW 26.55



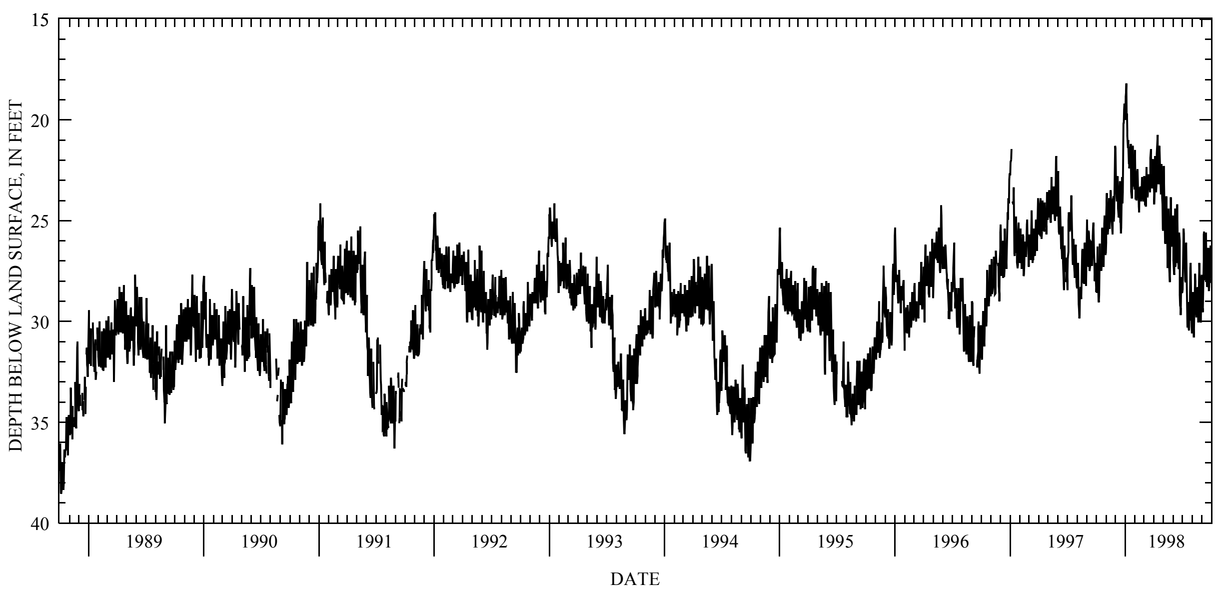
412821084313600. LOCAL NUMBER, WM-1

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 sea level, 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, 39.35 ft below land-surface datum, July 7, 1988; minimum daily low, 1.45 ft below land-surface datum, Jan. 27, 1952.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.55	26.10	21.40	20.00	21.50	23.30	23.20	25.50	24.75	28.55	29.60	29.10
2	28.25	24.80	22.80	18.85	23.70	22.80	23.70	23.85	25.60	28.40	29.00	29.50
3	28.60	23.65	23.40	18.65	23.95	23.00	24.20	22.30	26.95	27.95	28.55	29.35
4	27.60	25.10	23.70	18.20	23.60	23.85	23.05	22.80	27.60	27.10	30.40	29.55
5	26.30	25.60	24.00	19.85	23.70	24.25	22.10	23.90	27.70	25.40	30.30	28.30
6	28.20	25.70	24.00	19.70	24.00	23.75	21.80	25.10	26.40	25.65	30.80	27.00
7	28.30	25.45	22.95	20.55	23.45	24.30	22.70	26.05	25.70	27.35	30.20	25.70
8	28.90	25.15	22.80	20.80	22.55	23.55	23.30	26.15	24.40	26.90	29.05	25.55
9	29.05	24.20	24.40	21.40	22.45	22.35	23.60	25.65	27.30	27.30	28.60	27.05
10	28.70	23.90	24.60	21.00	23.20	23.05	23.00	24.40	26.70	27.95	27.65	26.90
11	27.20	25.10	24.85	21.20	23.70	23.25	21.70	23.80	27.10	28.05	28.00	27.95
12	26.15	25.40	24.80	22.20	23.70	23.85	21.40	25.05	26.70	26.55	29.00	27.10
13	26.90	25.20	24.40	22.15	24.30	23.75	20.75	26.10	25.85	26.10	29.45	26.10
14	27.50	24.90	23.45	22.40	24.60	23.05	22.20	26.05	24.50	27.65	29.80	25.60
15	---	24.85	23.05	22.20	23.60	22.80	23.00	27.35	24.20	29.00	28.45	27.00
16	---	23.50	25.05	21.50	23.35	22.70	22.85	26.00	26.10	29.80	28.35	27.40
17	27.50	24.15	25.05	21.40	23.55	23.30	23.20	24.75	26.50	30.30	28.35	28.30
18	27.00	24.75	25.65	21.20	23.30	23.30	22.70	24.40	27.05	29.50	29.00	28.15
19	25.45	24.75	25.35	23.05	23.55	23.35	21.30	26.25	27.40	29.05	29.50	27.25
20	25.35	25.20	24.45	23.55	24.00	23.60	21.60	27.35	26.30	29.10	30.00	27.05
21	26.70	25.70	23.25	23.90	24.00	22.95	22.25	27.70	25.60	30.35	30.05	26.35
22	27.10	25.00	22.85	23.85	23.45	21.90	22.90	28.05	26.00	30.45	28.05	27.70
23	27.20	23.95	24.15	22.85	22.85	21.45	23.35	27.40	28.70	29.80	27.25	28.50
24	27.30	23.80	23.60	22.20	22.90	22.65	23.70	26.45	29.20	29.95	27.10	28.30
25	26.50	25.00	21.55	21.30	23.20	23.35	23.45	23.85	29.35	29.10	28.30	27.80
26	25.15	25.00	20.20	22.80	23.95	23.00	22.20	24.80	29.70	27.35	29.15	27.00
27	24.75	24.65	20.15	23.30	23.65	23.40	22.85	26.05	28.55	27.10	29.85	26.70
28	26.05	22.65	19.50	23.30	24.05	22.85	23.90	26.30	27.80	29.00	30.05	26.25
29	26.45	21.90	19.20	23.20	---	21.95	24.20	25.80	28.00	29.65	29.50	27.90
30	26.70	21.30	19.65	23.45	---	22.50	25.40	25.95	28.60	30.25	28.05	28.10
31	26.60	---	19.75	22.50	---	22.90	---	25.25	---	30.60	27.70	---
MAX	29.05	26.10	25.65	23.90	24.60	24.30	25.40	28.05	29.70	30.60	30.80	29.55

CAL YR 1997 LOW 29.85
WTR YR 1998 LOW 30.80



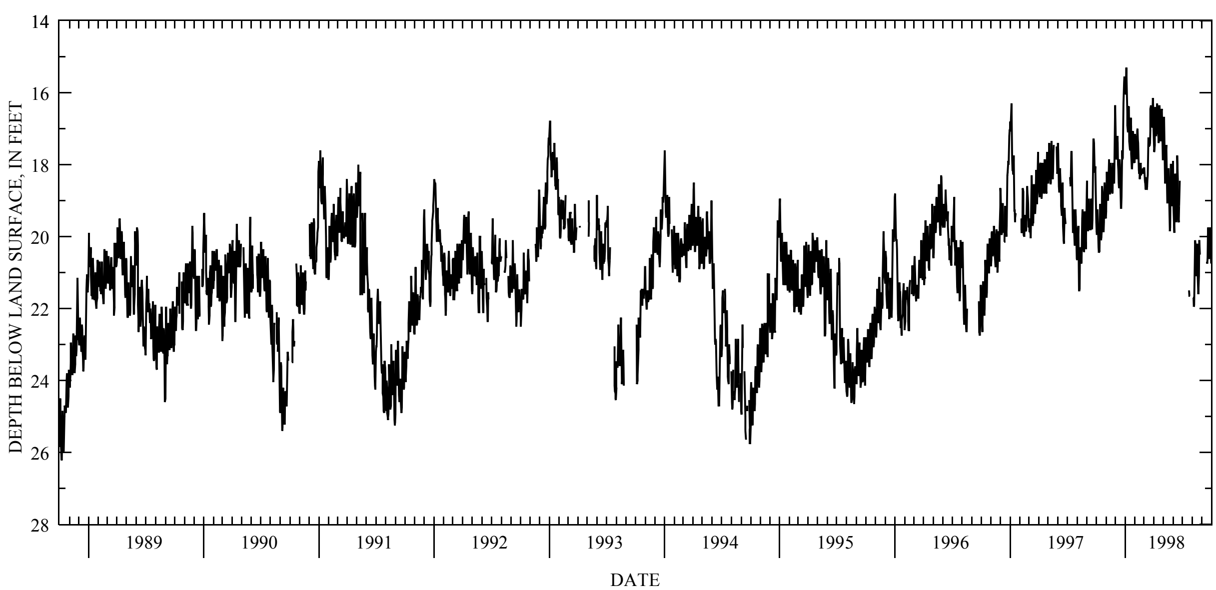
412930084320900. LOCAL NUMBER, WM-3

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 sea level, 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, 27.35 ft below land-surface datum, June 30 - July 1, 1988; minimum daily low, 15.15 ft below land-surface datum, Jan. 4, 1987.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19.60	19.30	16.80	16.00	17.15	18.10	17.20	17.85	17.90	---	---	---
2	19.85	19.20	17.45	15.70	17.30	18.10	17.60	17.65	18.45	---	---	---
3	19.95	18.20	17.80	15.60	17.85	18.25	17.65	16.70	19.10	---	---	---
4	19.80	18.60	17.85	15.30	17.75	18.45	17.45	16.70	19.55	---	21.70	---
5	19.25	18.85	17.80	15.70	17.80	18.50	16.75	17.40	19.90	---	21.70	---
6	19.50	19.00	17.75	16.20	17.85	18.65	16.40	18.10	19.80	---	21.95	---
7	19.85	18.95	17.20	16.55	17.70	18.70	16.90	18.50	19.00	---	21.90	---
8	20.30	18.85	17.40	16.90	17.05	18.45	17.20	18.50	18.25	---	21.50	---
9	20.45	18.15	18.00	17.10	17.00	18.35	17.15	18.40	19.10	---	20.80	---
10	20.40	17.85	18.15	17.05	17.30	18.70	17.10	17.60	19.30	---	20.10	---
11	20.40	18.50	18.50	16.40	17.40	18.60	16.60	17.45	19.60	---	20.20	---
12	19.65	18.80	18.65	16.40	17.70	18.40	16.30	18.10	19.60	---	20.65	---
13	19.10	18.80	18.50	17.10	18.15	18.30	16.45	18.45	19.35	---	21.00	---
14	19.60	18.80	17.85	17.35	18.25	17.85	16.75	19.05	18.80	---	21.10	---
15	19.85	18.65	18.00	17.55	18.10	17.25	17.10	19.05	17.75	---	20.95	---
16	20.10	17.95	18.60	17.60	18.40	17.40	17.30	19.00	18.40	---	20.55	---
17	20.00	18.20	18.95	17.45	18.25	17.50	17.40	18.30	18.90	---	20.20	20.70
18	19.85	18.40	19.20	16.70	18.00	17.45	17.25	18.10	19.40	---	20.85	20.75
19	18.60	18.50	19.20	16.95	17.95	17.45	16.35	18.85	19.60	---	21.30	20.60
20	18.75	18.75	18.90	17.70	18.30	17.40	16.40	19.20	19.55	---	21.60	19.95
21	19.35	18.80	18.10	18.10	18.25	17.05	16.90	19.60	19.15	---	21.60	19.75
22	19.60	18.65	17.60	18.10	18.15	16.45	17.25	19.85	18.45	21.50	21.10	20.30
23	19.85	17.95	17.85	18.05	18.25	16.35	17.35	19.75	---	21.65	20.30	20.50
24	19.85	18.05	17.80	17.80	18.15	16.80	17.30	19.05	---	21.65	20.10	20.60
25	19.60	18.10	17.15	17.10	18.20	16.90	17.20	18.00	---	---	20.50	20.60
26	18.80	18.50	16.30	17.10	18.10	16.95	16.50	18.00	---	---	---	20.35
27	18.50	18.50	16.00	17.55	18.25	16.95	16.45	18.35	---	---	---	19.75
28	18.90	17.45	15.70	17.95	18.20	16.80	16.90	18.75	---	---	---	19.80
29	19.30	16.85	15.55	17.85	---	16.15	17.20	19.10	---	---	---	20.30
30	19.45	16.35	15.80	17.95	---	16.40	17.85	19.15	---	---	---	20.75
31	19.50	---	16.05	17.90	---	16.75	---	18.60	---	---	---	---
MAX	20.45	19.30	19.20	18.10	18.40	18.70	17.85	19.85	19.90	21.65	21.95	20.75

CAL YR 1997 LOW 21.50
WTR YR 1998 LOW 21.95



413108084415300. LOCAL NUMBER, WM-12

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 85 ft, screened 85 ft to 115 ft.
INSTRUMENTATION.--Periodic measurement with chalked tape by ODNR personnel.
DATUM.--Elevation of land-surface datum is 830 ft above sea level, 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.
PERIOD OF RECORD.--1974 to September 1982 continuous, periodic October 1983 to December 1984, continuous January 1985 to November 1986, periodic thereafter.
EXTREMES FOR PERIOD OF RECORD.--Maximum measured low, 10.66 ft below land-surface datum, Oct. 24, 1994; minimum daily low, 3.83 ft below land-surface datum, Mar. 17, 1982.

WATER LEVEL, IN FEET BELOW LAND-SURFACE DATUM
INSTANTANEOUS OBSERVATIONS

DATE	WATER LEVEL
Nov. 11, 1997	8.93
Apr. 30, 1998	7.37

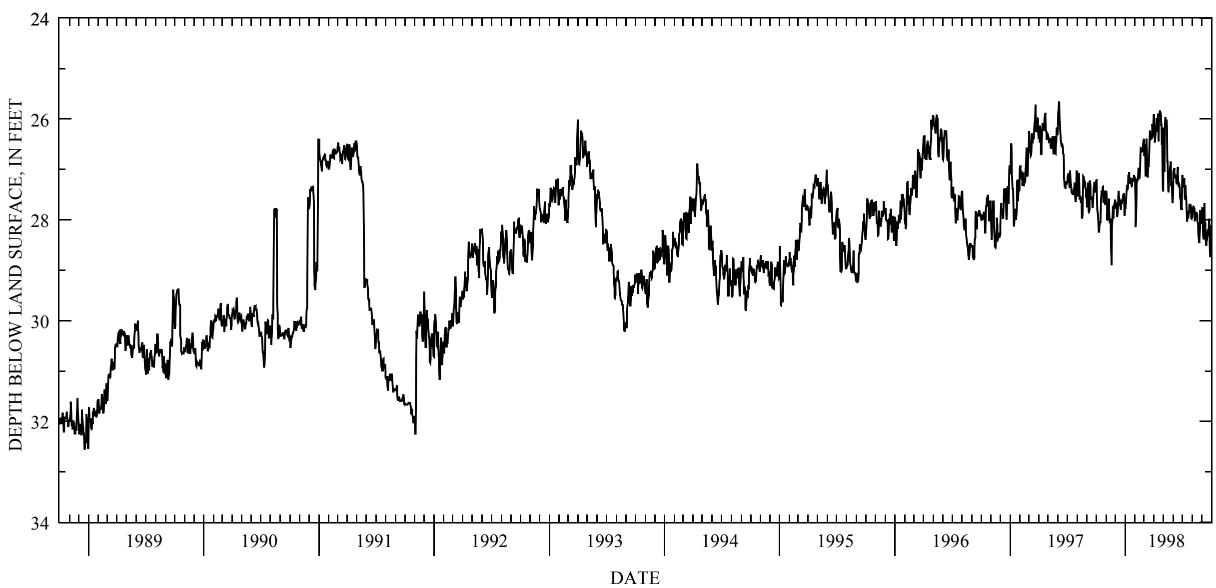
405009083172600. LOCAL NUMBER, WY-1

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 sea level, 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, 25.65 ft below land-surface datum, June 5, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.23	27.49	27.67	27.78	27.19	26.39	25.90	27.44	27.50	27.11	27.94	27.95
2	27.19	27.42	27.78	27.70	27.70	26.73	26.11	26.81	27.13	27.24	27.87	27.76
3	27.55	27.56	27.75	27.65	28.14	26.65	26.24	26.17	27.06	27.31	27.77	27.77
4	27.79	27.87	27.66	27.50	28.03	26.50	26.40	26.93	26.99	27.33	27.75	28.04
5	27.84	28.00	27.71	27.43	27.51	26.62	26.47	27.05	26.99	27.32	27.76	28.30
6	27.87	28.00	27.94	27.33	27.32	27.14	26.37	26.36	27.06	27.25	27.73	28.37
7	28.02	27.94	27.90	27.31	27.21	27.06	26.25	26.07	27.13	27.17	27.79	28.39
8	28.15	27.94	27.85	27.41	27.18	26.65	26.15	25.96	27.17	27.37	27.79	28.05
9	28.25	27.67	27.72	27.37	27.23	26.39	26.15	26.07	27.18	27.60	28.02	27.67
10	28.22	27.58	27.51	27.18	27.18	26.63	25.98	26.14	27.12	27.55	28.02	28.02
11	28.10	27.81	27.43	27.12	27.10	26.92	26.18	26.14	27.12	27.31	27.94	28.05
12	28.09	28.03	27.56	27.11	26.97	27.10	26.25	26.01	27.25	27.50	27.84	28.07
13	28.03	28.04	27.57	27.05	27.09	27.16	26.22	26.17	27.29	27.55	27.87	28.38
14	28.06	28.03	27.66	27.28	27.19	26.98	26.07	26.84	27.23	27.71	27.86	28.46
15	27.84	28.00	27.72	27.16	27.17	26.88	25.89	26.84	27.17	27.88	27.89	28.51
16	27.57	27.97	27.61	27.18	27.13	26.94	26.44	27.15	26.95	28.04	27.88	28.39
17	27.51	28.52	27.76	27.22	26.98	26.77	26.36	27.41	27.06	27.83	27.90	28.41
18	27.42	28.90	27.80	27.17	26.70	26.60	26.06	27.45	27.27	27.92	28.04	28.29
19	27.53	28.61	27.68	27.27	26.58	26.35	25.97	27.31	27.35	27.97	28.06	28.23
20	27.49	28.13	27.60	27.27	26.59	26.23	25.88	27.12	27.28	27.93	28.26	28.19
21	27.35	27.96	27.68	27.33	26.56	26.31	25.83	27.12	27.28	27.85	28.28	28.31
22	27.34	27.93	27.65	27.32	26.61	26.29	25.87	27.00	27.35	27.88	28.41	28.31
23	27.62	27.73	27.58	27.19	26.66	26.31	25.88	26.94	27.37	27.71	28.45	28.09
24	27.66	27.92	27.60	27.19	26.62	26.33	25.91	26.94	27.56	27.68	28.46	27.98
25	27.58	27.97	27.51	27.18	26.65	26.39	26.13	26.84	27.60	27.73	28.19	28.19
26	27.58	27.70	27.51	27.22	26.52	26.38	26.09	27.33	27.60	27.72	27.83	28.58
27	27.42	27.72	27.52	27.19	26.44	26.24	26.51	27.30	27.79	27.69	27.83	28.72
28	27.64	27.68	27.47	27.16	26.43	26.10	26.40	27.23	27.79	27.75	27.85	28.72
29	27.70	27.65	27.90	27.11	---	26.34	26.86	27.46	27.80	27.97	28.05	28.21
30	27.69	27.60	27.90	27.18	---	26.35	27.34	27.65	27.52	27.98	28.07	28.10
31	27.58	---	27.73	27.14	---	26.13	---	27.65	---	27.94	28.07	---
MAX	28.25	28.90	27.94	27.78	28.14	27.16	27.34	27.65	27.80	28.04	28.46	28.72

CAL YR 1997 LOW 28.90
WTR YR 1998 LOW 28.90



Surface-Water Quality of Selected Streams

The following table lists chemical and physical data collected at ten stations in Ohio. The project is part of a regional study investigating whether changes in herbicide use has affected herbicide and nutrient concentrations in Midwestern streams. Samples were collected and analyzed during June and July 1998.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

03157000 - CLEAR C NR ROCKBRIDGE OH

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
JUN										
10...	1400	37	395	8.3	18.6	.019	1.35	.038	.026	.0321
30...	1130	85	420	7.8	21.1	.036	5.30	<.020	.040	.210

DATE	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
JUN									
10...	.017	.290	E.0329	.0247	.291	<.004	<.0180	<.0070	.0723
30...	.017	1.60	E.284	.149	1.34	.099	.0217	<.0070	.455

03219500 - SCIOTO R NR PROSPECT OH

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
JUN										
02...	1230	163	797	7.7	21.6	.192	4.82	.682	.374	.896
29...	1100	1040	392	7.2	23.0	.107	7.87	.197	.166	.172

DATE	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
JUN									
02...	.025	4.94	E.286	1.31	3.71	.223	.0516	<.0070	2.07
29...	.029	4.01	E.644	.390	5.75	.105	.0368	<.0070	.784

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998—Continued

03223000 - OLENTANGY R AT CLARIDON OH

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
JUN										
09...	0830	11	730	7.7	15.9	.026	1.23	.062	.046	.0437
29...	1230	3600	187	7.4	21.0	.070	3.76	.101	.068	.401

DATE	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
JUN									
09...	.009	.897	E.0773	.0363	.831	<.004	E.0098	<.0070	.0390
29...	.054	4.32	E.570	.402	5.45	.065	E.0172	<.0070	.391

03225500 - OLENTANGY R NR DELAWARE OH

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
JUN										
09...	1100	34	442	7.4	19.8	.120	2.30	.307	<.010	.257
JUL										
01...	1100	3310	266	7.1	23.8	.102	4.89	.219	.055	.478

DATE	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
JUN									
09...	.009	2.11	E.113	.0678	1.65	.048	.0232	<.0070	.352
JUL									
01...	.046	5.16	E.712	.624	4.36	.087	.0286	<.0070	1.03

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998—Continued

03230500 - BIG DARBY C AT DARBYVILLE OH

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
JUN										
03...	1200	188	750	8.2	20.4	.067	8.44	.124	.130	.688
29...	1100	12600	106	7.4	21.8	.027	1.37	.106	.091	.178

DATE	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
JUN									
03...	.122	9.18	E.415	1.93	3.04	.078	E.0091	<.0070	.979
29...	.022	2.55	E.260	.224	2.89	.018	.0224	<.0070	.846

03234500 - SCIOTO R AT HIGBY OH

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
JUN										
04...	1030	2560	574	8.3	20.8	.038	3.19	.037	.060	1.08
JUL										
08...	1130	4590	490	8.0	24.0	.029	4.14	.065	.076	.290

DATE	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
JUN									
04...	.069	6.97	E.269	1.79	2.30	.107	.0375	<.0070	.499
JUL									
08...	.024	3.80	E.450	.623	2.31	.043	.0215	<.0070	.442

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998—Continued

03240000 - L MIAMI R NR OLDTOWN OH

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
JUN										
10...	1030	104	685	8.0	15.5	.016	4.36	.028	.018	.0539
30...	1045	166	679	8.3	20.8	.016	4.77	<.020	.037	.0278

DATE	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
JUN									
10...	.015	.445	E.0673	.0536	.177	.007	E.0048	<.0070	.330
30...	.007	.510	E.0796	.0620	.301	.010	E.0078	<.0070	.147

03267900 - MAD R AT ST PARIS PIKE AT EAGLE CITY OH

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
JUN										
10...	1100	228	727	8.1	14.4	.038	4.15	.063	.023	<.0020
30...	1000	454	664	8.0	17.9	.022	4.10	<.020	.018	.0289

DATE	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
JUN									
10...	<.002	.048	E.0089	<.0040	.030	<.004	<.0180	<.0070	<.0050
30...	.008	.536	E.108	.0298	.875	.020	E.0062	<.0070	.0632

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998—Continued

04185000 - TIFFIN R AT STRYKER OH

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
JUN										
01...	1300	161	623	8.0	21.0	.069	1.89	.135	.048	.262
JUL										
07...	1130	76	631	7.9	22.5	.024	1.12	.064	.067	.0365

DATE	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
JUN									
01...	.150	1.63	E.107	.407	.481	.101	E.0100	<.0070	.197
JUL									
07...	.010	.581	E.0820	.167	.127	.012	E.0178	<.0070	.0544

04186500 - AUGLAIZE R NR FORT JENNINGS OH

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)
JUN										
17...	0930	364	597	7.9	20.0	.093	10.4	.053	.120	1.45
JUL										
08...	1200	684	534	7.8	23.0	.021	6.00	.063	.129	.297

DATE	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROP-CHLOR, WATER, DISS, REC (UG/L) (04024)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)
JUN									
17...	.188	9.96	E.870	1.87	6.58	.413	.0392	<.0070	.682
JUL									
08...	.030	2.21	E.395	.385	2.26	.096	.0334	<.0070	.144

The Ohio and Erie Canal runs from the Little Cuyahoga River through the City of Akron, through Summit Lake, past Nesmith Lake to Wolf Creek, a tributary to the Tuscarawas River. Water is diverted from Long Lake, one of the Portage Lakes, into the canal system at the Long Lake Feeder Water Control structure near Lake Nesmith. The water can either flow North into the Little Cuyahoga River or South to the Tuscarawas River. The following three discharge gaging stations are on the Ohio and Erie Canal system near the Akron area. The Long Lake Feeder Gage measures water flow into the canal while the Ohio and Erie Canal at Lock 1 gage and the Wolf Creek Outlet gage measure water flow to the North and South, respectively. The tables contain the mean daily discharge at each gaging station.

410121081330300 LONG LAKE FEEDER TO OHIO & ERIE CANAL AT AKRON, OHIO

LOCATION. -- Lat 41°01'21", Long 81°33'03", Summit County, Hydrologic Unit 05040001, in canal feeder gate house control structure at north end of Long Lake Channel on West side of State Route 93 (Manchester Road), 0.1 mi south of Lake Nesmith, at Akron, Ohio.
DRAINAGE AREA. -- Not determined.
PERIOD OF RECORD.-- June 12, 1998 to September 30, 1998.
GAGE.-- Acoustic Doppler Flow meter records water-depth, discharge, and velocity.
REMARKS.-- Records are fair. Flow is completely regulated by operation of gates at flow control structure upstream of gage.
EXTREMES FOR PERIOD JUNE 12 to SEPTEMBER 30, 1998. -- Maximum instantaneous discharge, 31 ft^3/s on September 8; Minimum Daily discharge, 12 ft^3/s on August 9.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	e22	e16	e20
2	---	---	---	---	---	---	---	---	---	e22	e15	e28
3	---	---	---	---	---	---	---	---	---	e22	e15	e28
4	---	---	---	---	---	---	---	---	---	23	14	28
5	---	---	---	---	---	---	---	---	---	e22	e14	e28
6	---	---	---	---	---	---	---	---	---	e22	e14	e28
7	---	---	---	---	---	---	---	---	---	e22	13	e28
8	---	---	---	---	---	---	---	---	---	e21	e13	24
9	---	---	---	---	---	---	---	---	---	e21	12	23
10	---	---	---	---	---	---	---	---	---	e21	12	22
11	---	---	---	---	---	---	---	---	---	e20	13	23
12	---	---	---	---	---	---	---	---	24	20	13	22
13	---	---	---	---	---	---	---	---	24	20	13	e22
14	---	---	---	---	---	---	---	---	24	e20	13	e22
15	---	---	---	---	---	---	---	---	24	e20	18	e22
16	---	---	---	---	---	---	---	---	23	e20	26	e21
17	---	---	---	---	---	---	---	---	23	e20	25	21
18	---	---	---	---	---	---	---	---	23	e20	25	e21
19	---	---	---	---	---	---	---	---	e22	e20	e25	e21
20	---	---	---	---	---	---	---	---	23	e21	25	e21
21	---	---	---	---	---	---	---	---	24	e21	e24	21
22	---	---	---	---	---	---	---	---	23	e21	e24	e21
23	---	---	---	---	---	---	---	---	e22	e21	23	21
24	---	---	---	---	---	---	---	---	e22	21	e23	22
25	---	---	---	---	---	---	---	---	e22	e21	e22	23
26	---	---	---	---	---	---	---	---	e22	21	e22	23
27	---	---	---	---	---	---	---	---	e22	18	e21	e22
28	---	---	---	---	---	---	---	---	e22	e16	e21	e21
29	---	---	---	---	---	---	---	---	e22	e16	e20	e20
30	---	---	---	---	---	---	---	---	e22	e16	e20	e19
31	---	---	---	---	---	---	---	---	---	e16	e20	---
TOTAL	---	---	---	---	---	---	---	---	---	627	574	686
MEAN	---	---	---	---	---	---	---	---	---	20.2	18.5	22.9
MAX	---	---	---	---	---	---	---	---	---	23	26	28
MIN	---	---	---	---	---	---	---	---	---	16	12	19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	---	---	---	---	---	---	---	---	---	20.2	18.5	22.9
MAX	---	---	---	---	---	---	---	---	---	20.2	18.5	22.9
(WY)	---	---	---	---	---	---	---	---	---	1998	1998	1998
MIN	---	---	---	---	---	---	---	---	---	20.2	18.5	22.9
(WY)	---	---	---	---	---	---	---	---	---	1998	1998	1998

e Estimated

410433081312500 OHIO & ERIE CANAL AT LOCK1 AT AKRON, OHIO

LOCATION. -- Lat 41°04’33”, Long 81°31’25”, Summit County, Hydrologic Unit 05040001, at lower pool level of Lock 1, at south end of culvert under West Exchange Street, 1.6 mi. northeast of Summit Lake, at Akron, Ohio.
DRAINAGE AREA.-- Not determined.
PERIOD OF RECORD.-- June 1, 1998 to September 30, 1998.
GAGE.-- Water-stage recorder. Datum of gage is 953.76 ft above mean sea level.
REMARKS.-- Record is good except for periods of estimated record, which are fair. Flow is completely regulated by operation of gate in Lock 1.
EXTREMES FOR PERIOD JUNE 1 to SEPTEMBER 30, 1998. -- Maximum instantaneous stage, 3.44 ft. on August 25; maximum instantaneous discharge, 477 ft^3/s on August 25; Minimum Daily discharge, 3.0 ft^3/s on August 8.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	6.9	28	3.1	11
2	---	---	---	---	---	---	---	---	18	11	4.4	13
3	---	---	---	---	---	---	---	---	14	12	14	14
4	---	---	---	---	---	---	---	---	5.5	12	16	18
5	---	---	---	---	---	---	---	---	6.3	13	12	22
6	---	---	---	---	---	---	---	---	8.4	16	16	22
7	---	---	---	---	---	---	---	---	7.9	15	7.2	37
8	---	---	---	---	---	---	---	---	7.8	16	3.0	46
9	---	---	---	---	---	---	---	---	7.7	14	4.0	23
10	---	---	---	---	---	---	---	---	7.6	14	15	15
11	---	---	---	---	---	---	---	---	7.3	15	28	15
12	---	---	---	---	---	---	---	---	25	15	19	13
13	---	---	---	---	---	---	---	---	41	15	13	14
14	---	---	---	---	---	---	---	---	10	14	5.4	14
15	---	---	---	---	---	---	---	---	11	16	7.1	14
16	---	---	---	---	---	---	---	---	14	31	20	14
17	---	---	---	---	---	---	---	---	20	17	23	14
18	---	---	---	---	---	---	---	---	13	17	23	14
19	---	---	---	---	---	---	---	---	11	17	16	14
20	---	---	---	---	---	---	---	---	11	17	13	14
21	---	---	---	---	---	---	---	---	11	24	15	25
22	---	---	---	---	---	---	---	---	10	47	16	14
23	---	---	---	---	---	---	---	---	10	40	16	6.3
24	---	---	---	---	---	---	---	---	11	16	89	18
25	---	---	---	---	---	---	---	---	11	13	215	14
26	---	---	---	---	---	---	---	---	11	e14	31	9.8
27	---	---	---	---	---	---	---	---	23	e23	10	10
28	---	---	---	---	---	---	---	---	38	e18	11	12
29	---	---	---	---	---	---	---	---	41	14	11	9.8
30	---	---	---	---	---	---	---	---	43	14	11	5.1
31	---	---	---	---	---	---	---	---	---	9.8	10	---
TOTAL	---	---	---	---	---	---	---	---	462.4	557.8	697.2	485.0
MEAN	---	---	---	---	---	---	---	---	15.4	18.0	22.5	16.2
MAX	---	---	---	---	---	---	---	---	43	47	215	46
MIN	---	---	---	---	---	---	---	---	5.5	9.8	3.0	5.1

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	---	---	---	---	---	---	---	---	15.4	18.0	22.5	16.2
MAX	---	---	---	---	---	---	---	---	15.4	18.0	22.5	16.2
(WY)	---	---	---	---	---	---	---	---	1998	1998	1998	1998
MIN	---	---	---	---	---	---	---	---	15.4	18.0	22.5	16.2
(WY)	---	---	---	---	---	---	---	---	1998	1998	1998	1998

e Estimated

410014081362600 WOLF CREEK OUTLET OF OHIO & ERIE CANAL AT BARBERTON, OHIO

LOCATION. -- Lat 41°00'14", Long 81°36'26", Summit County, Hydrologic Unit 05040001, at Wolf Road culvert for the Ohio and Erie Canal outlet, 0.1 mi. above confluence with Wolf Creek, 0.2 mi. from confluence of Wolf C and Tuscarawas River, 0.6 mi. east of Columbia Lake, at Barberton, Ohio.
DRAINAGE AREA.-- Not determined.
PERIOD OF RECORD.-- June 1, 1998 to September 30, 1998.
GAGE.-- Water-stage recorder. Datum of gage is 952.00 ft. above mean sea level.
REMARKS.-- Record is fair. Flow is completely regulated by operation of gate at outlet structure.
EXTREMES FOR PERIOD JUNE 1 to SEPTEMBER 30, 1998. -- Maximum instantaneous stage, 4.79 ft. on June 30; maximum instantaneous discharge, 17 ft^3/s on June 30; Minimum Daily discharge, 2.9 ft^3/s on September 11.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	3.7	11	3.9	8.0
2	---	---	---	---	---	---	---	---	4.0	5.7	4.4	7.1
3	---	---	---	---	---	---	---	---	4.0	3.5	4.5	6.2
4	---	---	---	---	---	---	---	---	4.1	3.6	4.0	6.1
5	---	---	---	---	---	---	---	---	4.2	3.9	3.9	5.8
6	---	---	---	---	---	---	---	---	4.3	4.0	3.8	5.1
7	---	---	---	---	---	---	---	---	3.9	3.8	3.6	6.5
8	---	---	---	---	---	---	---	---	3.8	4.3	4.1	6.0
9	---	---	---	---	---	---	---	---	3.8	4.1	4.6	3.4
10	---	---	---	---	---	---	---	---	3.9	4.1	5.9	3.2
11	---	---	---	---	---	---	---	---	3.8	4.1	5.8	2.9
12	---	---	---	---	---	---	---	---	5.7	4.0	4.1	3.4
13	---	---	---	---	---	---	---	---	6.2	3.9	3.5	3.6
14	---	---	---	---	---	---	---	---	4.8	4.0	3.4	4.7
15	---	---	---	---	---	---	---	---	5.0	4.2	4.0	6.2
16	---	---	---	---	---	---	---	---	5.7	4.8	4.8	6.3
17	---	---	---	---	---	---	---	---	5.8	4.1	4.9	6.8
18	---	---	---	---	---	---	---	---	4.7	4.1	5.0	6.9
19	---	---	---	---	---	---	---	---	4.4	3.9	4.6	6.8
20	---	---	---	---	---	---	---	---	4.5	4.8	4.7	7.7
21	---	---	---	---	---	---	---	---	4.4	5.2	5.4	8.9
22	---	---	---	---	---	---	---	---	4.3	5.7	6.1	8.0
23	---	---	---	---	---	---	---	---	4.4	6.7	6.2	7.7
24	---	---	---	---	---	---	---	---	4.6	4.4	9.2	8.1
25	---	---	---	---	---	---	---	---	5.0	4.4	12	7.3
26	---	---	---	---	---	---	---	---	5.3	5.1	5.6	7.2
27	---	---	---	---	---	---	---	---	6.5	5.0	4.0	7.3
28	---	---	---	---	---	---	---	---	6.2	3.9	3.9	8.0
29	---	---	---	---	---	---	---	---	6.8	3.6	4.1	7.5
30	---	---	---	---	---	---	---	---	9.6	3.8	4.1	8.1
31	---	---	---	---	---	---	---	---	---	3.5	4.2	---
TOTAL	---	---	---	---	---	---	---	---	147.4	141.2	152.3	190.8
MEAN	---	---	---	---	---	---	---	---	4.91	4.55	4.91	6.36
MAX	---	---	---	---	---	---	---	---	9.6	11	12	8.9
MIN	---	---	---	---	---	---	---	---	3.7	3.5	3.4	2.9

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 1998, BY WATER YEAR (WY)

	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	---	---	---	---	---	---	---	---	4.91	4.55	4.91	6.36
MAX	---	---	---	---	---	---	---	---	4.91	4.55	4.91	6.36
(WY)	---	---	---	---	---	---	---	---	1998	1998	1998	1998
MIN	---	---	---	---	---	---	---	---	4.91	4.55	4.91	6.36
(WY)	---	---	---	---	---	---	---	---	1998	1998	1998	1998

Effects of Highway Deicing Chemicals on Shallow Unconsolidated Aquifers in Ohio

The following tables list the results of chemical analysis of ground-water samples collected from seven sites throughout Ohio, established to monitor the ground-water quality in areas near state highways where road deicing is practiced. Some wells, with station ID's ending in "01" through "06", represent the multiports within the same well ending in "00". Level "01" is the deepest port and level "06" is the shallowest port. These ports were sampled using dialysis tubing filled with distilled water, set at each level and allowed to come to equilibrium for approxiamtely 6 weeks. Wells at the sites in Clark and Champaign Counties were not sampled on a regular basis this water year due to lack of salt application in those areas. Sampling will resume at those sites as soon as salt enters the aquifer system. Ground-water level measurements are listed in the fourth table.

This study began in 1988 and will continue through 2001. Water-quality sampling began in 1991 and will continue until 1999. These data are presented to the Ohio Department of Transportation for their use in reviewing deicing practices and to accumulate baseline data. Dashes (--) indicate sample was not analyzed for that constituent.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 THROUGH SEPTEMBER 1998

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
393541083000801 PK-50 NR CIRCLEVILLE OH-LEVEL 1 (LAT 39 35 41N LONG 083 00 08W)					
OCT 1997					
08...	738	99	8.9	18	.034
NOV					
26...	744	97	6.4	17	.054
JAN 1998					
15...	725	100	4.9	16	.035
MAR					
04...	729	93	4.2	15	.032
APR					
28...	650	95	8.9	17	.032
JUN					
02...	661	83	16	16	.053
JUL					
09...	645	86	18	27	.018
AUG					
27...	702	92	20	23	.045
393541083000802 PK-50 NR CIRCLEVILLE OH-LEVEL 2 (LAT 39 35 41N LONG 083 00 08W)					
OCT 1997					
08...	749	92	14	20	.047
NOV					
26...	669	85	9.8	16	.038
JAN 1998					
15...	686	93	5.9	16	.044
MAR					
04...	683	84	4.6	15	.040
APR					
28...	690	100	6.3	12	.027
JUN					
02...	638	82	13	10	.042
JUL					
09...	710	96	19	33	.030
AUG					
27...	737	90	21	25	.037
393541083000803 PK-50 NR CIRCLEVILLE OH-LEVEL 3 (LAT 39 35 41N LONG 083 00 08W)					
OCT 1997					
08...	687	84	13	19	.041
NOV					
26...	634	81	7.2	16	.049
JAN 1998					
15...	643	88	6.0	15	.037
MAR					
04...	695	88	8.3	15	.045
APR					
28...	632	89	15	7.8	.023
JUN					
02...	626	76	16	13	.040
JUL					
09...	761	99	29	38	.025
AUG					
27...	705	84	23	35	.034

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 THROUGH SEPTEMBER 1998—Continued

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
393541083000804 PK-50 NR CIRCLEVILLE OH-LEVEL 4 (LAT 39 35 41N LONG 083 00 08W)					
OCT 1997					
08...	677	84	13	19	.038
NOV					
26...	636	79	7.4	16	.048
JAN 1998					
15...	625	87	5.4	17	.032
MAR					
04...	669	83	5.8	16	.045
APR					
28...	661	94	13	8.1	.017
JUN					
02...	659	78	14	13	.050
JUL					
09...	797	99	28	40	.037
AUG					
27...	738	88	23	36	.035
393541083000805 PK-50 NR CIRCLEVILLE OH-LEVEL 5 (LAT 39 35 41N LONG 083 00 08W)					
OCT 1997					
08...	681	85	17	20	.042
NOV					
26...	654	82	9.1	17	.048
JAN 1998					
15...	636	88	5.9	17	.034
MAR					
04...	599	83	5.1	16	.032
APR					
28...	674	96	11	9.0	.016
JUN					
02...	643	81	15	11	.047
JUL					
09...	782	99	26	38	.029
AUG					
27...	736	87	22	32	.036
393541083000806 PK-50 NR CIRCLEVILLE OH-LEVEL 6 (LAT 39 35 41N LONG 083 00 08W)					
APR 1998					
28...	778	110	26	15	.032
JUN					
02...	678	83	20	17	.049
JUL					
09...	614	99	26	27	--
AUG					
27...	707	87	20	37	.032
393541083000901 PK-49 NR CIRCLEVILLE OH-LEVEL 1 (LAT 39 35 41N LONG 083 00 09W)					
OCT 1997					
08...	562	89	4.1	18	--
NOV					
26...	620	80	4.7	19	--
JAN 1998					
15...	609	84	2.6	17	--
MAR					
04...	615	80	3.0	17	--
APR					
28...	586	89	4.9	17	--
JUN					
02...	624	85	5.9	18	--
JUL					
09...	679	86	23	41	--
AUG					
27...	657	88	16	37	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
393541083000902 PK-49 NR CIRCLEVILLE OH-LEVEL 2 (LAT 39 35 41N LONG 083 00 09W)					
OCT 1997					
08...	551	85	4.6	18	--
NOV					
26...	608	81	4.9	23	--
JAN 1998					
15...	613	86	2.6	17	--
MAR					
04...	612	--	--	17	--
APR					
28...	597	--	--	16	--
JUN					
02...	545	93	6.1	19	--
JUL					
09...	613	85	23	42	--
AUG					
27...	660	--	--	36	--
393541083000903 PK-49 NR CIRCLEVILLE OH-LEVEL 3 (LAT 39 35 41N LONG 083 00 09W)					
OCT 1997					
08...	601	84	4.6	18	--
NOV					
26...	611	--	--	22	--
JAN 1998					
15...	600	84	2.7	17	--
MAR					
04...	618	80	3.0	17	--
APR					
28...	627	85	6.4	16	--
JUN					
02...	627	--	--	19	--
JUL					
09...	652	86	25	41	--
AUG					
27...	659	83	17	40	--
393541083000904 PK-49 NR CIRCLEVILLE OH-LEVEL 4 (LAT 39 35 41N LONG 083 00 09W)					
OCT 1997					
08...	542	81	3.5	18	--
NOV					
26...	573	77	5.3	20	--
JAN 1998					
15...	599	79	2.4	17	--
MAR					
04...	609	79	3.1	17	--
APR					
28...	604	83	5.3	17	--
JUN					
02...	604	86	8.2	21	--
JUL					
09...	682	89	31	53	--
AUG					
27...	676	86	15	38	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
393541083000905 PK-49 NR CIRCLEVILLE OH-LEVEL 5 (LAT 39 35 41N LONG 083 00 09W)					
OCT 1997					
08...	544	83	7.0	20	--
NOV					
26...	596	75	9.8	23	--
JAN 1998					
15...	599	--	--	24	--
MAR					
04...	600	77	3.9	17	--
APR					
28...	524	--	--	18	--
JUN					
02...	604	85	7.4	15	--
JUL					
09...	550	83	7.0	19	--
AUG					
27...	608	83	19	33	--
393541083001001 PK-47 NR CIRCLEVILLE OH-LEVEL 1 (LAT 39 35 41N LONG 083 00 10W)					
OCT 1997					
08...	620	85	5.9	19	--
NOV					
26...	609	80	5.7	20	--
JAN 1998					
15...	593	82	2.9	16	--
MAR					
04...	605	76	4.8	19	--
APR					
28...	614	--	--	20	--
JUN					
02...	677	86	18	36	--
JUL					
09...	622	85	8.3	19	--
AUG					
27...	503	79	10	24	--
393541083001002 PK-47 NR CIRCLEVILLE OH-LEVEL 2 (LAT 39 35 41N LONG 083 00 10W)					
OCT 1997					
08...	597	83	5.8	19	--
NOV					
26...	607	77	6.1	19	--
JAN 1998					
15...	586	82	3.1	16	--
MAR					
04...	577	81	5.0	18	--
APR					
28...	623	82	13	22	--
JUN					
02...	676	86	18	37	--
JUL					
09...	615	86	7.8	18	--
AUG					
27...	539	80	10	24	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
393541083001003 PK-47 NR CIRCLEVILLE OH-LEVEL 3 (LAT 39 35 41N LONG 083 00 10W)					
OCT 1997					
08...	597	--	--	19	--
NOV					
26...	613	79	6.4	20	--
JAN 1998					
15...	526	79	3.2	16	--
MAR					
04...	602	79	5.2	18	--
APR					
28...	624	79	13	21	--
JUN					
02...	667	--	--	37	--
JUL					
09...	611	83	7.5	17	--
AUG					
27...	512	80	11	23	--
393541083001004 PK-47 NR CIRCLEVILLE OH-LEVEL 4 (LAT 39 35 41N LONG 083 00 10W)					
OCT 1997					
08...	615	83	5.9	20	--
NOV					
26...	616	80	6.4	21	--
JAN 1998					
15...	592	79	3.4	17	--
MAR					
04...	612	80	4.5	17	--
APR					
28...	622	80	11	20	--
JUN					
02...	631	84	12	25	--
JUL					
09...	570	83	7.7	18	--
AUG					
27...	541	79	11	26	--
393541083001005 PK-47 NR CIRCLEVILLE OH-LEVEL 5 (LAT 39 35 41N LONG 083 00 10W)					
OCT 1997					
08...	604	82	6.5	19	--
NOV					
26...	619	79	6.3	21	--
JAN 1998					
15...	597	81	3.4	16	--
MAR					
04...	604	77	4.1	18	--
JUN					
02...	702	88	32	47	--
AUG					
27...	--	83	11	24	--
393541083001006 PK-47 NR CIRCLEVILLE OH-LEVEL 6 (LAT 39 35 41N LONG 083 00 10W)					
JUL 1998					
09...	573	83	18	25	--
AUG					
27...	477	81	17	20	--

393541083001201 PK-53 NR CIRCLEVILLE OH-LEVEL 1 (LAT 39 35 41N LONG 083 00 12W)

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
OCT 1997					
08...	730	120	3.9	12	--
NOV					
26...	738	--	--	15	--
JAN 1998					
15...	616	86	1.9	13	--
MAR					
04...	615	110	4.3	13	--
APR					
28...	711	100	3.4	13	--
JUN					
02...	652	100	3.6	13	--
JUL					
09...	534	85	1.8	13	--
AUG					
27...	415	76	2.2	12	--

393541083001202 PK-53 NR CIRCLEVILLE OH-LEVEL 2 (LAT 39 35 41N LONG 083 00 12W)

DATE	(90095)	(00915)	(00930)	(00940)	(71870)
OCT 1997					
08...	668	--	--	14	--
NOV					
26...	609	92	2.0	13	--
JAN 1998					
15...	611	--	--	3.1	--
MAR					
04...	679	--	--	14	--
APR					
28...	578	84	1.9	15	--
JUN					
02...	686	100	3.2	13	--
JUL					
09...	550	85	1.9	13	--
AUG					
27...	437	74	2.0	12	--

393541083001203 PK-53 NR CIRCLEVILLE OH-LEVEL 3 (LAT 39 35 41N LONG 083 00 12W)

DATE	(90095)	(00915)	(00930)	(00940)	(71870)
OCT 1997					
08...	593	96	2.3	14	--
NOV					
26...	631	87	2.0	13	--
JAN 1998					
15...	601	83	1.8	13	--
MAR					
04...	623	--	--	14	--
JUN					
02...	562	--	--	14	--
JUL					
09...	519	87	2.0	13	--
AUG					
27...	--	84	2.4	11	--

393541083001204 PK-53 NR CIRCLEVILLE OH-LEVEL 4 (LAT 39 35 41N LONG 083 00 12W)

DATE	(90095)	(00915)	(00930)	(00940)	(71870)
OCT 1997					
08...	641	--	--	15	--
NOV					
26...	643	85	4.2	16	--
JAN 1998					
15...	596	--	--	13	--
MAR					
04...	593	80	2.1	15	--
JUN					
02...	550	78	1.7	14	--
JUL					
09...	572	82	1.8	13	--
AUG					
27...	389	73	1.9	11	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
393541083001205 PK-53 NR CIRCLEVILLE OH-LEVEL 5 (LAT 39 35 41N LONG 083 00 12W)					
OCT 1997					
08...	611	87	1.9	15	--
NOV					
26...	590	88	5.8	18	--
JAN 1998					
15...	571	--	--	14	--
MAR					
04...	604	--	--	15	--
APR					
28...	537	80	1.6	15	--
JUN					
02...	561	79	1.7	14	--
JUL					
09...	496	83	2.1	14	--
AUG					
27...	--	86	2.9	12	--
393541083001206 PK-53 NR CIRCLEVILLE OH-LEVEL 6 (LAT 39 35 41N LONG 083 00 12W)					
OCT 1997					
08...	556	88	2.3	16	--
NOV					
26...	607	--	--	18	--
JAN 1998					
15...	569	--	--	14	--
MAR					
04...	494	--	--	15	--
APR					
28...	541	81	1.5	14	--
393542083000501 PK-52 NR CIRCLEVILLE OH-LEVEL 1 (LAT 39 35 42N LONG 083 00 05W)					
OCT 1997					
08...	709	--	--	25	--
NOV					
26...	581	79	10	22	--
JAN 1998					
15...	585	--	--	16	--
MAR					
04...	564	--	--	18	--
APR					
28...	713	--	--	41	--
JUN					
02...	684	--	--	36	--
JUL					
09...	633	--	--	30	--
AUG					
27...	646	97	28	34	--
393542083000502 PK-52 NR CIRCLEVILLE OH-LEVEL 2 (LAT 39 35 42N LONG 083 00 05W)					
OCT 1997					
08...	656	91	18	22	--
NOV					
26...	588	77	6.9	18	--
JAN 1998					
15...	578	--	--	17	--
MAR					
04...	628	90	13	19	--
APR					
28...	693	92	20	39	--
JUN					
02...	--	--	--	36	--
JUL					
09...	689	97	18	32	--
AUG					
27...	672	99	29	36	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 THROUGH SEPTEMBER 1998—Continued

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
393542083000503 PK-52 NR CIRCLEVILLE OH-LEVEL 3 (LAT 39 35 42N LONG 083 00 05W)					
OCT 1997					
08...	619	90	19	23	--
NOV					
26...	589	76	6.6	20	--
JAN 1998					
15...	585	80	4.3	16	--
MAR					
04...	632	83	11	19	--
APR					
28...	677	93	20	39	--
JUN					
02...	591	--	--	37	--
JUL					
09...	748	--	--	31	--
AUG					
27...	707	94	29	35	--
393542083000504 PK-52 NR CIRCLEVILLE OH-LEVEL 4 (LAT 39 35 42N LONG 083 00 05W)					
OCT 1997					
08...	702	--	--	24	--
NOV					
26...	588	76	6.9	19	--
JAN 1998					
15...	589	79	6.1	17	--
MAR					
04...	580	83	15	19	--
APR					
28...	735	--	--	39	--
JUN					
02...	651	--	--	39	--
JUL					
09...	725	--	--	37	--
AUG					
27...	--	120	29	35	--
393542083000505 PK-52 NR CIRCLEVILLE OH-LEVEL 5 (LAT 39 35 42N LONG 083 00 05W)					
OCT 1997					
08...	653	88	16	21	--
NOV					
26...	562	73	5.8	17	--
JAN 1998					
15...	572	--	--	17	--
MAR					
04...	598	--	--	19	--
APR					
28...	747	93	21	40	--
JUN					
02...	709	--	--	38	--
JUL					
09...	741	100	20	38	--
AUG					
27...	--	110	30	34	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
393542083000506 PK-52 NR CIRCLEVILLE OH-LEVEL 6 (LAT 39 35 42N LONG 083 00 05W)					
OCT 1997					
08...	655	94	28	26	--
NOV					
26...	596	82	13	22	--
JAN 1998					
15...	622	80	8.7	18	--
MAR					
04...	611	81	13	19	--
APR					
28...	669	93	18	39	--
JUN					
02...	670	95	20	38	--
JUL					
09...	691	100	21	39	--
AUG					
27...	749	--	--	35	--
393542083000701 PK-51 NR CIRCLEVILLE OH-LEVEL 1 (LAT 39 35 42N LONG 083 00 07W)					
OCT 1997					
08...	625	86	8.7	20	--
NOV					
26...	632	--	--	21	--
JAN 1998					
15...	618	82	7.1	19	--
MAR					
04...	572	--	--	18	--
APR					
28...	563	85	6.4	23	--
JUN					
02...	632	84	6.7	21	--
JUL					
09...	619	89	9.4	21	--
AUG					
27...	582	110	11	23	--
393542083000702 PK-51 NR CIRCLEVILLE OH-LEVEL 2 (LAT 39 35 42N LONG 083 00 07W)					
OCT 1997					
08...	581	84	7.1	18	--
NOV					
26...	624	79	8.7	23	--
JAN 1998					
15...	614	83	5.7	19	--
MAR					
04...	600	--	--	19	--
APR					
28...	636	85	7.1	26	--
JUN					
02...	635	--	--	21	--
JUL					
09...	561	90	10	22	--
AUG					
27...	656	85	9.6	20	--

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
393542083000703 PK-51 NR CIRCLEVILLE OH-LEVEL 3 (LAT 39 35 42N LONG 083 00 07W)					
OCT 1997					
08...	619	87	7.4	19	--
NOV					
26...	627	--	--	24	--
JAN 1998					
15...	610	84	5.9	19	--
MAR					
04...	604	82	5.5	18	--
APR					
28...	629	86	8.5	23	--
JUN					
02...	625	82	10	21	--
JUL					
09...	624	95	12	22	--
AUG					
27...	609	82	8.4	19	--
393542083000704 PK-51 NR CIRCLEVILLE OH-LEVEL 4 (LAT 39 35 42N LONG 083 00 07W)					
OCT 1997					
08...	617	87	7.4	19	--
NOV					
26...	635	84	9.3	25	--
JAN 1998					
15...	599	83	6.0	20	--
MAR					
04...	606	80	5.3	18	--
APR					
28...	640	84	8.4	23	--
JUN					
02...	614	84	11	23	--
JUL					
09...	659	89	12	23	--
AUG					
27...	579	81	9.4	19	--
393542083000705 PK-51 NR CIRCLEVILLE OH-LEVEL 5 (LAT 39 35 42N LONG 083 00 07W)					
OCT 1997					
08...	615	84	7.2	19	--
NOV					
26...	643	83	11	26	--
JAN 1998					
15...	567	77	3.4	17	--
MAR					
04...	600	80	4.5	18	--
APR					
28...	662	82	8.4	23	--
JUN					
02...	635	75	11	23	--
JUL					
09...	657	93	14	24	--
AUG					
27...	590	88	11	21	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
393542083000706 PK-51 NR CIRCLEVILLE OH-LEVEL 6 (LAT 39 35 42N LONG 083 00 07W)					
NOV 1997					
26...	608	--	--	21	--
JAN 1998					
15...	611	83	5.4	19	--
MAR					
04...	595	82	4.3	17	--
APR					
28...	626	85	6.7	21	--
JUN					
02...	625	83	8.8	20	--
JUL					
09...	604	--	--	20	--
AUG					
27...	553	84	12	21	--
395859083440501 CL-140 NR SPRINGFIELD OH-LEVEL 1 (LAT 39 58 59N LONG 083 44 05W)					
APR 1998					
14...	921	--	--	--	--
395859083440502 CL-140 NR SPRINGFIELD OH-LEVEL 2 (LAT 39 58 59N LONG 083 44 05W)					
OCT 1997					
14...	787	--	--	--	--
395859083440503 CL-140 NR SPRINGFIELD OH-LEVEL 3 (LAT 39 58 59N LONG 083 44 05W)					
APR 1998					
14...	927	--	--	--	--
395859083440504 CL-140 NR SPRINGFIELD OH-LEVEL 4 (LAT 39 58 59N LONG 083 44 05W)					
OCT 1997					
14...	807	--	--	--	--
400947083480002 CH-44 NR URBANA OH-LEVEL 2 (LAT 40 09 47N LONG 083 48 00W)					
OCT 1997					
09...	848	--	--	--	--
APR 1998					
15...	906	--	--	--	--
400947083480003 CH-44 NR URBANA OH-LEVEL 3 (LAT 40 09 47N LONG 083 48 00W)					
OCT 1997					
09...	859	--	--	--	--
403922082325901 R-19 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 22N LONG 082 32 59W)					
OCT 1997					
28...	522	70	9.0	38	--
DEC					
03...	525	--	--	40	--
JAN 1998					
06...	528	68	7.7	49	--
MAR					
11...	552	--	--	46	--
APR					
21...	531	69	7.4	44	--
MAY					
27...	523	72	8.2	42	--
JUL					
22...	516	74	7.9	39	--
SEP					
02...	549	72	8.1	41	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
403922082325902 R-19 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 22N LONG 082 32 59W)					
OCT 1997					
28...	548	73	8.9	42	--
DEC					
03...	550	--	--	44	--
JAN 1998					
06...	533	71	7.3	48	--
MAR					
11...	555	72	7.0	49	--
APR					
21...	559	76	8.1	46	--
MAY					
27...	514	73	8.5	41	--
JUL					
22...	517	72	7.6	41	--
SEP					
02...	528	72	8.2	42	--
403922082325903 R-19 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 22N LONG 082 32 59W)					
OCT 1997					
28...	546	73	8.8	42	--
DEC					
03...	543	70	9.3	45	--
JAN 1998					
06...	526	69	7.7	45	--
MAR					
11...	565	72	7.3	48	--
APR					
21...	538	--	--	44	--
MAY					
27...	557	--	--	40	--
JUL					
22...	511	71	7.6	41	--
SEP					
02...	553	71	8.2	42	--
403922082325904 R-19 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 22N LONG 082 32 59W)					
OCT 1997					
28...	311	76	9.2	41	--
DEC					
03...	574	73	10	42	--
JAN 1998					
06...	565	77	9.3	43	--
MAR					
11...	566	74	7.5	48	--
APR					
21...	565	76	8.1	44	--
MAY					
27...	520	66	8.1	34	--
JUL					
22...	528	74	7.8	40	--
SEP					
02...	549	73	8.4	42	--

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
403922082325905 R-19 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 22N LONG 082 32 59W)					
DEC 1997					
03...	297	--	--	16	--
JAN 1998					
06...	326	--	--	22	--
MAR					
11...	570	74	7.6	48	--
APR					
21...	572	77	8.3	45	--
MAY					
27...	456	58	7.9	30	--
JUL					
22...	531	73	7.9	40	--
SEP					
02...	563	73	8.5	42	--
403922082330001 R-20 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 22N LONG 082 33 00W)					
OCT 1997					
28...	513	69	9.4	42	--
DEC					
03...	514	68	8.8	44	--
JAN 1998					
06...	512	--	--	43	--
MAR					
11...	501	64	6.0	45	--
APR					
21...	476	62	6.7	39	--
MAY					
27...	439	56	7.2	29	--
JUL					
22...	448	60	8.5	41	--
SEP					
02...	503	64	9.2	41	--
403922082330002 R-20 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 22N LONG 082 33 00W)					
OCT 1997					
28...	511	69	9.4	42	--
DEC					
03...	507	67	8.5	45	--
JAN 1998					
06...	515	--	--	43	--
MAR					
11...	488	63	5.9	44	--
APR					
21...	461	62	6.8	39	--
MAY					
27...	432	--	--	26	--
JUL					
22...	450	59	8.6	41	--
SEP					
02...	497	63	9.3	40	--

403922082330003 R-20 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 22N LONG 082 33 00W)

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
OCT 1997					
28...	514	70	9.2	43	--
DEC					
03...	507	67	8.5	45	--
JAN 1998					
06...	517	55	7.7	44	--
MAR					
11...	497	--	--	45	--
APR					
21...	488	62	6.7	40	--
MAY					
27...	434	55	6.9	26	--
JUL					
22...	443	58	8.6	43	--
SEP					
02...	498	63	9.4	42	--

403922082330004 R-20 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 22N LONG 082 33 00W)

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
OCT 1997					
28...	459	64	9.4	30	--
DEC					
03...	505	--	--	44	--
JAN 1998					
06...	485	65	7.9	41	--
MAR					
11...	505	--	--	48	--
APR					
21...	451	--	--	42	--
MAY					
27...	419	56	7.4	28	--
JUL					
22...	430	54	8.4	40	--
SEP					
02...	468	59	8.3	38	--

403922082330005 R-20 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 22N LONG 082 33 00W)

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
OCT 1997					
28...	353	63	8.8	25	--
DEC					
03...	467	--	--	32	--
JAN 1998					
06...	461	61	9.2	35	--
MAR					
11...	507	66	7.6	43	--
APR					
21...	469	62	7.3	39	--
MAY					
27...	477	62	7.2	35	--
JUL					
22...	443	60	7.1	34	--
SEP					
02...	458	58	8.1	35	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
403922082330006 R-20 NR LEXINGTON OH-LEVEL 6 (LAT 40 39 22N LONG 082 33 00W)					
OCT 1997					
28...	370	62	8.7	25	--
DEC					
03...	461	60	9.3	31	--
JAN 1998					
06...	454	59	9.5	35	--
MAR					
11...	490	--	--	39	--
APR					
21...	474	62	7.2	40	--
MAY					
27...	474	--	--	36	--
JUL					
22...	442	61	7.2	34	--
SEP					
02...	454	57	7.9	35	--
403923082325401 R-21 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 23N LONG 082 32 54W)					
OCT 1997					
28...	167	24	2.0	2.6	--
DEC					
03...	192	--	--	3.1	--
JAN 1998					
06...	194	24	2.1	2.5	--
MAR					
11...	288	41	2.2	2.6	--
APR					
21...	327	50	2.6	3.7	--
MAY					
27...	296	41	2.5	3.1	--
JUL					
22...	373	61	2.4	3.5	--
SEP					
02...	212	27	2.7	2.7	--
403923082325402 R-21 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 23N LONG 082 32 54W)					
OCT 1997					
28...	185	23	1.9	2.6	--
DEC					
03...	172	19	2.4	3.0	--
JAN 1998					
06...	181	23	2.0	2.4	--
MAR					
11...	284	41	2.2	2.6	--
APR					
21...	296	43	3.4	3.3	--
MAY					
27...	292	42	2.6	3.3	--
JUL					
22...	369	61	2.4	3.5	--
SEP					
02...	208	25	2.0	2.5	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
403923082325403 R-21 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 23N LONG 082 32 54W)					
OCT 1997					
28...	192	24	2.0	2.8	--
DEC					
03...	199	--	--	2.7	--
JAN 1998					
06...	191	--	--	2.6	--
MAR					
11...	305	--	--	2.8	--
APR					
21...	239	31	2.9	2.9	--
MAY					
27...	304	41	2.4	3.4	--
JUL					
22...	360	59	2.6	3.6	--
SEP					
02...	218	28	2.0	2.6	--
403923082325404 R-21 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 23N LONG 082 32 54W)					
APR 1998					
21...	254	34	2.9	2.9	--
MAY					
27...	295	41	2.6	3.7	--
SEP					
02...	113	--	--	2.0	--
403923082325601 R-15 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 23N LONG 082 32 56W)					
OCT 1997					
28...	249	25	12	11	--
DEC					
03...	268	26	12	12	--
JAN 1998					
06...	312	31	13	21	--
MAR					
11...	310	24	19	41	--
APR					
21...	369	26	31	55	--
MAY					
27...	259	--	--	23	--
JUL					
22...	291	25	17	32	--
SEP					
02...	314	28	16	27	--
403923082325602 R-15 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 23N LONG 082 32 56W)					
OCT 1997					
28...	248	26	11	11	--
DEC					
03...	253	24	11	12	--
JAN 1998					
06...	304	30	13	19	--
MAR					
11...	315	26	20	42	--
APR					
21...	368	--	--	57	--
MAY					
27...	270	--	--	23	--
JUL					
22...	276	24	16	27	--
SEP					
02...	317	28	16	28	--

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
403923082325603 R-15 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 23N LONG 082 32 56W)					
OCT 1997					
28...	52	--	--	1.5	--
DEC					
03...	--	--	--	4.0	--
JAN 1998					
06...	91	--	--	7.2	--
MAR					
11...	325	--	--	43	--
APR					
21...	366	--	--	56	--
MAY					
27...	303	--	--	27	--
JUL					
22...	310	--	--	33	--
SEP					
02...	121	--	--	12	--
403923082325701 R-18 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 23N LONG 082 32 57W)					
OCT 1997					
28...	477	51	4.9	56	.038
DEC					
03...	452	56	5.2	50	.044
JAN 1998					
06...	472	55	5.2	49	.045
MAR					
11...	451	49	5.3	48	.045
APR					
21...	413	50	7.7	46	.029
MAY					
27...	413	45	14	46	.030
JUL					
22...	441	51	9.2	48	.059
SEP					
02...	479	56	6.8	54	.055
403923082325702 R-18 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 23N LONG 082 32 57W)					
OCT 1997					
28...	467	54	4.9	53	.040
DEC					
03...	591	60	40	85	.024
JAN 1998					
06...	464	53	5.0	53	.048
MAR					
11...	425	49	5.5	46	.041
APR					
21...	415	51	7.7	47	.032
MAY					
27...	412	42	14	48	.031
JUL					
22...	361	48	8.7	47	.053
SEP					
02...	471	53	6.4	54	.055

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
403923082325703 R-18 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 23N LONG 082 32 57W)					
OCT 1997					
28...	435	69	8.6	43	.017
DEC					
03...	491	64	8.2	45	.033
JAN 1998					
06...	526	64	7.5	52	.046
MAR					
11...	505	62	7.1	49	.042
APR					
21...	487	67	7.4	48	.034
MAY					
27...	472	59	11	43	.033
JUL					
22...	446	61	9.6	41	.057
SEP					
02...	522	63	9.0	51	.049
403923082325704 R-18 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 23N LONG 082 32 57W)					
OCT 1997					
28...	538	66	7.6	52	.021
DEC					
03...	511	66	7.0	52	.022
JAN 1998					
06...	529	65	6.5	54	.045
MAR					
11...	487	60	6.0	47	.044
APR					
21...	460	63	9.0	49	.029
MAY					
27...	490	52	18	51	.034
JUL					
22...	467	54	15	46	.052
SEP					
02...	520	59	10	52	.045
403923082325705 R-18 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 23N LONG 082 32 57W)					
OCT 1997					
28...	507	68	7.9	49	.030
JAN 1998					
06...	552	69	8.0	52	.049
MAR					
11...	484	62	6.9	48	.048
APR					
21...	524	64	10	51	.028
MAY					
27...	498	57	22	51	.031
JUL					
22...	490	63	17	43	.050
SEP					
02...	523	64	11	50	.049
403923082325706 R-18 NR LEXINGTON OH-LEVEL 6 (LAT 40 39 23N LONG 082 32 57W)					
MAR 1998					
11...	684	87	23	40	.039
APR					
21...	659	79	22	47	.030
MAY					
27...	528	57	32	52	.039

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403923082325901 R-17 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 23N LONG 082 32 59W)					
OCT 1997					
28...	536	71	6.3	52	--
DEC					
03...	3740	69	6.8	54	--
JAN 1998					
06...	524	68	6.0	54	--
MAR					
11...	518	66	5.5	50	--
APR					
21...	492	--	--	47	--
MAY					
27...	490	--	--	48	--
JUL					
22...	467	59	12	45	--
SEP					
02...	522	64	8.0	51	--
403923082325902 R-17 NR LEXINGTON OH-LEVEL 2 (LAT 40 39 23N LONG 082 32 59W)					
OCT 1997					
28...	511	65	5.4	53	--
DEC					
03...	507	63	5.9	54	--
JAN 1998					
06...	493	61	5.4	49	--
MAR					
11...	474	56	5.3	48	--
APR					
21...	445	--	--	44	--
MAY					
27...	446	48	15	50	--
JUL					
22...	447	54	10	46	--
SEP					
02...	503	60	6.7	53	--
403923082325903 R-17 NR LEXINGTON OH-LEVEL 3 (LAT 40 39 23N LONG 082 32 59W)					
OCT 1997					
28...	501	64	5.4	54	--
DEC					
03...	--	--	--	55	--
JAN 1998					
06...	495	60	5.3	49	--
MAR					
11...	457	54	5.5	50	--
APR					
21...	431	50	8.8	44	--
MAY					
27...	452	49	16	50	--
JUL					
22...	437	51	11	44	--
SEP					
02...	487	57	6.4	52	--
403923082325904 R-17 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 23N LONG 082 32 59W)					
OCT 1997					
28...	133	--	--	1.6	--
APR 1998					
21...	446	--	--	46	--
MAY					
27...	447	--	--	50	--
JUL					
22...	440	--	--	44	--
SEP					
02...	142	24	2.9	6.5	--

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411136081172403 PO-122 NR RAVENNA OH-LEVEL 3 (LAT 41 11 36N LONG 081 17 24W)					
DEC 1997					
05...	444	53	5.2	46	--
MAR 1998					
20...	626	54	40	87	--
APR					
23...	598	53	41	84	--
MAY					
29...	586	58	48	84	--
SEP					
09...	694	59	52	100	--
411136081172404 PO-122 NR RAVENNA OH-LEVEL 4 (LAT 41 11 36N LONG 081 17 24W)					
OCT 1997					
15...	651	66	43	93	--
DEC					
05...	598	58	40	83	--
JAN 1998					
08...	623	53	36	89	--
MAR					
20...	606	58	43	82	--
APR					
23...	552	57	43	79	--
MAY					
29...	643	53	45	92	--
JUL					
30...	668	60	54	100	--
SEP					
09...	684	58	52	98	--
411136081172405 PO-122 NR RAVENNA OH-LEVEL 5 (LAT 41 11 36N LONG 081 17 24W)					
OCT 1997					
15...	649	66	44	93	--
DEC					
05...	615	59	40	91	--
JAN 1998					
08...	604	58	38	86	--
MAR					
20...	620	56	42	87	--
APR					
23...	570	58	44	86	--
MAY					
29...	646	57	47	92	--
SEP					
09...	682	60	53	98	--
411136081172406 PO-122 NR RAVENNA OH-LEVEL 6 (LAT 41 11 36N LONG 081 17 24W)					
OCT 1997					
15...	627	64	42	90	--
DEC					
05...	617	59	40	88	--
JAN 1998					
08...	626	59	38	92	--
MAR					
20...	610	58	43	81	--
APR					
23...	600	49	37	88	--
MAY					
29...	603	56	48	85	--
JUL					
30...	684	62	56	110	--
SEP					
09...	687	59	53	100	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
411136081172407 PO-122 NR RAVENNA OH-LEVEL 7 (LAT 41 11 36N LONG 081 17 24W)					
JAN 1998					
08...	639	59	41	93	--
MAR					
20...	616	51	39	87	--
APR					
23...	613	55	46	95	--
MAY					
29...	633	46	38	89	--
JUL					
30...	703	60	56	110	--
SEP					
09...	627	54	53	87	--
411137081172101 PO-114 NR RAVENNA OH-LEVEL 1 (LAT 41 11 37N LONG 081 17 21W)					
OCT 1997					
15...	523	89	7.5	12	--
DEC					
05...	551	90	7.2	12	--
JAN 1998					
08...	285	--	--	4.3	--
MAR					
20...	274	39	11	4.0	--
APR					
23...	327	52	15	4.7	--
MAY					
29...	478	71	8.1	10	--
JUL					
30...	356	57	5.5	3.1	--
SEP					
09...	417	67	6.9	4.8	--
411137081172102 PO-114 NR RAVENNA OH-LEVEL 2 (LAT 41 11 37N LONG 081 17 21W)					
OCT 1997					
15...	529	92	7.3	12	--
DEC					
05...	558	93	6.9	12	--
JAN 1998					
08...	276	--	--	4.8	--
MAR					
20...	280	--	--	4.4	--
APR					
23...	345	--	--	4.6	--
MAY					
29...	489	--	--	11	--
JUL					
30...	364	59	5.6	3.2	--
SEP					
09...	419	.30	.68	5.1	--
411137081172103 PO-114 NR RAVENNA OH-LEVEL 3 (LAT 41 11 37N LONG 081 17 21W)					
OCT 1997					
15...	611	110	6.5	14	--
DEC					
05...	720	130	6.4	13	--
JAN 1998					
08...	302	26	15	5.6	--
MAR					
20...	281	40	11	4.2	--
APR					
23...	321	50	15	4.7	--
MAY					
29...	475	74	6.7	12	--
JUL					
30...	353	58	5.1	3.2	--
SEP					
09...	382	74	5.6	5.9	--

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411137081172104 PO-114 NR RAVENNA OH-LEVEL 4 (LAT 41 11 37N LONG 081 17 21W)					
OCT 1997					
15...	596	110	6.4	15	--
DEC					
05...	698	--	--	15	--
JAN 1998					
08...	232	29	16	5.0	--
MAR					
20...	287	40	11	4.2	--
APR					
23...	333	53	14	4.6	--
MAY					
29...	476	--	--	12	--
JUL					
30...	363	--	--	3.6	--
SEP					
09...	395	74	5.6	5.7	--
411137081172105 PO-114 NR RAVENNA OH-LEVEL 5 (LAT 41 11 37N LONG 081 17 21W)					
OCT 1997					
15...	584	95	5.4	14	--
DEC					
05...	700	--	--	14	--
JAN 1998					
08...	241	--	--	4.7	--
MAR					
20...	282	--	--	4.7	--
APR					
23...	346	--	--	4.7	--
MAY					
29...	462	--	--	11	--
JUL					
30...	392	--	--	3.3	--
SEP					
09...	454	79	5.6	5.0	--
411137081172106 PO-114 NR RAVENNA OH-LEVEL 6 (LAT 41 11 37N LONG 081 17 21W)					
OCT 1997					
15...	248	--	--	7.6	--
MAR 1998					
20...	268	--	--	4.1	--
APR					
23...	340	54	13	5.5	--
MAY					
29...	454	--	--	12	--
JUL					
30...	380	--	--	4.7	--
411137081172301 PO-118 NR RAVENNA OH-LEVEL 1 (LAT 41 11 37N LONG 081 17 23W)					
OCT 1997					
15...	3600	130	583	1000	--
DEC					
05...	3660	120	586	1000	--
JAN 1998					
08...	2030	71	343	520	--
MAR					
20...	704	27	111	150	--
APR					
23...	540	19	60	110	--
MAY					
29...	443	19	59	91	--
JUL					
30...	3160	110	499	820	--
SEP					
09...	3040	83	513	770	--

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411137081172302 PO-118 NR RAVENNA OH-LEVEL 2 (LAT 41 11 37N LONG 081 17 23W)					
OCT 1997					
15...	3700	140	598	1000	--
DEC					
05...	3680	120	618	1000	--
JAN 1998					
08...	1700	73	273	410	--
MAR					
20...	1140	33	146	280	--
APR					
23...	578	--	--	120	--
MAY					
29...	560	23	71	120	--
JUL					
30...	3220	110	511	840	--
SEP					
09...	3070	84	513	780	--
411137081172303 PO-118 NR RAVENNA OH-LEVEL 3 (LAT 41 11 37N LONG 081 17 23W)					
OCT 1997					
15...	3610	140	591	1000	--
DEC					
05...	3650	--	--	980	--
JAN 1998					
08...	2330	75	353	600	--
MAR					
20...	979	33	154	240	--
APR					
23...	415	--	--	78	--
MAY					
29...	468	22	64	96	--
JUL					
30...	3230	100	506	850	--
SEP					
09...	3050	84	502	770	--
411137081172304 PO-118 NR RAVENNA OH-LEVEL 4 (LAT 41 11 37N LONG 081 17 23W)					
OCT 1997					
15...	3500	130	577	970	--
DEC					
05...	3600	110	582	960	--
JAN 1998					
08...	2310	73	375	590	--
MAR					
20...	898	27	125	210	--
APR					
23...	259	--	--	71	--
MAY					
29...	448	22	60	96	--
JUL					
30...	3170	100	491	830	--
SEP					
09...	3030	83	504	760	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
411137081172305 PO-118 NR RAVENNA OH-LEVEL 5 (LAT 41 11 37N LONG 081 17 23W)					
OCT 1997					
15...	3670	160	577	990	--
DEC					
05...	3510	130	532	930	--
JAN 1998					
08...	2310	73	382	590	--
MAR					
20...	1080	30	122	260	--
APR					
23...	280	--	--	43	--
MAY					
29...	484	25	62	100	--
JUL					
30...	2190	--	--	550	--
SEP					
09...	3000	82	513	750	--
411137081172306 PO-118 NR RAVENNA OH-LEVEL 6 (LAT 41 11 37N LONG 081 17 23W)					
MAR 1998					
20...	510	23	59	110	--
APR					
23...	271	15	34	40	--
MAY					
29...	329	13	48	65	--
JUL					
30...	1970	74	273	470	--
411137081172401 PO-117 NR RAVENNA OH-LEVEL 1 (LAT 41 11 37N LONG 081 17 24W)					
OCT 1997					
15...	994	91	97	190	--
DEC					
05...	1020	85	94	200	.045
JAN 1998					
08...	1130	89	114	230	.056
MAR					
20...	749	64	74	120	.033
APR					
23...	563	55	54	80	.021
MAY					
29...	451	47	37	51	.020
JUL					
30...	917	73	76	170	--
SEP					
09...	1120	80	111	230	.054
411137081172402 PO-117 NR RAVENNA OH-LEVEL 2 (LAT 41 11 37N LONG 081 17 24W)					
OCT 1997					
15...	1130	76	125	230	.052
DEC					
05...	1200	82	139	260	.030
JAN 1998					
08...	1440	93	157	320	.065
MAR					
20...	1320	82	159	270	.044
APR					
23...	832	61	114	150	.032
MAY					
29...	808	50	98	130	.039
JUL					
30...	1150	65	138	240	--
SEP					
09...	1310	71	160	290	.058

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411137081172403 PO-117 NR RAVENNA OH-LEVEL 3 (LAT 41 11 37N LONG 081 17 24W)					
OCT 1997					
15...	1590	120	172	380	--
DEC					
05...	1740	120	196	420	.079
JAN 1998					
08...	1920	110	229	230	.091
MAR					
20...	1330	66	185	270	.059
APR					
23...	985	55	146	200	.036
MAY					
29...	750	39	92	120	.043
JUL					
30...	1250	72	151	280	--
SEP					
09...	1710	94	208	400	.075
411137081172404 PO-117 NR RAVENNA OH-LEVEL 4 (LAT 41 11 37N LONG 081 17 24W)					
OCT 1997					
15...	2290	140	281	570	.097
DEC					
05...	2470	140	312	620	.10
JAN 1998					
08...	2240	120	299	280	.098
MAR					
20...	1230	62	177	240	.044
APR					
23...	847	52	122	150	.027
MAY					
29...	789	51	96	140	.042
JUL					
30...	1580	89	189	360	--
SEP					
09...	2060	100	261	500	.092
411137081172405 PO-117 NR RAVENNA OH-LEVEL 5 (LAT 41 11 37N LONG 081 17 24W)					
OCT 1997					
15...	2710	140	347	660	.11
DEC					
05...	2770	140	380	720	.13
JAN 1998					
08...	2550	120	359	310	.11
MAR					
20...	934	54	125	160	.035
APR					
23...	713	46	79	120	.030
MAY					
29...	803	57	88	140	.042
JUL					
30...	1950	100	242	480	--
SEP					
09...	1990	97	252	470	.090
411137081172406 PO-117 NR RAVENNA OH-LEVEL 6 (LAT 41 11 37N LONG 081 17 24W)					
DEC 1997					
05...	1480	99	155	350	.056
JAN 1998					
08...	1330	92	156	270	.082
MAR					
20...	471	42	40	64	.013
APR					
23...	436	44	32	43	.018
MAY					
29...	400	40	35	45	.016
JUL					
30...	1250	88	121	290	--

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 THROUGH SEPTEMBER 1998—Continued

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
411138081172401 PO-115 NR RAVENNA OH-LEVEL 1 (LAT 41 11 38N LONG 081 17 24W)					
OCT 1997					
15...	2010	37	351	460	--
DEC					
05...	2070	43	370	480	--
JAN 1998					
08...	1880	56	315	450	--
MAR					
20...	1270	45	169	300	--
APR					
23...	1610	67	233	400	--
MAY					
29...	2300	--	--	590	--
JUL					
30...	2170	55	372	530	--
SEP					
09...	2330	44	415	550	--
411138081172402 PO-115 NR RAVENNA OH-LEVEL 2 (LAT 41 11 38N LONG 081 17 24W)					
OCT 1997					
15...	2010	37	351	450	--
DEC					
05...	2150	46	379	510	--
JAN 1998					
08...	1840	53	309	430	--
MAR					
20...	1080	45	179	240	--
APR					
23...	1390	62	209	340	--
MAY					
29...	2260	89	350	580	--
JUL					
30...	2130	52	357	510	--
SEP					
09...	2300	45	403	540	--
411138081172403 PO-115 NR RAVENNA OH-LEVEL 3 (LAT 41 11 38N LONG 081 17 24W)					
OCT 1997					
15...	1870	31	318	420	--
DEC					
05...	2100	45	371	490	--
JAN 1998					
08...	1750	51	302	400	--
MAR					
20...	915	39	130	190	--
APR					
23...	1110	53	155	280	--
MAY					
29...	2040	81	316	510	--
JUL					
30...	2010	50	341	470	--
SEP					
09...	2210	42	389	510	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
411138081172404 PO-115 NR RAVENNA OH-LEVEL 4 (LAT 41 11 38N LONG 081 17 24W)					
OCT 1997					
15...	1740	32	301	360	--
DEC					
05...	2090	44	371	500	--
JAN 1998					
08...	1770	51	297	410	--
MAR					
20...	903	42	120	180	--
APR					
23...	1070	58	167	260	--
MAY					
29...	1970	89	284	480	--
JUL					
30...	2000	52	327	460	--
SEP					
09...	2170	43	382	490	--
411138081172405 PO-115 NR RAVENNA OH-LEVEL 5 (LAT 41 11 38N LONG 081 17 24W)					
OCT 1997					
15...	1550	24	275	320	--
DEC					
05...	1890	39	337	430	--
JAN 1998					
08...	1760	50	285	400	--
MAR					
20...	591	38	69	91	--
APR					
23...	545	53	48	81	--
MAY					
29...	1400	75	169	310	--
JUL					
30...	1670	53	258	380	--
SEP					
09...	1940	36	333	430	--
411138081172406 PO-115 NR RAVENNA OH-LEVEL 6 (LAT 41 11 38N LONG 081 17 24W)					
MAR 1998					
20...	569	37	70	95	--
APR					
23...	469	46	79	72	--
MAY					
29...	625	54	64	110	--
JUL					
30...	1030	59	155	200	--
SEP					
09...	--	--	--	210	--
413546083480901 LU-28 NR HOLLAND OH-LEVEL 1 (LAT 41 35 46N LONG 083 48 09W)					
OCT 1997					
22...	621	100	11	70	--
DEC					
09...	657	100	15	83	--
JAN 1998					
13...	748	110	24	110	--
MAR					
12...	710	100	18	98	--
APR					
09...	719	100	27	100	--
JUN					
03...	727	100	19	100	--
JUL					
23...	680	--	--	97	--
SEP					
03...	711	100	21	97	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
413546083480902 LU-28 NR HOLLAND OH-LEVEL 2 (LAT 41 35 46N LONG 083 48 09W)					
OCT 1997					
22...	1140	160	37	260	--
DEC					
09...	1250	160	51	290	--
JAN 1998					
13...	1370	160	84	310	--
MAR					
12...	1350	130	99	310	--
APR					
09...	1280	110	117	290	--
JUN					
03...	1190	92	116	260	--
JUL					
23...	1050	93	99	210	--
SEP					
03...	980	87	87	190	--
413546083480903 LU-28 NR HOLLAND OH-LEVEL 3 (LAT 41 35 46N LONG 083 48 09W)					
OCT 1997					
22...	1180	170	40	290	--
DEC					
09...	1910	180	136	510	--
JAN 1998					
13...	1710	140	164	420	--
MAR					
12...	1500	77	188	340	--
APR					
09...	994	37	157	160	--
JUN					
03...	713	23	123	89	--
JUL					
23...	623	29	99	74	--
SEP					
03...	694	36	100	110	--
413546083480904 LU-28 NR HOLLAND OH-LEVEL 4 (LAT 41 35 46N LONG 083 48 09W)					
OCT 1997					
22...	1740	79	235	350	--
DEC					
09...	1610	51	257	320	--
JAN 1998					
13...	759	38	116	95	--
MAR					
12...	460	25	65	26	--
APR					
09...	802	16	151	93	--
JUN					
03...	744	16	137	71	--
JUL					
23...	741	--	--	120	--
SEP					
03...	954	27	155	120	--

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
413546083480905 LU-28 NR HOLLAND OH-LEVEL 5 (LAT 41 35 46N LONG 083 48 09W)					
OCT 1997					
22...	685	76	27	52	--
DEC					
09...	1070	72	83	110	--
JAN 1998					
13...	577	31	64	48	--
MAR					
12...	378	21	52	13	--
APR					
09...	321	26	33	11	--
JUN					
03...	434	26	62	8.5	--
JUL					
23...	685	33	94	78	--
SEP					
03...	783	34	102	84	--
413547083481001 LU-26 NR HOLLAND OH-LEVEL 1 (LAT 41 35 47N LONG 083 48 10W)					
OCT 1997					
22...	677	110	9.5	89	.025
DEC					
09...	665	110	8.6	83	.040
JAN 1998					
13...	664	100	8.2	80	.10
MAR					
12...	631	99	7.9	74	.055
APR					
09...	646	110	8.6	82	.036
JUN					
03...	731	110	13	120	.075
JUL					
23...	682	100	13	110	.058
SEP					
03...	702	110	11	110	.045
413547083481002 LU-26 NR HOLLAND OH-LEVEL 2 (LAT 41 35 47N LONG 083 48 10W)					
OCT 1997					
22...	2040	57	300	550	.080
DEC					
09...	1230	25	228	180	.042
JAN 1998					
13...	887	13	189	53	.036
MAR					
12...	766	8.3	150	130	.056
APR					
09...	617	9.5	120	64	.025
JUN					
03...	911	13	165	160	.056
JUL					
23...	952	14	173	170	.070
SEP					
03...	569	6.4	114	68	.028

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
413547083481003 LU-26 NR HOLLAND OH-LEVEL 3 (LAT 41 35 47N LONG 083 48 10W)					
OCT 1997					
22...	1190	98	86	300	.35
DEC					
09...	2520	170	247	740	.10
JAN 1998					
13...	2770	130	367	780	.12
MAR					
12...	883	21	154	170	.020
APR					
09...	665	14	116	130	.014
JUN					
03...	742	18	122	150	.016
JUL					
23...	947	19	161	230	.040
SEP					
03...	840	21	137	180	.038
413547083481004 LU-26 NR HOLLAND OH-LEVEL 4 (LAT 41 35 47N LONG 083 48 10W)					
OCT 1997					
22...	340	38	20	19	<.010
DEC					
09...	347	46	11	20	.015
JAN 1998					
13...	3060	320	199	900	.19
MAR					
12...	869	81	63	170	.037
APR					
09...	441	59	9.2	60	.019
JUN					
03...	682	82	21	150	.024
JUL					
23...	2190	270	68	620	.10
SEP					
03...	903	110	25	200	.045
413547083481005 LU-26 NR HOLLAND OH-LEVEL 5 (LAT 41 35 47N LONG 083 48 10W)					
OCT 1997					
22...	475	8.0	95	29	<.010
DEC					
09...	467	26	68	21	.046
JAN 1998					
13...	379	50	14	6.3	.014
MAR					
12...	401	55	12	6.2	.033
APR					
09...	407	61	12	11	.021
JUN					
03...	402	44	29	6.1	.042
JUL					
23...	2200	280	63	620	.097
SEP					
03...	893	110	17	190	.036

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
413547083481006 LU-26 NR HOLLAND OH-LEVEL 6 (LAT 41 35 47N LONG 083 48 10W)					
OCT 1997					
22...	243	17	12	22	<.010
DEC					
09...	234	17	16	16	.019
JAN 1998					
13...	189	11	12	9.3	.026
MAR					
12...	185	12	14	11	.022
APR					
09...	158	12	12	7.0	<.010
JUN					
03...	154	10	11	13	<.010
JUL					
23...	180	10	15	20	.012
SEP					
03...	231	14	21	23	.017
413547083481101 LU-27 NR HOLLAND OH-LEVEL 1 (LAT 41 35 47N LONG 083 48 11W)					
OCT 1997					
22...	781	120	29	120	--
DEC					
09...	743	110	21	100	--
JAN 1998					
13...	995	130	31	200	--
MAR					
12...	892	--	--	160	--
APR					
09...	883	140	13	160	--
JUN					
03...	987	--	--	180	--
JUL					
23...	1010	130	46	220	--
SEP					
03...	1420	140	89	340	--
413547083481102 LU-27 NR HOLLAND OH-LEVEL 2 (LAT 41 35 47N LONG 083 48 11W)					
OCT 1997					
22...	856	72	84	150	--
DEC					
09...	792	53	90	140	--
JAN 1998					
13...	600	30	83	75	--
MAR					
12...	556	--	--	80	--
APR					
09...	753	78	44	150	--
JUN					
03...	1050	100	56	220	--
JUL					
23...	1220	120	85	300	--
SEP					
03...	1720	140	119	450	--

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
413547083481103 LU-27 NR HOLLAND OH-LEVEL 3 (LAT 41 35 47N LONG 083 48 11W)					
OCT 1997					
22...	844	43	136	140	--
DEC					
09...	855	49	104	92	--
JAN 1998					
13...	686	55	66	52	--
MAR					
12...	406	--	--	36	--
APR					
09...	642	24	100	120	--
JUN					
03...	829	100	6.9	6.6	--
JUL					
23...	1280	--	--	320	--
SEP					
03...	717	97	6.1	9.5	--
413547083481104 LU-27 NR HOLLAND OH-LEVEL 4 (LAT 41 35 47N LONG 083 48 11W)					
OCT 1997					
22...	1190	130	60	56	--
DEC					
09...	1140	130	43	23	--
JAN 1998					
13...	686	92	11	12	--
MAR					
12...	303	35	5.8	5.9	--
APR					
09...	646	78	13	11	--
JUN					
03...	803	98	8.3	7.3	--
JUL					
23...	474	38	46	9.9	--
SEP					
03...	661	93	5.6	8.3	--
413547083481105 LU-27 NR HOLLAND OH-LEVEL 5 (LAT 41 35 47N LONG 083 48 11W)					
OCT 1997					
22...	1520	230	9.3	14	--
DEC					
09...	1280	180	7.8	10	--
JAN 1998					
13...	639	84	7.0	8.2	--
MAR					
12...	429	52	4.5	4.6	--
APR					
09...	529	65	3.5	4.5	--
JUN					
03...	834	100	3.8	5.1	--
JUL					
23...	501	82	2.7	6.5	--
SEP					
03...	691	94	4.1	8.2	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
413547083481201 LU-25 NR HOLLAND OH-LEVEL 1 (LAT 41 35 47N LONG 083 48 12W)					
OCT 1997					
22...	671	89	26	100	--
DEC					
09...	647	88	23	84	--
JAN 1998					
13...	673	85	28	96	--
MAR					
12...	2040	190	155	540	--
APR					
09...	2380	200	202	670	--
JUN					
03...	830	--	--	150	--
JUL					
23...	709	98	22	130	--
SEP					
03...	743	110	13	140	--
413547083481202 LU-25 NR HOLLAND OH-LEVEL 2 (LAT 41 35 47N LONG 083 48 12W)					
OCT 1997					
22...	542	--	--	76	--
DEC					
09...	555	59	34	77	--
JAN 1998					
13...	1370	130	53	340	--
MAR					
12...	1840	94	198	470	--
APR					
09...	1570	110	164	410	--
JUN					
03...	968	--	--	220	--
JUL					
23...	908	100	42	220	--
SEP					
03...	827	95	33	170	--
413547083481203 LU-25 NR HOLLAND OH-LEVEL 3 (LAT 41 35 47N LONG 083 48 12W)					
OCT 1997					
22...	937	66	73	210	--
DEC					
09...	1230	89	107	310	--
JAN 1998					
13...	2080	--	--	490	--
MAR					
12...	1360	32	204	290	--
APR					
09...	910	15	169	170	--
JUN					
03...	827	26	131	160	--
JUL					
23...	817	--	--	180	--
SEP					
03...	1140	40	165	270	--

413547083481204 LU-25 NR HOLLAND OH-LEVEL 4 (LAT 41 35 47N LONG 083 48 12W)

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
OCT 1997					
22...	938	18	177	150	--
DEC					
09...	1230	48	176	270	--
JAN 1998					
13...	677	32	92	100	--
MAR					
12...	285	17	60	20	--
APR					
09...	479	28	64	34	--
JUN					
03...	465	37	50	23	--
JUL					
23...	738	--	--	110	--
SEP					
03...	675	58	53	120	--

413547083481205 LU-25 NR HOLLAND OH-LEVEL 5 (LAT 41 35 47N LONG 083 48 12W)

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
OCT 1997					
22...	229	17	28	18	--
DEC					
09...	291	18	27	25	--
JAN 1998					
13...	501	22	63	62	--
MAR					
12...	300	14	41	23	--
APR					
09...	239	15	27	16	--
JUN					
03...	275	17	23	24	--
JUL					
23...	517	--	--	64	--
SEP					
03...	313	19	29	39	--

413547083481301 LU-22 NR HOLLAND OH-LEVEL 1 (LAT 41 35 47N LONG 083 48 13W)

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
OCT 1997					
22...	843	120	21	160	--
DEC					
09...	1110	100	74	230	--
JAN 1998					
13...	728	110	26	120	--
MAR					
12...	556	66	29	78	--
APR					
09...	713	100	23	110	--
JUN					
03...	704	100	13	98	--
JUL					
23...	855	87	60	180	--
SEP					
03...	1610	210	43	390	--

413547083481302 LU-22 NR HOLLAND OH-LEVEL 2 (LAT 41 35 47N LONG 083 48 13W)

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
OCT 1997					
22...	830	100	25	170	--
DEC					
09...	789	100	22	160	--
JAN 1998					
13...	698	89	27	130	--
MAR					
12...	380	37	18	45	--
APR					
09...	437	57	19	40	--
JUN					
03...	624	75	17	99	--
JUL					
23...	757	83	46	140	--
SEP					
03...	1410	120	102	340	--

413547083481303 LU-22 NR HOLLAND OH-LEVEL 3 (LAT 41 35 47N LONG 083 48 13W)

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
OCT 1997					
22...	1740	100	166	470	--
DEC					
09...	1700	120	161	430	--
JAN 1998					
13...	1110	85	90	260	--
MAR					
12...	367	28	26	48	--
APR					
09...	566	49	66	110	--
JUN					
03...	947	--	--	220	--
JUL					
23...	774	53	70	140	--
SEP					
03...	1510	97	167	370	--

413547083481304 LU-22 NR HOLLAND OH-LEVEL 4 (LAT 41 35 47N LONG 083 48 13W)

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
OCT 1997					
22...	624	37	83	45	--
DEC					
09...	807	37	121	110	--
JAN 1998					
13...	528	38	47	82	--
MAR					
12...	353	27	22	41	--
APR					
09...	350	28	25	37	--
JUN					
03...	822	50	44	160	--
JUL					
23...	641	52	56	100	--
SEP					
03...	365	23	47	16	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
413547083481305 LU-22 NR HOLLAND OH-LEVEL 5 (LAT 41 35 47N LONG 083 48 13W)					
OCT 1997					
22...	385	31	26	20	--
DEC					
09...	365	36	19	10	--
JAN 1998					
13...	303	25	29	45	--
MAR					
12...	308	22	23	35	--
APR					
09...	247	19	14	13	--
JUN					
03...	544	29	59	51	--
JUL					
23...	428	22	55	27	--
SEP					
03...	304	17	41	6.0	--
413549083481501 LU-21 NR HOLLAND OH-LEVEL 1 (LAT 41 35 49N LONG 083 48 15W)					
OCT 1997					
22...	845	140	9.1	110	--
DEC					
09...	853	150	8.9	110	--
JAN 1998					
13...	842	--	--	110	--
MAR					
12...	767	120	10	94	--
APR					
09...	828	140	11	110	--
JUN					
03...	624	87	9.5	75	--
JUL					
23...	816	140	9.6	110	--
SEP					
03...	847	140	10	100	--
413549083481502 LU-21 NR HOLLAND OH-LEVEL 2 (LAT 41 35 49N LONG 083 48 15W)					
OCT 1997					
22...	333	47	3.3	18	--
DEC					
09...	302	47	3.7	15	--
JAN 1998					
13...	254	41	3.1	8.4	--
MAR					
12...	205	18	8.3	14	--
APR					
09...	266	40	3.7	10	--
JUN					
03...	102	5.9	6.5	3.4	--
JUL					
23...	253	--	--	6.8	--
SEP					
03...	294	47	3.5	13	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
413549083481503 LU-21 NR HOLLAND OH-LEVEL 3 (LAT 41 35 49N LONG 083 48 15W)					
OCT 1997					
22...	227	32	2.4	4.8	--
DEC					
09...	249	38	2.3	6.9	--
JAN 1998					
13...	144	19	5.0	4.9	--
MAR					
12...	184	15	8.7	11	--
APR					
09...	200	26	4.4	4.3	--
JUN					
03...	103	--	--	3.6	--
JUL					
23...	189	28	2.2	2.6	--
SEP					
03...	204	--	--	3.7	--
413549083481504 LU-21 NR HOLLAND OH-LEVEL 4 (LAT 41 35 49N LONG 083 48 15W)					
OCT 1997					
22...	181	19	4.0	7.9	--
DEC					
09...	165	22	3.4	7.4	--
JAN 1998					
13...	120	--	--	4.5	--
MAR					
12...	128	13	8.6	6.2	--
APR					
09...	130	8.7	9.3	4.9	--
JUN					
03...	137	--	--	4.3	--
JUL					
23...	179	23	2.4	3.0	--
SEP					
03...	167	--	--	6.1	--
413549083481505 LU-21 NR HOLLAND OH-LEVEL 5 (LAT 41 35 49N LONG 083 48 15W)					
OCT 1997					
22...	157	16	4.3	8.9	--
DEC					
09...	141	15	4.0	7.7	--
JAN 1998					
13...	110	7.5	5.6	4.6	--
MAR					
12...	138	10	9.6	6.8	--
APR					
09...	113	5.0	9.9	5.0	--
JUN					
03...	119	--	--	3.7	--
JUL					
23...	155	16	4.6	3.4	--
SEP					
03...	146	13	4.6	4.5	--

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
415305080414201 AB-139 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 05N LONG 080 41 42W)					
OCT 1997					
16...	605	51	63	50	--
DEC					
04...	897	93	55	150	--
JAN 1998					
07...	262	39	9.7	5.3	--
MAR					
19...	276	35	3.9	2.2	--
APR					
22...	292	--	--	2.7	--
MAY					
28...	379	--	--	3.4	--
JUL					
29...	947	47	125	140	--
SEP					
08...	640	37	86	53	--
415305080414202 AB-139 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 05N LONG 080 41 42W)					
OCT 1997					
16...	671	57	66	65	--
DEC					
04...	811	84	50	120	--
JAN 1998					
07...	257	35	7.4	5.6	--
MAR					
19...	261	32	3.9	2.7	--
APR					
22...	274	37	4.1	2.6	--
MAY					
28...	335	45	5.4	4.0	--
JUL					
29...	926	47	131	140	--
SEP					
08...	640	37	87	52	--
415305080414203 AB-139 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 05N LONG 080 41 42W)					
OCT 1997					
16...	676	57	66	66	--
DEC					
04...	763	79	47	110	--
JAN 1998					
07...	274	35	7.0	7.5	--
MAR					
19...	275	34	3.7	2.4	--
APR					
22...	254	31	3.8	2.7	--
MAY					
28...	312	42	3.8	2.3	--
JUL					
29...	896	52	119	130	--
SEP					
08...	640	37	84	54	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
415305080414204 AB-139 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 05N LONG 080 41 42W)					
OCT 1997					
16...	644	--	--	63	--
DEC					
04...	775	--	--	110	--
JAN 1998					
07...	243	34	5.7	3.9	--
MAR					
19...	278	--	--	2.7	--
APR					
22...	268	35	4.0	2.5	--
MAY					
28...	278	37	4.1	2.2	--
JUL					
29...	756	62	66	95	--
SEP					
08...	686	--	--	66	--
415305080414205 AB-139 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 05N LONG 080 41 42W)					
DEC 1997					
04...	633	--	--	66	--
JAN 1998					
07...	222	29	5.6	3.6	--
MAR					
19...	287	38	4.2	2.5	--
APR					
22...	265	35	4.1	2.9	--
MAY					
28...	255	--	--	2.8	--
JUL					
29...	278	--	--	3.7	--
SEP					
08...	--	--	--	3.9	--
415305080414206 AB-139 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 05N LONG 080 41 42W)					
MAY 1998					
28...	264	--	--	3.6	--
415307080414201 AB-133 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 07N LONG 080 41 42W)					
OCT 1997					
16...	4260	170	646	1100	--
DEC					
04...	3960	--	--	1100	--
JAN 1998					
07...	1820	--	--	490	--
MAR					
19...	3240	130	485	870	--
APR					
22...	3490	110	532	1000	--
MAY					
28...	2770	69	463	740	--
JUL					
29...	3360	130	506	890	--
SEP					
08...	4130	160	624	1100	--

DATE	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	BROMIDE DIS- SOLVED (MG/L AS BR) (71870)
415307080414202 AB-133 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 07N LONG 080 41 42W)					
OCT 1997					
16...	3350	130	515	910	--
DEC					
04...	2460	--	--	660	--
JAN 1998					
07...	1880	50	310	520	--
MAR					
19...	3270	120	524	900	--
APR					
22...	3410	110	526	980	--
MAY					
28...	2840	66	483	700	--
JUL					
29...	3130	97	494	820	--
SEP					
08...	4050	170	605	1100	--
415307080414203 AB-133 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 07N LONG 080 41 42W)					
OCT 1997					
16...	3180	120	503	830	--
DEC					
04...	2680	80	418	730	--
JAN 1998					
07...	1850	51	312	510	--
MAR					
19...	3350	120	530	920	--
APR					
22...	3430	110	527	1000	--
MAY					
28...	2750	62	464	720	--
JUL					
29...	3120	95	501	830	--
SEP					
08...	4040	170	598	1100	--
415307080414204 AB-133 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 07N LONG 080 41 42W)					
OCT 1997					
16...	3160	120	496	840	--
DEC					
04...	2070	--	--	540	--
JAN 1998					
07...	1900	43	259	530	--
MAR					
19...	3300	110	530	900	--
APR					
22...	3270	100	516	940	--
MAY					
28...	2610	55	440	680	--
JUL					
29...	3100	88	509	840	--
SEP					
08...	3950	160	600	1000	--

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
415307080414205 AB-133 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 07N LONG 080 41 42W)					
OCT 1997					
16...	2880	97	452	740	--
DEC					
04...	2040	--	--	540	--
JAN 1998					
07...	1830	49	300	500	--
MAR					
19...	2360	81	382	630	--
APR					
22...	3330	110	514	950	--
MAY					
28...	2510	52	430	660	--
JUL					
29...	2780	73	454	720	--
SEP					
08...	3920	160	587	1000	--
415307080414206 AB-133 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 07N LONG 080 41 42W)					
JAN 1998					
07...	1740	46	288	480	--
MAR					
19...	2460	65	357	670	--
APR					
22...	3330	100	507	960	--
MAY					
28...	1990	40	343	490	--
415308080414301 AB-135 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 08N LONG 080 41 43W)					
OCT 1997					
16...	1510	120	127	840	--
DEC					
04...	1730	140	155	410	--
JAN 1998					
07...	1930	110	168	460	--
MAR					
19...	1470	110	135	330	--
APR					
22...	1440	110	126	310	--
MAY					
28...	1370	100	119	280	--
JUL					
29...	1330	100	123	290	--
SEP					
08...	1390	100	122	290	--
415308080414302 AB-135 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 08N LONG 080 41 43W)					
OCT 1997					
16...	1510	120	127	340	--
DEC					
04...	1780	--	--	420	--
JAN 1998					
07...	1860	130	190	440	--
MAR					
19...	1280	99	120	270	--
APR					
22...	1420	110	124	310	--
MAY					
28...	1270	98	113	270	--
JUL					
29...	1330	100	114	290	--
SEP					
08...	1360	100	122	290	--

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
415308080414303 AB-135 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 08N LONG 080 41 43W)					
OCT 1997					
16...	1510	120	128	340	--
DEC					
04...	1830	--	--	690	--
JAN 1998					
07...	1850	120	173	440	--
MAR					
19...	1280	97	117	260	--
APR					
22...	1420	100	123	310	--
MAY					
28...	1250	98	113	270	--
JUL					
29...	1340	100	122	300	--
SEP					
08...	1370	100	127	310	--
415308080414304 AB-135 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 08N LONG 080 41 43W)					
OCT 1997					
16...	1500	120	125	330	--
DEC					
04...	1780	140	160	430	--
JAN 1998					
07...	1700	130	170	420	--
MAR					
19...	1200	93	108	240	--
APR					
22...	1400	100	121	310	--
MAY					
28...	1240	95	112	260	--
JUL					
29...	1340	100	112	290	--
SEP					
08...	1410	100	125	300	--
415308080414305 AB-135 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 08N LONG 080 41 43W)					
OCT 1997					
16...	1320	110	104	280	--
DEC					
04...	1500	140	115	330	--
JAN 1998					
07...	1610	130	145	380	--
MAR					
19...	1270	98	117	270	--
APR					
22...	1360	100	120	290	--
MAY					
28...	1280	98	117	270	--
JUL					
29...	1230	96	104	250	--
SEP					
08...	1290	100	106	280	--

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
415308080414306 AB-135 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 08N LONG 080 41 43W)					
OCT 1997					
16...	1320	110	106	270	--
DEC					
04...	1470	130	111	330	--
JAN 1998					
07...	1750	130	174	440	--
MAR					
19...	1610	--	--	370	--
APR					
22...	1290	99	118	280	--
MAY					
28...	1500	110	134	320	--
JUL					
29...	1240	99	104	250	--
SEP					
08...	1260	100	108	270	--
415309080414301 AB-136 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 09N LONG 080 41 43W)					
OCT 1997					
16...	2300	130	282	600	--
DEC					
04...	2460	140	321	710	--
JAN 1998					
07...	2410	110	278	640	--
MAR					
19...	2200	110	270	550	--
APR					
22...	1980	96	255	530	--
MAY					
28...	2110	99	274	540	--
JUL					
29...	2220	110	291	570	--
SEP					
08...	2360	--	--	590	--
415309080414302 AB-136 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 09N LONG 080 41 43W)					
OCT 1997					
16...	2310	130	287	620	--
DEC					
04...	2550	150	302	680	--
JAN 1998					
07...	2410	120	305	650	--
MAR					
19...	2160	110	256	560	--
APR					
22...	1990	95	255	520	--
MAY					
28...	2150	100	273	550	--
JUL					
29...	2190	110	300	580	--
SEP					
08...	2230	120	290	550	--

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
415309080414303 AB-136 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 09N LONG 080 41 43W)					
OCT 1997					
16...	2300	130	284	610	--
DEC					
04...	2560	150	309	670	--
JAN 1998					
07...	2410	120	308	660	--
MAR					
19...	2020	120	260	510	--
APR					
22...	1950	90	250	500	--
MAY					
28...	--	100	268	520	--
JUL					
29...	2200	100	300	570	--
SEP					
08...	2180	110	283	530	--
415309080414304 AB-136 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 09N LONG 080 41 43W)					
OCT 1997					
16...	2210	130	277	580	--
DEC					
04...	2580	--	--	680	--
JAN 1998					
07...	2400	120	311	640	--
MAR					
19...	2400	120	296	610	--
APR					
22...	1940	91	249	490	--
MAY					
28...	2090	98	270	530	--
JUL					
29...	2160	100	307	570	--
SEP					
08...	2570	120	349	660	--
415309080414305 AB-136 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 09N LONG 080 41 43W)					
OCT 1997					
16...	2130	120	258	550	--
DEC					
04...	2590	150	317	700	--
JAN 1998					
07...	2380	120	312	640	--
MAR					
19...	2360	130	299	600	--
APR					
22...	1930	92	252	500	--
MAY					
28...	2090	96	273	520	--
JUL					
29...	2140	110	282	540	--
SEP					
08...	2540	130	337	640	--

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)

415309080414306 AB-136 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 09N LONG 080 41 43W)

DATE	(90095)	(00915)	(00930)	(00940)	(71870)
OCT 1997					
16...	1790	110	207	440	--
DEC					
04...	2520	--	--	440	--
JAN 1998					
07...	2150	120	271	570	--
MAR					
19...	2200	--	--	570	--
APR					
22...	1880	100	232	470	--
MAY					
28...	1880	--	--	460	--
JUL					
29...	1730	92	211	410	--
SEP					
08...	1760	97	214	400	--

415309080414401 AB-138 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 09N LONG 080 41 44W)

DATE	(90095)	(00915)	(00930)	(00940)	(71870)
OCT 1997					
16...	989	84	72	190	.045
DEC					
04...	1130	100	72	230	.054
JAN 1998					
07...	1540	110	151	370	.067
MAR					
19...	1250	86	116	290	.064
APR					
22...	1280	96	125	300	.052
MAY					
28...	1140	83	118	250	.052
JUL					
29...	776	70	60	140	--
SEP					
08...	899	83	60	160	.045

415309080414402 AB-138 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 09N LONG 080 41 44W)

DATE	(90095)	(00915)	(00930)	(00940)	(71870)
OCT 1997					
16...	834	80	53	150	.042
DEC					
04...	1140	100	83	230	.052
JAN 1998					
07...	1390	100	129	330	.064
MAR					
19...	1030	79	89	220	.052
APR					
22...	1060	86	99	230	.043
MAY					
28...	973	76	90	200	.048
JUL					
29...	742	66	49	120	--
SEP					
08...	758	77	39	110	.041

DATE	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)
415309080414403 AB-138 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 09N LONG 080 41 44W)					
OCT 1997					
16...	736	85	37	110	--
DEC					
04...	738	100	26	120	.029
JAN 1998					
07...	1360	100	130	330	.058
MAR					
19...	910	74	78	170	.047
APR					
22...	984	84	86	190	.040
MAY					
28...	980	74	84	210	.051
JUL					
29...	651	65	36	90	--
SEP					
08...	717	79	34	100	.038
415309080414405 AB-138 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 09N LONG 080 41 44W)					
OCT 1997					
16...	1640	130	128	410	--
DEC					
04...	1910	140	181	490	.080
JAN 1998					
07...	1270	87	128	300	.059
MAR					
19...	1150	77	109	260	.062
APR					
22...	930	82	92	210	.038
MAY					
28...	802	62	76	150	.035
JUL					
29...	820	66	68	160	--
SEP					
08...	1400	100	126	310	.063
415309080414406 AB-138 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 09N LONG 080 41 44W)					
OCT 1997					
16...	1320	92	115	300	.061
DEC					
04...	788	100	26	150	.029
JAN 1998					
07...	1490	100	148	360	.069
MAR					
19...	1370	93	129	320	.060
APR					
22...	1410	100	143	330	.058
MAY					
28...	1090	82	118	250	.051
JUL					
29...	1030	80	91	220	--
SEP					
08...	1420	95	137	310	.065

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
415310080414401 AB-137 NR KINGSVILLE OH-LEVEL 1 (LAT 41 53 10N LONG 080 41 44W)					
OCT 1997					
16...	788	83	50	110	--
DEC					
04...	855	98	50	100	--
JAN 1998					
07...	781	81	46	88	--
MAR					
19...	798	77	50	120	--
APR					
22...	774	--	--	110	--
MAY					
28...	733	76	46	110	--
JUL					
29...	783	80	49	120	--
SEP					
08...	770	76	51	110	--
415310080414402 AB-137 NR KINGSVILLE OH-LEVEL 2 (LAT 41 53 10N LONG 080 41 44W)					
OCT 1997					
16...	790	82	49	110	--
DEC					
04...	842	95	49	100	--
JAN 1998					
07...	736	69	41	84	--
MAR					
19...	740	74	48	97	--
APR					
22...	713	77	45	95	--
MAY					
28...	716	74	44	100	--
JUL					
29...	751	75	51	120	--
SEP					
08...	776	76	51	120	--
415310080414403 AB-137 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 10N LONG 080 41 44W)					
OCT 1997					
16...	768	81	49	110	--
DEC					
04...	857	97	49	99	--
JAN 1998					
07...	735	73	45	86	--
MAR					
19...	726	--	--	93	--
APR					
22...	702	74	42	91	--
MAY					
28...	720	73	43	100	--
JUL					
29...	770	77	50	120	--
SEP					
08...	794	74	50	110	--

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	BROMIDE DISSOLVED (MG/L AS BR) (71870)
415310080414404 AB-137 NR KINGSVILLE OH-LEVEL 4 (LAT 41 53 10N LONG 080 41 44W)					
OCT 1997					
16...	796	82	50	110	--
DEC					
04...	872	100	48	94	--
JAN 1998					
07...	737	78	47	84	--
MAR					
19...	677	--	--	78	--
APR					
22...	655	68	38	85	--
MAY					
28...	717	73	45	100	--
JUL					
29...	779	76	49	110	--
SEP					
08...	798	77	49	110	--
415310080414405 AB-137 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 10N LONG 080 41 44W)					
OCT 1997					
16...	774	--	--	110	--
DEC					
04...	805	92	47	98	--
JAN 1998					
07...	737	77	49	82	--
MAR					
19...	680	66	48	80	--
APR					
22...	648	71	39	87	--
MAY					
28...	719	73	46	110	--
JUL					
29...	788	75	52	110	--
SEP					
08...	791	78	48	100	--
415310080414406 AB-137 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 10N LONG 080 41 44W)					
OCT 1997					
16...	766	80	50	100	--
DEC					
04...	896	110	48	97	--
JAN 1998					
07...	732	80	47	83	--
MAR					
19...	689	65	46	80	--
APR					
22...	644	70	37	88	--
MAY					
28...	720	80	46	120	--
JUL					
29...	775	78	50	110	--
SEP					
08...	788	78	49	100	--

SAMPLE ANALYSES FROM ONE WELL AT EACH SITE
WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	CYANIDE DISSOLVED (MG/L AS CN) (00723)
393541083000801 PK-50 NR CIRCLEVILLE OH-LEVEL 1 (LAT 39 35 41N LONG 083 00 08W)				
OCT 1997				
08...	738	7.6	438	<.01
393541083000802 PK-50 NR CIRCLEVILLE OH-LEVEL 2 (LAT 39 35 41N LONG 083 00 08W)				
OCT 1997				
08...	749	7.3	437	<.01
393541083000804 PK-50 NR CIRCLEVILLE OH-LEVEL 4 (LAT 39 35 41N LONG 083 00 08W)				
APR 1998				
28...	661	7.3	401	<.01
393541083000805 PK-50 NR CIRCLEVILLE OH-LEVEL 5 (LAT 39 35 41N LONG 083 00 08W)				
APR 1998				
28...	674	7.4	414	<.01
395859083440501 CL-140 NR SPRINGFIELD OH-LEVEL 1 (LAT 39 58 59N LONG 083 44 05W)				
APR 1998				
14...	921	7.2	559	<.01
395859083440502 CL-140 NR SPRINGFIELD OH-LEVEL 2 (LAT 39 58 59N LONG 083 44 05W)				
OCT 1997				
14...	787	7.1	478	<.01
395859083440503 CL-140 NR SPRINGFIELD OH-LEVEL 3 (LAT 39 58 59N LONG 083 44 05W)				
APR 1998				
14...	927	7.2	570	<.01
395859083440504 CL-140 NR SPRINGFIELD OH-LEVEL 4 (LAT 39 58 59N LONG 083 44 05W)				
OCT 1997				
14...	807	7.1	481	<.01
400947083480002 CH-44 NR URBANA OH-LEVEL 2 (LAT 40 09 47N LONG 083 48 00W)				
OCT 1997				
09...	848	7.3	507	<.01
APR 1998				
15...	906	7.2	565	<.01
400947083480003 CH-44 NR URBANA OH-LEVEL 3 (LAT 40 09 47N LONG 083 48 00W)				
OCT 1997				
09...	859	7.2	517	<.01
403923082325701 R-18 NR LEXINGTON OH-LEVEL 1 (LAT 40 39 23N LONG 082 32 57W)				
OCT 1997				
28...	477	7.2	259	<.01
403923082325704 R-18 NR LEXINGTON OH-LEVEL 4 (LAT 40 39 23N LONG 082 32 57W)				
OCT 1997				
28...	538	7.5	294	<.01
403923082325705 R-18 NR LEXINGTON OH-LEVEL 5 (LAT 40 39 23N LONG 082 32 57W)				
APR 1998				
21...	524	7.5	294	<.01

SAMPLE ANALYSES FROM ONE WELL AT EACH SITE—Continued
WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	SPECIFIC CONDUCTANCE LAB (US/CM) (90095)	PH WATER WHOLE LAB (STANDARD UNITS) (00403)	SOLIDS, RESIDUE AT 180 DEG. C DISSOLVED (MG/L) (70300)	CYANIDE DISSOLVED (MG/L AS CN) (00723)
403923082325706 R-18 NR LEXINGTON OH-LEVEL 6 (LAT 40 39 23N LONG 082 32 57W)				
APR 1998				
21...	659	7.4	381	<.01
411137081172401 PO-117 NR RAVENNA OH-LEVEL 1 (LAT 41 11 37N LONG 081 17 24W)				
OCT 1997				
15...	994	7.6	557	<.01
411137081172403 PO-117 NR RAVENNA OH-LEVEL 3 (LAT 41 11 37N LONG 081 17 24W)				
OCT 1997				
15...	1590	7.6	890	<.01
411137081172405 PO-117 NR RAVENNA OH-LEVEL 5 (LAT 41 11 37N LONG 081 17 24W)				
APR 1998				
23...	713	7.7	393	<.01
411137081172406 PO-117 NR RAVENNA OH-LEVEL 6 (LAT 41 11 37N LONG 081 17 24W)				
APR 1998				
23...	436	7.8	244	<.01
413547083481002 LU-26 NR HOLLAND OH-LEVEL 2 (LAT 41 35 47N LONG 083 48 10W)				
OCT 1997				
22...	2040	8.1	1130	<.01
APR 1998				
09...	617	8.4	356	<.01
413547083481004 LU-26 NR HOLLAND OH-LEVEL 4 (LAT 41 35 47N LONG 083 48 10W)				
OCT 1997				
22...	340	7.8	207	<.01
APR 1998				
09...	441	7.8	266	<.01
415309080414403 AB-138 NR KINGSVILLE OH-LEVEL 3 (LAT 41 53 09N LONG 080 41 44W)				
OCT 1997				
16...	736	7.7	400	<.01
APR 1998				
22...	984	7.6	570	<.01
415309080414405 AB-138 NR KINGSVILLE OH-LEVEL 5 (LAT 41 53 09N LONG 080 41 44W)				
OCT 1997				
16...	1640	7.5	949	<.01
415309080414406 AB-138 NR KINGSVILLE OH-LEVEL 6 (LAT 41 53 09N LONG 080 41 44W)				
APR 1998				
22...	1410	7.5	796	<.01

ADDITIONAL SAMPLE ANALYSES
WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
393541083001000 PK-47 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 10W)										
OCT 1997										
08...	10.38	615	7.0	15.5	360	91	31	4.9	2.3	248
APR 1998										
28...	8.73	620	7.3	13.5	330	84	28	10	2.1	264
393541083001200 PK-53 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 12W)										
OCT 1997										
08...	9.85	708	7.1	14.5	410	100	36	3.0	1.1	282
APR 1998										
28...	8.22	661	7.2	12.5	360	94	32	2.4	1.0	278
395859083440600 CL-137 NR SPRINGFIELD OH (LAT 39 58 59N LONG 083 44 06W)										
OCT 1997										
14...	20.37	794	6.9	13.5	420	100	40	7.9	2.7	350
APR 1998										
14...	20.83	820	7.1	13.0	430	100	42	8.6	3.4	382
395901083440700 CL-136 NR SPRINGFIELD OH (LAT 39 59 01N LONG 083 44 07W)										
OCT 1997										
14...	19.31	767	6.8	13.0	430	100	41	3.7	1.1	364
APR 1998										
14...	19.40	730	7.2	12.0	400	92	40	6.9	1.2	364
400948083480200 CH-41 NR URBANA OH (LAT 40 09 48N LONG 083 48 02W)										
OCT 1997										
09...	10.24	824	7.0	13.5	440	110	41	22	3.4	312
APR 1998										
15...	8.37	796	7.2	12.5	400	99	38	15	4.3	354
400950083480600 CH-38 NR URBANA OH (LAT 40 09 50N LONG 083 48 06W)										
OCT 1997										
09...	7.56	748	6.9	14.5	430	110	41	4.4	1.9	302
APR 1998										
15...	5.59	730	7.3	9.5	410	98	39	3.8	1.6	328
403923082325400 R-21 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 54W)										
OCT 1997										
28...	17.59	172	7.4	13.0	78	22	5.9	1.9	1.1	52
APR 1998										
21...	7.46	198	7.4	10.5	96	28	6.7	1.9	1.2	68
403923082325600 R-15 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 56W)										
OCT 1997										
28...	17.37	242	6.7	11.0	84	23	6.8	13	.95	56
APR 1998										
21...	13.66	355	6.7	11.0	98	27	7.7	29	1.2	51
411137081172100 PO-114 NR RAVENNA OH (LAT 41 11 37N LONG 081 17 21W)										
OCT 1997										
15...	4.88	495	7.3	13.5	250	85	9.1	6.1	2.3	170
APR 1998										
23...	.80	268	7.2	10.5	130	46	4.3	10	1.3	133
411138081172400 PO-115 NR RAVENNA OH (LAT 41 11 38N LONG 081 17 24W)										
OCT 1997										
15...	8.80	2170	7.0	13.0	130	44	5.2	396	1.8	202
APR 1998										
23...	5.72	1850	7.1	9.5	210	70	7.7	276	3.2	108

ADDITIONAL SAMPLE ANALYSES—Continued
WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
393541083001000 PK-47 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 10W)									
OCT 1997									
08...	52	17	.10	.033	8.6	379	382	.025	3.85
APR 1998									
28...	53	20	.12	.032	7.3	387	376	.015	2.69
393541083001200 PK-53 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 12W)									
OCT 1997									
08...	63	13	.11	.030	9.4	438	441	<.010	8.39
APR 1998									
28...	53	13	.14	.040	8.2	413	406	<.010	7.40
395859083440600 CL-137 NR SPRGFLD,OH (LAT 39 58 59N LONG 083 44 06W)									
OCT 1997									
14...	29	15	.21	.028	12	459	471	<.010	9.43
APR 1998									
14...	30	25	.23	.046	12	503	473	<.010	5.06
395901083440700 CL-136 NR SPRINGFIELD OH (LAT 39 59 01N LONG 083 44 07W)									
OCT 1997									
14...	32	8.7	.25	.036	13	457	458	<.010	7.46
APR 1998									
14...	36	13	.27	.020	12	465	444	<.010	5.74
400948083480200 CH-41 NR URBANA OH (LAT 40 09 48N LONG 083 48 02W)									
OCT 1997									
09...	93	32	.28	.025	9.0	517	516	.018	2.13
APR 1998									
15...	92	27	.34	.024	8.1	510	484	.014	.964
400950083480600 CH-38 NR URBANA OH (LAT 40 09 50N LONG 083 48 06W)									
OCT 1997									
09...	85	18	.34	.030	8.7	453	457	<.010	<.050
APR 1998									
15...	100	14	.37	.013	6.4	489	452	<.010	<.050
403923082325400 R-21 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 54W)									
OCT 1997									
28...	13	2.3	<.10	.021	11	108	106	<.010	3.58
APR 1998									
21...	20	2.1	<.10	.011	9.6	122	120	<.010	1.95
403923082325600 R-15 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 56W)									
OCT 1997									
28...	23	18	<.10	<.010	9.7	143	143	<.010	3.15
APR 1998									
21...	23	57	<.10	.018	8.5	197	196	<.010	2.19
411137081172100 PO-114 NR RAVENNA OH (LAT 41 11 37N LONG 081 17 21W)									
OCT 1997									
15...	46	14	<.10	.019	7.7	293	294	.050	3.49
APR 1998									
23...	20	4.9	<.10	<.010	5.6	177	175	<.010	1.50
411138081172400 PO-115 NR RAVENNA OH (LAT 41 11 38N LONG 081 17 24W)									
OCT 1997									
15...	75	500	.28	.095	5.7	1180	1160	<.010	.994
APR 1998									
23...	35	490	<.10	.066	4.1	1030	956	<.010	.473

ADDITIONAL SAMPLE ANALYSES—Continued
WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)
393541083001000 PK-47 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 10W)									
OCT 1997									
08...	<.015	<.20	<.010	<.010	80	<.50	<1.0	<3.0	<10
APR 1998									
28...	.024	<.10	<.010	.017	69	<1.0	<8.0	<12	<10
393541083001200 PK-53 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 12W)									
OCT 1997									
08...	<.015	<.20	<.010	<.010	79	<.50	<1.0	<3.0	<10
APR 1998									
28...	.023	<.10	<.010	<.010	72	<1.0	<8.0	<12	<10
395859083440600 CL-137 NR SPRGFLD,OH (LAT 39 58 59N LONG 083 44 06W)									
OCT 1997									
14...	<.015	<.20	.014	<.010	136	<.50	<1.0	<3.0	<10
APR 1998									
14...	.021	<.10	<.010	<.010	154	<1.0	<8.0	<12	<10
395901083440700 CL-136 NR SPRINGFIELD OH (LAT 39 59 01N LONG 083 44 07W)									
OCT 1997									
14...	<.015	<.20	.040	<.010	135	<.50	1.4	<3.0	<10
APR 1998									
14...	.023	<.10	<.010	<.010	128	<1.0	<8.0	<12	<10
400948083480200 CH-41 NR URBANA OH (LAT 40 09 48N LONG 083 48 02W)									
OCT 1997									
09...	<.015	<.20	<.010	<.010	78	<.50	<1.0	<3.0	<10
APR 1998									
15...	<.020	<.10	<.010	<.010	80	<1.0	<8.0	<12	<10
400950083480600 CH-38 NR URBANA OH (LAT 40 09 50N LONG 083 48 06W)									
OCT 1997									
09...	.022	<.20	<.010	<.010	78	<.50	<1.0	<3.0	<10
APR 1998									
15...	.039	.21	<.010	<.010	69	<1.0	<8.0	<12	<10
403923082325400 R-21 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 54W)									
OCT 1997									
28...	<.015	<.20	<.010	<.010	13	<.50	<1.0	<3.0	<10
APR 1998									
21...	.037	<.10	.014	<.010	19	<1.0	<8.0	<12	<10
403923082325600 R-15 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 56W)									
OCT 1997									
28...	<.015	<.20	<.010	.014	17	<.50	<1.0	<3.0	<10
APR 1998									
21...	<.020	<.10	.026	.018	25	<1.0	<8.0	<12	<10
411137081172100 PO-114 NR RAVENNA OH (LAT 41 11 37N LONG 081 17 21W)									
OCT 1997									
15...	.041	<.20	<.010	<.010	36	<.50	<1.0	<3.0	<10
APR 1998									
23...	.092	<.10	<.010	<.010	21	<1.0	<8.0	<12	<10
411138081172400 PO-115 NR RAVENNA OH (LAT 41 11 38N LONG 081 17 24W)									
OCT 1997									
15...	.016	<.20	.035	.043	36	<1.5	<3.0	<9.0	<30
APR 1998									
23...	.027	<.10	<.010	.024	49	<1.0	<8.0	<12	<10

ADDITIONAL SAMPLE ANALYSES—Continued
WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CYANIDE DIS-SOLVED (MG/L AS CN) (00723)
393541083001000 PK-47 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 10W)									
OCT 1997									
08...	4.0	<10	4	20	<10	131	<6	7.7	<.01
APR 1998									
28...	<10	<100	<4	20	<60	116	<10	<20	<.01
393541083001200 PK-53 NR CIRCLEVILLE OH (LAT 39 35 41N LONG 083 00 12W)									
OCT 1997									
08...	<3.0	<10	5	11	<10	108	<6	<3.0	<.01
APR 1998									
28...	<10	<100	<4	15	<60	95	<10	<20	<.01
395859083440600 CL-137 NR SPRINGFIELD OH (LAT 39 58 59N LONG 083 44 06W)									
OCT 1997									
14...	4.0	<10	5	<1.0	<10	176	<6	9.1	<.01
APR 1998									
14...	<10	<100	<4	<4.0	<60	181	<10	<20	<.01
395901083440700 CL-136 NR SPRINGFIELD OH (LAT 39 59 01N LONG 083 44 07W)									
OCT 1997									
14...	4.8	<10	6	<1.0	<10	376	<6	6.7	<.01
APR 1998									
14...	<10	<100	<4	<4.0	<60	288	<10	<20	<.01
400948083480200 CH-41 NR URBANA OH (LAT 40 09 48N LONG 083 48 02W)									
OCT 1997									
09...	76	<10	6	139	<10	425	<6	7.7	<.01
APR 1998									
15...	110	<100	<4	109	<60	387	<10	<20	<.01
400950083480600 CH-38 NR URBANA OH (LAT 40 09 50N LONG 083 48 06W)									
OCT 1997									
09...	940	<10	5	132	<10	340	<6	<3.0	<.01
APR 1998									
15...	790	<100	<4	124	<60	315	<10	<20	<.01
403923082325400 R-21 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 54W)									
OCT 1997									
28...	7.4	<10	<4	1.1	<10	38	<6	<3.0	<.01
APR 1998									
21...	51	<100	<4	111	<60	46	<10	<20	<.01
403923082325600 R-15 NR LEXINGTON OH (LAT 40 39 23N LONG 082 32 56W)									
OCT 1997									
28...	<3.0	<10	<4	<1.0	<10	45	<6	<3.0	<.01
APR 1998									
21...	<10	<100	<4	<4.0	<60	54	<10	<20	<.01
411137081172100 PO-114 NR RAVENNA OH (LAT 41 11 37N LONG 081 17 21W)									
OCT 1997									
15...	4.9	<10	<4	220	<10	169	<6	<3.0	<.01
APR 1998									
23...	<10	<100	<4	4.9	<60	101	<10	<20	<.01
411138081172400 PO-115 NR RAVENNA OH (LAT 41 11 38N LONG 081 17 24W)									
OCT 1997									
15...	19	<100	<12	<3.0	<30	160	<18	21	.02
APR 1998									
23...	<10	<100	<4	<4.0	<60	233	<10	<20	<.01

ADDITIONAL SAMPLE ANALYSES—Continued
WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)
413547083481300 LU-22 NR HOLLAND OH (LAT 41 35 47N LONG 083 48 13W)										
OCT 1997										
23...	5.89	1150	7.9	15.5	210	65	11	130	3.3	126
APR 1998										
10...	3.48	525	8.0	10.5	140	37	10	48	1.8	82
413549083481500 LU-21 NR HOLLAND OH (LAT 41 35 49N LONG 083 48 15W)										
OCT 1997										
23...	5.31	248	7.7	13.0	110	34	5.0	3.3	1.6	64
APR 1998										
10...	2.85	196	7.6	9.5	88	27	5.0	5.5	1.1	48
415305080414200 AB-139 NR KINGSVILLE OH (LAT 41 53 05N LONG 080 41 42W)										
OCT 1997										
16...	11.78	491	7.6	13.0	180	56	9.9	33	.88	148
APR 1998										
22...	5.66	522	7.3	12.0	170	52	9.4	14	.63	114
415307080414200 AB-133 NR KINGSVILLE OH (LAT 41 53 07N LONG 080 41 42W)										
OCT 1997										
16...	7.97	4180	7.1	13.2	520	160	29	600	2.5	262
APR 1998										
22...	4.79	3500	6.9	9.5	400	120	21	548	3.0	152

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)
413547083481300 LU-22 NR HOLLAND OH (LAT 41 35 47N LONG 083 48 13W)									
OCT 1997									
23...	45	230	<.10	.036	7.9	630	592	<.010	2.14
APR 1998									
10...	25	94	.10	.019	5.1	300	280	<.010	.910
413549083481500 LU-21 NR HOLLAND OH (LAT 41 35 49N LONG 083 48 15W)									
OCT 1997									
23...	30	15	<.10	<.010	8.5	155	141	<.010	.203
APR 1998									
10...	28	12	.14	<.010	7.4	128	120	<.010	.110
415305080414200 AB-139 NR KINGSVILLE OH (LAT 41 53 05N LONG 080 41 42W)									
OCT 1997									
16...	62	30	.29	.020	11	296	322	<.010	<.050
APR 1998									
22...	54	26	.16	<.010	11	240	237	<.010	.244
415307080414200 AB-133 NR KINGSVILLE OH (LAT 41 53 07N LONG 080 41 42W)									
OCT 1997									
16...	77	1100	<.10	.20	9.8	2270	2140	<.010	.248
APR 1998									
22...	53	970	<.10	.13	5.7	2020	1820	<.010	.177

ADDITIONAL SAMPLE ANALYSES—Continued
WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	NITROGEN, AMMONIA DISSOLVED (MG/L AS N) (00608)	NITROGEN, AMMONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOSPHORUS DISSOLVED (MG/L AS P) (00666)	PHOSPHORUS ORTHO, DISSOLVED (MG/L AS P) (00671)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)
413547083481300 LU-22 NR HOLLAND OH (LAT 41 35 47N LONG 083 48 13W)									
OCT 1997									
23...	.067	.33	<.010	<.010	66	<.50	<1.0	<3.0	<10
APR 1998									
10...	.044	<.10	<.010	.017	28	<1.0	<8.0	<12	<10
413549083481500 LU-21 NR HOLLAND OH (LAT 41 35 49N LONG 083 48 15W)									
OCT 1997									
23...	.051	<.20	<.010	.010	33	<.50	1.3	4.5	<10
APR 1998									
10...	.038	<.10	<.010	.017	32	<1.0	<8.0	<12	<10
415305080414200 AB-139 NR KINGSVILLE OH (LAT 41 53 05N LONG 080 41 42W)									
OCT 1997									
16...	.022	<.20	<.010	<.010	24	<.50	<1.0	<3.0	<10
APR 1998									
22...	.033	<.10	.018	.016	22	<1.0	<8.0	<12	<10
415307080414200 AB-133 NR KINGSVILLE OH (LAT 41 53 07N LONG 080 41 42W)									
OCT 1997									
16...	.031	<.20	.016	.011	194	<1.5	<3.0	<9.0	<30
APR 1998									
22...	.026	<.10	.010	.012	163	<3.0	<24	<36	<30

DATE	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	CYANIDE DISSOLVED (MG/L AS CN) (00723)
413547083481300 LU-22 NR HOLLAND OH (LAT 41 35 47N LONG 083 48 13W)									
OCT 1997									
23...	320	14	<4	93	<10	270	<6	<3.0	<.01
APR 1998									
10...	33	<100	<4	26	<60	151	<10	<20	<.01
413549083481500 LU-21 NR HOLLAND OH (LAT 41 35 49N LONG 083 48 15W)									
OCT 1997									
23...	350	<10	<4	47	<10	80	<6	<3.0	<.01
APR 1998									
10...	240	<100	<4	31	<60	70	<10	<20	<.01
415305080414200 AB-139 NR KINGSVILLE OH (LAT 41 53 05N LONG 080 41 42W)									
OCT 1997									
16...	<3.0	<10	6	320	<10	90	<6	4.3	<.01
APR 1998									
22...	<10	<100	5	106	<60	86	<10	<20	<.01
415307080414200 AB-133 NR KINGSVILLE OH (LAT 41 53 07N LONG 080 41 42W)									
OCT 1997									
16...	<9.0	<30	12	6.3	<30	352	<18	<9.0	.01
APR 1998									
22...	<30	<300	13	<12	<180	364	<30	<60	<.01

The following table lists ground-water level measurements from wells located throughout the seven sites in the "Effects of Highway Deicing Chemicals" study area.

GROUND-WATER LEVELS

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
393540083001200	PK-46 NR CIRCLEVILLE OH	34.6	112OTSH	10-08-1997	10.55	679.16
				11-26-1997	11.12	
				01-15-1998	10.63	
				03-04-1998	10.30	
				04-28-1998	8.93	
				06-02-1998	8.57	
				07-09-1998	6.66	
				08-27-1998	8.94	
393541083000700	PK-44 NR CIRCLEVILLE OH	38	112OTSH	10-08-1997	12.09	679.54
				11-26-1997	12.57	
				01-15-1998	12.02	
				03-04-1998	11.72	
				04-28-1998	10.45	
				06-02-1998	10.19	
				07-09-1998	8.47	
				08-27-1998	10.62	
393541083000800	PK-50 NR CIRCLEVILLE OH	34.3	112OTSH	10-08-1997	11.78	679.62
				11-26-1997	12.32	
				01-15-1998	11.83	
				03-04-1998	11.49	
				04-28-1998	9.98	
				06-02-1998	9.23	
				07-09-1998	8.00	
393541083000900	PK-49 NR CIRCLEVILLE OH	35.6	112OTSH	10-08-1997	11.44	679.51
				11-26-1997	11.98	
				01-15-1998	11.44	
				03-04-1998	11.12	
				04-28-1998	9.82	
				06-02-1998	9.51	
				07-09-1998	7.66	
				08-27-1998	9.92	
393541083001000	PK-47 NR CIRCLEVILLE OH	36.1	112OTSH	10-08-1997	10.38	678.37
				11-26-1997	10.85	
				01-15-1998	10.27	
				03-04-1998	10.09	
				04-28-1998	8.73	
				06-02-1998	8.46	
				07-09-1998	6.67	
				08-27-1998	8.83	
393541083001100	PK-48 NR CIRCLEVILLE OH	28.0	112OTSH	10-08-1997	10.65	678.50
				11-26-1997	11.20	
				01-15-1998	10.67	
				03-04-1998	10.36	
				04-28-1998	9.06	
				06-02-1998	8.76	
				07-09-1998	6.98	
				08-27-1998	9.17	
393541083001200	PK-53 NR CIRCLEVILLE OH	35.6	112OTSH	10-08-1997	9.85	678.50
				11-26-1997	10.42	
				01-15-1998	9.92	
				03-04-1998	9.60	
				04-28-1998	8.22	
				06-02-1998	7.88	
				07-09-1998	5.95	
				08-27-1998	8.25	

GROUND-WATER LEVELS—Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
393542083000500	PK-52 NR CIRCLEVILLE OH	36.2	112OTSH	10-08-1997	11.76	679.58
				11-26-1997	12.29	
				01-15-1998	11.75	
				03-04-1998	11.41	
				04-28-1998	10.12	
				06-02-1998	9.73	
				07-09-1998	8.14	
				08-27-1998	10.26	
393542083000700	PK-51 NR CIRCLEVILLE OH	35.5	112OTSH	10-08-1997	11.68	679.63
				11-26-1997	12.21	
				01-15-1998	11.66	
				03-04-1998	11.36	
				04-28-1998	10.06	
				06-02-1998	9.27	
				07-09-1998	8.01	
				08-27-1998	10.18	
395859083440200	CL-141 NR SPRINGFIELD OH	37.5	112OTSH	11-25-1997	21.15	1030.70
				08-26-1998	18.61	
395859083440300	CL-143 NR SPRINGFIELD OH	40.0	112OTSH	11-25-1997	19.96	1029.45
395859083440400	CL-142 NR SPRINGFIELD OH	35.9	112OTSH	11-25-1997	20.46	1030.00
395859083440500	CL-140 NR SPRINGFIELD OH	36.7	112OTSH	11-25-1997	21.04	1030.49
				04-14-1998	20.03	
395859083440600	CL-137 NR SPRINGFIELD OH	38.0	112OTSH	10-14-1997	20.37	1031.34
				11-25-1997	21.80	
				04-14-1998	20.83	
				08-26-1998	19.23	
395859083440700	CL-138 NR SPRINGFIELD OH	28.5	112OTSH	10-14-1997	20.63	1031.61
				11-25-1997	22.05	
				01-14-1998	22.11	
				03-05-1998	22.42	
				04-14-1998	21.10	
				06-05-1998	19.62	
				07-08-1998	19.58	
				08-26-1998	19.71	
395859083440800	CL-139 NR SPRINGFIELD OH	36.9	112OTSH	10-14-1997	19.94	1031.33
				11-25-1997	21.40	
				08-26-1998	19.52	
395901083440600	CL-135 NR SPRINGFIELD OH	37.2	112OTSH	10-14-1997	19.02	1031.89
				11-25-1997	19.57	
395901083440700	CL-136 NR SPRINGFIELD OH	37.5	112OTSH	10-14-1997	19.31	1032.08
				11-25-1997	19.84	
				04-14-1998	19.40	
				08-26-1998	18.69	
400947083480000	CH-44 NR URBANA OH	31.0	112OTSH	10-09-1997	9.97	1029.71
				11-25-1997	10.21	
				04-15-1998	8.13	
				08-28-1998	10.13	
400948083475800	CH-46 NR URBANA OH	34.8	112OTSH	10-09-1997	8.91	1028.56
				11-25-1997	9.12	
				08-28-1998	11.10	
400948083480000	CH-45 NR URBANA OH	34.4	112OTSH	10-09-1997	9.52	1029.26
				11-25-1997	9.71	
				08-28-1998	9.20	
400948083480100	CH-43 NR URBANA OH	32.2	112OTSH	10-09-1997	9.81	1029.48
				11-25-1997	9.99	
				08-28-1998	9.47	

GROUND-WATER LEVELS—Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
400948083480200	CH-41 NR URBANA OH	34.3	112OTSH	10-09-1997	10.24	1029.98
				11-25-1997	10.42	
				04-15-1998	8.37	
				08-28-1998	9.90	
400949083480100	CH-42 NR URBANA OH	28.7	112OTSH	10-09-1997	10.20	1029.89
				11-25-1997	10.39	
				01-14-1998	8.54	
				03-05-1998	9.12	
				04-15-1998	8.34	
				05-01-1998	8.26	
				06-05-1998	9.24	
				07-08-1998	9.16	
				08-28-1998	9.85	
400950083480600	CH-38 NR URBANA OH	19.2	112OTSH	10-09-1997	7.56	1027.30
				04-15-1998	5.59	
403922082325900	R-19 NR LEXINGTON OH	30.0	112OTSH	10-28-1997	13.68	1164.90
				12-03-1997	13.62	
				01-06-1998	13.37	
				03-11-1998	11.87	
				04-21-1998	10.99	
				05-27-1998	11.96	
				07-22-1998	12.27	
				09-02-1998	13.30	
403922082330000	R-20 NR LEXINGTON OH	34.2	112OTSH	10-28-1997	10.37	1161.26
				12-03-1997	10.30	
				01-06-1998	10.05	
				03-11-1998	8.67	
				04-21-1998	7.82	
				05-27-1998	8.73	
				07-22-1998	9.03	
				09-02-1998	10.02	
403923082325400	R-21 NR LEXINGTON OH	25.0	112OTSH	10-28-1997	17.59	1185.19
				12-03-1997	19.20	
				01-06-1998	16.98	
				03-11-1998	13.74	
				04-21-1998	7.46	
				05-27-1998	14.92	
				07-22-1998	16.16	
				09-02-1998	17.06	
403923082325500	R-16 NR LEXINGTON OH	18.9	112OTSH	10-28-1997	17.18	1168.37
				12-03-1997	17.16	
				01-06-1998	16.87	
				02-23-1998	13.56	
				03-11-1998	14.20	
				04-21-1998	12.28	
				05-27-1998	14.20	
				07-22-1998	15.51	
				09-02-1998	16.79	
403923082325600	R-15 NR LEXINGTON OH	23.0	112OTSH	10-28-1997	17.37	1168.39
				12-03-1997	17.36	
				01-06-1998	17.13	
				03-11-1998	15.27	
				04-21-1998	13.66	
				05-27-1998	15.64	
				07-22-1998	15.98	
				09-02-1998	17.16	
403923082325700	R-18 NR LEXINGTON OH	23.0	112OTSH	10-28-1997	15.56	1167.10
				12-03-1997	15.50	
				01-06-1998	15.26	
				03-11-1998	13.67	
				04-21-1998	12.53	
				05-27-1998	13.62	
				07-22-1998	14.15	
				09-02-1998	15.17	

GROUND-WATER LEVELS—Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
403923082325800	R-12 NR LEXINGTON OH	22.0	112OTSH	10-28-1997	15.73	1167.02
				12-03-1997	15.68	
				01-06-1998	15.44	
				03-11-1998	13.85	
				04-21-1998	12.72	
				05-22-1998	13.80	
				07-22-1998	14.30	
				09-02-1998	15.37	
403923082325900	R-17 NR LEXINGTON OH	23.2	112OTSH	10-28-1997	15.14	1166.89
				12-03-1997	15.10	
				01-06-1998	14.97	
				03-11-1998	13.30	
				04-21-1998	12.12	
				07-22-1998	13.78	
				09-02-1998	14.80	
403923082330000	R-13 NR LEXINGTON OH	30	112OTSH	10-28-1997	11.50	1162.27
				12-03-1997	11.45	
				01-06-1998	11.21	
				03-11-1998	9.86	
				04-21-1998	9.00	
				05-27-1998	9.92	
				07-22-1998	10.21	
				09-02-1998	11.22	
403925082325600	R-14 NR LEXINGTON OH	30	112OTSH	10-28-1997	23.74	1185.01
				12-03-1997	26.06	
				01-06-1998	19.78	
				03-11-1998	16.55	
				04-21-1998	10.27	
				05-27-1998	17.75	
				07-22-1998	18.96	
411135081172600	PO-113 NR RAVENNA OH	9.2	112OTSH	12-05-1997	0.92	1061.12
				01-08-1998	0.13	
				03-20-1998	0.38	
				04-23-1998	0.35	
				05-29-1998	1.27	
411136081172400	PO-122 NR RAVENNA OH	24	112OTSH	10-15-1997	5.56	1064
				12-05-1997	4.79	
				01-08-1998	2.23	
				03-20-1998	2.74	
				04-23-1998	2.48	
				05-29-1998	3.41	
				07-30-1998	4.58	
				09-09-1998	5.48	
411137081172100	PO-114 NR RAVENNA OH	12.3	112OTSH	10-15-1997	4.88	1064.40
				12-05-1997	4.08	
				01-08-1998	1.33	
				03-20-1998	1.02	
				04-23-1998	.80	
				05-29-1998	2.12	
				07-30-1998	3.24	
				09-09-1998	4.76	
411137081172300	PO-118 NR RAVENNA OH	19.0	112OTSH	10-15-1997	7.41	1067.14
				12-05-1997	6.25	
				01-08-1998	4.95	
				03-20-1998	4.57	
				04-23-1998	4.33	
				05-29-1998	5.73	
				07-30-1998	6.45	
				09-09-1998	7.31	

GROUND-WATER LEVELS—Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
411137081172400	PO-117 NR RAVENNA OH	18.5	112OTSH	10-15-1997	7.14	1066.86
				12-05-1997	6.42	
				01-08-1998	4.69	
				03-20-1998	4.29	
				04-23-1998	4.07	
				05-29-1998	5.47	
				07-30-1998	6.21	
				09-09-1998	7.08	
411137081172500	PO-112 NR RAVENNA OH	8.5	112OTSH	10-15-1997	4.79	1064.50
				12-05-1997	4.02	
				01-08-1998	1.99	
				03-20-1998	1.98	
				04-23-1998	1.80	
				05-29-1998	3.10	
				07-30-1998	3.81	
				09-09-1998	4.71	
411138081172100	PO-111 NR RAVENNA OH	10.0	112OTSH	10-15-1997	3.92	1069.92
				12-05-1997	3.33	
				01-08-1998	1.36	
				03-20-1998	.60	
				04-23-1998	.35	
				05-29-1998	1.59	
				07-30-1998	2.61	
				09-09-1998	3.80	
411138081172400	PO-115 NR RAVENNA OH	17.5	112OTSH	10-15-1997	8.80	1068.59
				12-05-1997	8.10	
				01-08-1998	8.47	
				03-20-1998	5.97	
				04-23-1998	5.72	
				05-29-1998	7.13	
				07-30-1998	7.88	
				09-09-1998	8.74	
411138081172500	PO-116 NR RAVENNA OH	17.5	112OTSH	10-15-1997	8.68	1068.39
				12-05-1997	7.96	
				01-08-1998	6.40	
				02-24-1998	6.38	
				03-20-1998	5.82	
				04-23-1998	5.55	
				05-29-1998	6.93	
				07-30-1998	7.72	
				09-09-1998	6.39	
411138081172600	PO-121 NR RAVENNA OH	18.4	112OTSH	10-15-1997	8.54	1068.24
				12-05-1997	7.82	
				01-08-1998	7.17	
				03-20-1998	5.71	
				04-23-1998	5.46	
				05-29-1998	6.85	
				07-30-1998	7.59	
413546083480900	LU-28 NR HOLLAND OH	28.2	112LAKE	10-22-1997	6.16	676.61
				12-09-1997	6.13	
				01-13-1998	4.90	
				03-12-1998	3.97	
				04-09-1998	4.37	
				06-03-1998	4.98	
				07-23-1998	5.97	
				09-03-1998	5.90	
413547083481000	LU-26 NR HOLLAND OH	29.6	112LAKE	10-22-1997	5.60	676.75
				12-09-1997	5.52	
				01-13-1998	4.36	
				03-12-1998	3.48	
				04-09-1998	3.78	
				06-03-1998	4.46	
				07-23-1998	5.05	
				09-03-1998	5.35	

GROUND-WATER LEVELS—Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
413547083481100	LU-27 NR HOLLAND OH	28.4	112LAKE	10-22-1997	5.39	676.39
				12-09-1997	5.35	
				01-13-1998	4.15	
				03-12-1998	3.28	
				04-09-1998	3.59	
				06-03-1998	4.23	
				07-23-1998	5.09	
				09-03-1998	5.15	
413547083481200	LU-25 NR HOLLAND OH	29.4	112LAKE	10-22-1997	5.54	676.68
				12-09-1997	5.47	
				01-13-1998	4.29	
				03-12-1998	3.43	
				04-09-1998	3.71	
				06-03-1998	4.41	
				07-23-1998	4.99	
				09-03-1998	5.28	
413547083481300	LU-22 NR HOLLAND OH	28.3	112LAKE	10-22-1997	5.87	677.08
				12-09-1997	5.77	
				01-13-1998	4.62	
				03-12-1998	3.76	
				04-09-1998	3.70	
				06-03-1998	4.72	
				07-23-1998	5.14	
				09-03-1998	5.49	
413547083481400	LU-23 NR HOLLAND OH	29.4	112LAKE	10-22-1997	5.76	676.97
				12-09-1997	5.64	
				01-13-1998	4.53	
				03-12-1998	3.67	
				04-09-1998	3.64	
				06-03-1998	4.63	
				07-23-1998	5.10	
				09-03-1998	5.54	
413547083481500	LU-24 NR HOLLAND OH	18.7	112LAKE	10-22-1997	5.99	677.21
				12-09-1997	5.92	
				01-13-1998	4.76	
				03-12-1998	3.91	
				04-09-1998	3.92	
				06-03-1998	4.87	
				07-23-1998	5.37	
				09-03-1998	5.76	
413548083480400	LU-17 NR HOLLAND OH	29.2	112LAKE	10-22-1997	6.14	676.23
				12-09-1997	6.05	
				01-13-1998	4.96	
				03-12-1998	4.02	
				04-09-1998	4.45	
				06-03-1998	5.07	
				07-23-1998	6.16	
				09-03-1998	5.91	
413549083481500	LU-21 NR HOLLAND OH	29.1	112LAKE	10-22-1997	5.27	677.07
				12-09-1997	5.09	
				01-13-1998	4.03	
				03-12-1998	3.04	
				04-09-1998	3.31	
				06-03-1998	4.24	
				07-23-1998	5.38	
				09-03-1998	5.11	
413551083481200	LU-20 NR HOLLAND OH	31.0	112LAKE	10-22-1997	4.52	676.13
				12-09-1997	4.25	
				01-13-1998	3.20	
				03-12-1998	2.32	
				04-09-1998	2.36	
				06-03-1998	3.68	
				07-23-1998	4.54	
				09-03-1998	4.40	

GROUND-WATER LEVELS—Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
413553083480600	LU-18 NR HOLLAND OH	29.0	112LAKE	10-22-1997	4.68	675.75
				12-09-1997	4.33	
				01-13-1998	3.11	
				03-12-1998	2.13	
				04-09-1998	2.57	
				06-03-1998	4.12	
				07-23-1998	4.72	
				09-03-1998	4.63	
413553083480900	LU-19 NR HOLLAND OH	31.3	112LAKE	10-22-1997	4.12	675.75
				12-09-1997	3.74	
				01-13-1998	2.77	
				03-12-1998	1.87	
				04-09-1998	1.88	
				06-03-1998	3.44	
				07-23-1998	4.19	
				09-03-1998	4.06	
415305080414200	AB-139 NR KINGSVILLE OH	20.2	111TRRC	10-16-1997	11.78	777.51
				12-04-1997	10.13	
				01-07-1998	6.70	
				03-19-1998	7.43	
				04-22-1998	5.66	
				05-28-1998	10.48	
				07-29-1998	12.10	
				09-08-1998	12.04	
415305080414300	AB-132 NR KINGSVILLE OH	14.5	111TRRC	10-16-1997	12.68	778.47
				12-04-1997	11.03	
				01-07-1998	7.50	
				03-19-1998	8.27	
				04-22-1998	6.40	
				05-28-1998	11.37	
				07-29-1998	12.70	
				09-18-1998	12.98	
415307080414200	AB-133 NR KINGSVILLE OH	20.0	111TRRC	10-16-1997	8.97	772.10
				12-04-1997	5.98	
				01-07-1998	4.30	
				03-19-1998	4.69	
				04-22-1998	4.79	
				05-28-1998	7.34	
				07-29-1998	9.01	
				09-08-1998	9.38	
415307080414300	AB-129 NR KINGSVILLE OH	18.0	111TRRC	10-16-1997	9.35	772.50
				12-04-1997	6.36	
				01-07-1998	4.68	
				03-19-1998	5.18	
				04-22-1998	5.24	
				05-28-1998	7.76	
				07-29-1998	9.40	
				09-08-1998	9.68	
415307080414400	AB-130 NR KINGSVILLE OH	10.0	111TRRC	10-16-1997	8.64	770.95
				12-04-1997	5.96	
				01-07-1998	4.77	
				03-19-1998	5.52	
				04-22-1998	5.06	
				05-28-1998	6.76	
				07-29-1998	8.80	
				09-08-1998	9.41	
415307080414500	AB-134 NR KINGSVILLE OH	17.4	111TRRC	10-16-1997	8.96	772.10
				12-04-1997	5.99	
				01-07-1998	4.24	
				02-23-1998	5.58	
				03-19-1998	4.68	
				04-22-1998	4.78	
				05-28-1998	7.34	
				07-29-1998	8.98	
				09-08-1998	9.37	

GROUND-WATER LEVELS—Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL (FEET)	ALTITUDE OF LAND SURFACE (FEET)
415307080414600	AB-140 NR KINGSVILLE OH	20.8	111TRRC	10-16-1997	9.10	772.22
				12-04-1997	6.12	
				01-07-1998	4.47	
				03-19-1998	4.85	
				04-22-1998	4.94	
				05-28-1998	7.47	
				07-29-1998	9.19	
415308080414300	AB-135 NR KINGSVILLE OH	19.5	111TRRC	10-16-1997	9.11	771.36
				12-04-1997	6.56	
				01-07-1998	4.94	
				03-19-1998	5.63	
				04-22-1998	5.31	
				05-28-1998	7.35	
				07-29-1998	9.16	
				09-08-1998	9.55	
415308080414400	AB-131 NR KINGSVILLE OH	21.0	111TRRC	10-16-1997	7.20	765.00
				12-04-1997	5.31	
				01-07-1998	3.63	
				03-19-1998	4.75	
				04-22-1998	4.44	
				05-28-1998	6.04	
				07-29-1998	7.23	
				09-08-1998	7.29	
415309080414300	AB-136 NR KINGSVILLE OH	20.1	111TRRC	10-16-1997	7.69	767.66
				12-04-1997	5.88	
				01-07-1998	4.24	
				03-19-1998	5.16	
				04-22-1998	4.76	
				05-28-1998	6.24	
				07-29-1998	7.74	
				09-08-1998	7.99	
415309080414400	AB-138 NR KINGSVILLE OH	19.5	111TRRC	10-16-1997	7.93	767.87
				12-04-1997	6.06	
				01-07-1998	4.43	
				03-19-1998	5.36	
				04-22-1998	4.97	
				05-28-1998	6.44	
				07-29-1998	7.90	
				09-08-1998	8.20	
415310080414400	AB-137 NR KINGSVILLE OH	19.5	111TRRC	10-16-1997	5.96	763.76
				12-04-1997	4.07	
				01-07-1998	2.38	
				03-19-1998	3.58	
				04-22-1998	3.28	
				05-28-1998	4.83	
				07-29-1998	5.99	
				09-08-1998	6.05	

AQUIFER CODE (Geologic Unit)

111ALVM - Alluvium, Holocene Epoch
111TRRC - Terrace Deposits, Holocene Epoch
112LAKE - Lake Deposits, Pleistocene Epoch
112OTSH - Outwash, Pleistocene Epoch

GROUND-WATER RECORDS

415307080414500. Local number, AB-134.

LOCATION.--Lat 41°53'07" Long 80°41'45", Hydrologic Unit 04120101, along State Route 84 near Kingsville, OH.
Owner.--USGS/Ohio State University (OARDC-Grape Research Branch).

AQUIFER.--Sand and Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 17.4 ft. Cased with Sch 40 PVC to 7.5 ft; .010 in. screen from 7.5 to 17.4 ft.

INSTRUMENTATION - Data logger--60 minute record. Precipitation data collected with a propane-heated, tipping-bucket rain gauge. Also collected: water level, air temperature, soil temperature, water temperature, and specific conductance. Conductivity/water temperature probe was set at 10.0 feet below land surface; probe removed July, 1992.

DATUM.--Elevation of land-surface datum is 772.10 feet above sea level.
Measuring point: shelter shelf 3.93 ft above land-surface datum.

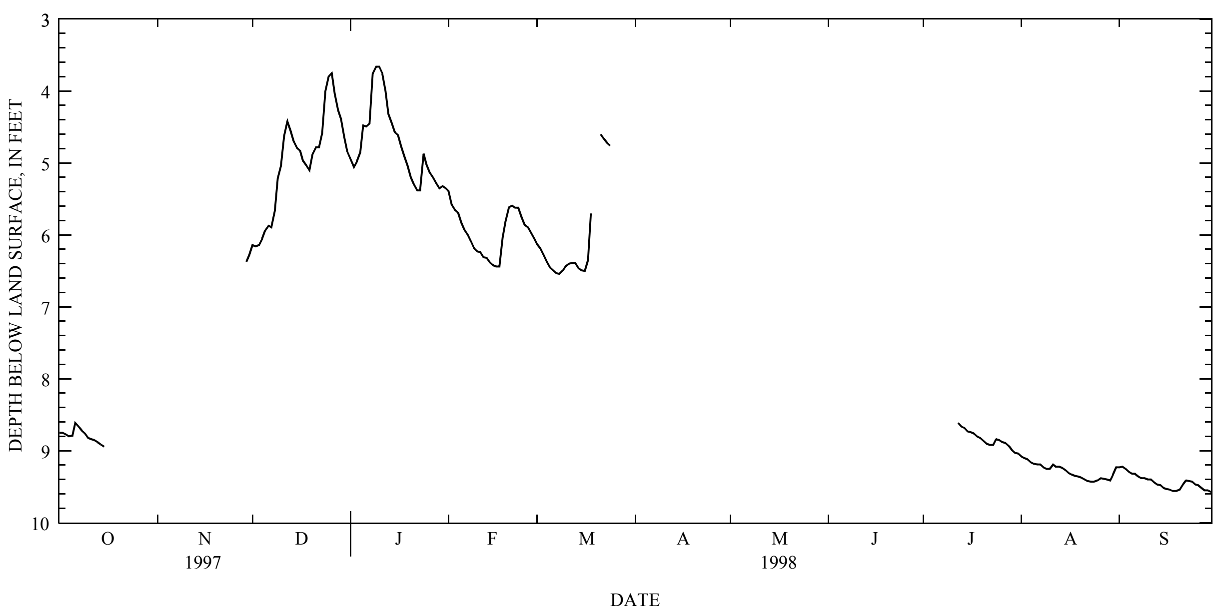
REMARKS.--This station is part of an eight-site network to collect data for the Ohio Department of Transportation concerning road salt application and its effect(s) on shallow ground-water quality. Water-quality data for nearby wells is available in preceding tables.

PERIOD OF RECORD.--February 1991 to current year.

PERIOD OF DAILY RECORD.--
WATER LEVEL: February 1991 to current year
SPECIFIC CONDUCTANCE: February 1991 to July 1992
AIR TEMPERATURE: February 1991 to current year
WATER TEMPERATURE: February 1991 to July 1992
SOIL TEMPERATURE: July 1992 to current year
PRECIPITATION: February 1991 to current year

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER LEVEL: Maximum daily low, 10.66 ft. below land-surface datum, October 26, 1995 (this represents an artificial low due to pumping of well AB-133, 4 ft. away); maximum daily high, 2.11 ft. below land-surface datum, March 23, 1993.
SPECIFIC CONDUCTANCE: Maximum, 2560 microsiemens March 27, 1991; minimum, 948 microsiemens August 8, 1991.
AIR TEMPERATURE: Maximum, 33.3°C August 8, 1998; minimum, -29.6°C January 19, 1994.
WATER TEMPERATURE: Maximum, 15.5°C many days in 1991; minimum, 6.6°C March 26-28,April 1-7 1992.
SOIL TEMPERATURE: Maximum, 31.8°C July 11, 1993; minimum, -3.1°C February 5, 1996.

EXTREMES FOR CURRENT YEAR.--
WATER LEVEL: Maximum daily low, 9.57 ft. below land-surface datum, September 30, 1998; maximum daily high, 3.66 ft. below land-surface datum, January 8-11, 1998.
AIR TEMPERATURE: Maximum, 33.3°C August 8, 1998; minimum, -10.3°C January 1, 1998.
SOIL TEMPERATURE: Maximum, 23.3°C August 9, 1998; minimum, 0.4°C January 7, 9, 1998.



415307080414500 AB-134 NR KINGSVILLE OH—Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	8.75	8.71	8.74	---	---	---	6.14	6.12	6.14	4.95	4.81	4.87
2	8.75	8.74	8.75	---	---	---	6.16	6.14	6.14	5.05	4.95	5.02
3	8.77	8.74	8.75	---	---	---	6.14	6.05	6.09	4.98	4.85	4.92
4	8.80	8.77	8.78	---	---	---	6.05	5.93	5.98	4.85	4.45	4.61
5	8.79	8.59	8.68	---	---	---	5.93	5.87	5.89	4.48	4.44	4.45
6	8.61	8.59	8.60	---	---	---	5.87	5.85	5.86	4.49	4.42	4.45
7	8.66	8.61	8.63	---	---	---	5.89	5.66	5.81	4.45	3.75	4.20
8	8.72	8.66	8.69	---	---	---	5.66	5.21	5.44	3.75	3.66	3.66
9	8.76	8.72	8.74	---	---	---	5.21	5.04	5.10	3.66	3.66	3.66
10	8.82	8.76	8.80	---	---	---	5.04	4.62	4.83	3.66	3.66	3.66
11	8.84	8.82	8.83	---	---	---	4.62	4.40	4.47	3.76	3.66	3.68
12	8.85	8.84	8.85	---	---	---	4.42	4.38	4.40	4.00	3.76	3.88
13	8.88	8.85	8.86	---	---	---	4.55	4.41	4.48	4.32	4.00	4.19
14	8.91	8.88	8.90	---	---	---	4.70	4.55	4.64	4.45	4.32	4.40
15	8.94	8.91	8.93	---	---	---	4.79	4.70	4.73	4.57	4.45	4.52
16	---	---	---	---	---	---	4.83	4.79	4.82	4.61	4.51	4.54
17	---	---	---	---	---	---	4.97	4.83	4.92	4.77	4.61	4.68
18	---	---	---	---	---	---	5.04	4.97	5.00	4.91	4.77	4.84
19	---	---	---	---	---	---	5.10	4.87	5.04	5.04	4.91	4.97
20	---	---	---	---	---	---	4.87	4.76	4.81	5.20	5.04	5.13
21	---	---	---	---	---	---	4.78	4.74	4.76	5.30	5.20	5.25
22	---	---	---	---	---	---	4.78	4.58	4.75	5.38	5.30	5.36
23	---	---	---	---	---	---	4.58	4.00	4.25	5.38	4.87	5.18
24	---	---	---	---	---	---	4.00	3.80	3.92	4.87	4.80	4.83
25	---	---	---	---	---	---	3.80	3.70	3.73	5.02	4.86	4.94
26	---	---	---	---	---	---	3.75	3.70	3.71	5.13	5.02	5.08
27	---	---	---	---	---	---	4.03	3.75	3.87	5.20	5.12	5.16
28	---	---	---	---	---	---	4.27	4.03	4.16	5.28	5.20	5.24
29	---	---	---	6.37	6.28	6.34	4.39	4.27	4.34	5.35	5.28	5.31
30	---	---	---	6.28	6.14	6.18	4.64	4.39	4.52	5.32	5.19	5.23
31	---	---	---	---	---	---	4.85	4.64	4.77	5.35	5.23	5.30
MONTH	8.94	8.59	8.77	6.37	6.14	6.26	6.16	3.70	4.88	5.38	3.66	4.68

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.39	5.35	5.37	6.13	6.05	6.09	---	---	---	---	---	---
2	5.58	5.37	5.46	6.19	6.13	6.16	---	---	---	---	---	---
3	5.65	5.58	5.61	6.28	6.19	6.23	---	---	---	---	---	---
4	5.69	5.63	5.65	6.37	6.28	6.33	---	---	---	---	---	---
5	5.83	5.69	5.76	6.45	6.37	6.42	---	---	---	---	---	---
6	5.93	5.83	5.88	6.49	6.45	6.47	---	---	---	---	---	---
7	6.00	5.93	5.96	6.53	6.49	6.52	---	---	---	---	---	---
8	6.09	6.00	6.04	6.54	6.48	6.51	---	---	---	---	---	---
9	6.18	6.09	6.14	6.49	6.41	6.43	---	---	---	---	---	---
10	6.23	6.18	6.21	6.43	6.40	6.41	---	---	---	---	---	---
11	6.24	6.22	6.24	6.40	6.38	6.39	---	---	---	---	---	---
12	6.31	6.24	6.29	6.39	6.37	6.38	---	---	---	---	---	---
13	6.32	6.30	6.31	6.39	6.38	6.38	---	---	---	---	---	---
14	6.38	6.32	6.36	6.46	6.28	6.39	---	---	---	---	---	---
15	6.42	6.38	6.40	6.49	6.46	6.48	---	---	---	---	---	---
16	6.44	6.41	6.43	6.50	6.35	6.48	---	---	---	---	---	---
17	6.44	6.04	6.34	6.35	5.70	6.11	---	---	---	---	---	---
18	6.04	5.81	5.91	5.70	4.76	5.17	---	---	---	---	---	---
19	5.81	5.61	5.69	---	---	---	---	---	---	---	---	---
20	5.61	5.55	5.56	---	---	---	---	---	---	---	---	---
21	5.59	5.55	5.57	4.60	4.56	4.57	---	---	---	---	---	---
22	5.62	5.59	5.60	4.66	4.58	4.62	---	---	---	---	---	---
23	5.62	5.58	5.59	4.72	4.64	4.69	---	---	---	---	---	---
24	5.75	5.62	5.68	4.76	4.71	4.75	---	---	---	---	---	---
25	5.86	5.75	5.82	---	---	---	---	---	---	---	---	---
26	5.89	5.85	5.87	---	---	---	---	---	---	---	---	---
27	5.97	5.86	5.89	---	---	---	---	---	---	---	---	---
28	6.05	5.97	6.02	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	6.44	5.35	5.92	6.54	4.56	6.00	---	---	---	---	---	---

415307080414500 AB-134 NR KINGSVILLE OH—Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	---	---	---	---	---	---	9.08	9.04	9.08	9.23	9.22	9.22
2	---	---	---	---	---	---	9.10	9.08	9.09	9.22	9.21	9.21
3	---	---	---	---	---	---	9.12	9.10	9.11	9.25	9.22	9.23
4	---	---	---	---	---	---	9.16	9.12	9.14	9.29	9.25	9.26
5	---	---	---	---	---	---	9.18	9.16	9.17	9.32	9.29	9.31
6	---	---	---	---	---	---	9.19	9.18	9.19	9.32	9.32	9.32
7	---	---	---	---	---	---	9.19	9.19	9.19	9.36	9.32	9.34
8	---	---	---	---	---	---	9.23	9.19	9.22	9.38	9.36	9.37
9	---	---	---	---	---	---	9.25	9.23	9.24	9.38	9.38	9.38
10	---	---	---	---	---	---	9.25	9.19	9.23	9.40	9.38	9.40
11	---	---	---	---	---	---	9.19	9.18	9.19	9.40	9.40	9.40
12	---	---	---	8.61	8.58	8.61	9.22	9.19	9.21	9.44	9.40	9.42
13	---	---	---	8.66	8.61	8.64	9.22	9.22	9.22	9.47	9.44	9.46
14	---	---	---	8.68	8.66	8.67	9.24	9.22	9.22	9.48	9.47	9.48
15	---	---	---	8.73	8.68	8.71	9.27	9.24	9.26	9.52	9.48	9.50
16	---	---	---	8.74	8.73	8.74	9.31	9.27	9.30	9.53	9.52	9.52
17	---	---	---	8.76	8.74	8.76	9.33	9.31	9.32	9.54	9.53	9.54
18	---	---	---	8.80	8.76	8.79	9.35	9.33	9.34	9.56	9.54	9.56
19	---	---	---	8.82	8.80	8.81	9.36	9.35	9.36	9.56	9.54	9.55
20	---	---	---	8.86	8.82	8.85	9.37	9.36	9.37	9.54	9.47	9.51
21	---	---	---	8.90	8.86	8.88	9.40	9.37	9.38	9.47	9.41	9.43
22	---	---	---	8.92	8.90	8.91	9.42	9.40	9.41	9.41	9.40	9.40
23	---	---	---	8.92	8.84	8.86	9.43	9.42	9.43	9.42	9.40	9.41
24	---	---	---	8.84	8.83	8.83	9.43	9.40	9.42	9.43	9.42	9.43
25	---	---	---	8.85	8.83	8.84	9.41	9.37	9.38	9.47	9.43	9.45
26	---	---	---	8.88	8.85	8.88	9.38	9.37	9.37	9.48	9.47	9.48
27	---	---	---	8.89	8.88	8.89	9.39	9.38	9.38	9.52	9.48	9.49
28	---	---	---	8.93	8.89	8.93	9.40	9.39	9.40	9.55	9.52	9.54
29	---	---	---	8.99	8.88	8.97	9.41	9.33	9.38	9.55	9.55	9.55
30	---	---	---	9.03	8.99	9.01	9.33	9.23	9.27	9.57	9.55	9.56
31	---	---	---	9.04	9.03	9.04	9.23	9.22	9.22	---	---	---
MONTH	---	---	---	9.04	8.58	8.83	9.43	9.04	9.27	9.57	9.21	9.42
YEAR	9.57	3.66	7.07									

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.6	7.4	---	---	2.3	.1	2.3	-10.3	8.5	-3.4	6.8	1.1
2	15.0	2.9	---	---	1.1	-5.0	8.1	.4	8.2	.9	4.4	.6
3	21.5	9.3	---	---	8.4	-4.4	12.5	7.2	1.0	-1.7	3.2	-.9
4	25.7	15.1	---	---	7.1	-.3	10.7	3.6	-.9	-2.0	.3	-1.0
5	23.7	13.7	---	---	-.3	-2.6	15.6	9.5	-.3	-2.9	2.4	-.6
6	23.0	15.8	---	---	1.4	-5.1	13.7	6.1	1.1	-4.6	4.0	-4.2
7	25.5	13.8	---	---	2.0	.6	10.7	2.2	2.5	-4.1	7.2	-5.3
8	25.3	15.1	---	---	1.8	-.6	2.7	1.3	1.5	-6.2	8.7	.6
9	25.7	15.3	---	---	1.6	-3.0	6.7	.8	4.1	-8.2	13.2	-3.1
10	18.8	8.3	---	---	1.3	-.9	3.2	-2.3	10.4	-5.1	-3.1	-7.0
11	17.2	4.9	---	---	.6	-1.6	-2.1	-6.6	11.0	4.4	-6.6	-8.8
12	22.1	6.1	---	---	-1.2	-2.8	5.4	-6.8	6.4	.0	-3.1	-7.3
13	25.8	14.0	---	---	.0	-2.3	7.1	-6.4	.8	-1.6	-.1	-9.7
14	16.5	4.9	---	---	1.6	-2.4	-5.1	-8.9	-1.0	-7.0	.1	-2.7
15	12.2	3.1	---	---	5.7	-4.4	.9	-6.2	5.3	-7.5	-2.2	-4.3
16	---	---	---	---	8.5	.1	-2.2	-3.3	8.5	-1.0	.1	-7.4
17	---	---	---	---	5.3	-4.8	-.3	-3.1	7.3	3.3	7.9	-4.8
18	---	---	---	---	3.9	-4.2	-1.1	-6.4	8.8	1.9	11.1	2.3
19	---	---	---	---	5.5	-.6	-1.4	-6.4	2.5	1.1	---	---
20	---	---	---	---	1.5	-1.5	-1.9	-4.9	3.1	1.0	---	---
21	---	---	---	---	-.4	-4.9	-1.5	-5.3	1.8	.5	---	---
22	---	---	---	---	3.2	-5.4	.6	-3.7	5.2	-.1	-.2	-7.3
23	---	---	---	---	4.0	.4	3.0	.1	3.6	-.3	1.0	-8.4
24	---	---	---	---	4.9	-.3	.1	-2.2	2.6	-.4	4.3	-4.7
25	---	---	---	---	7.2	1.8	-1.1	-2.8	2.7	1.2	12.1	-2.5
26	---	---	---	---	1.8	-.3	2.2	-2.9	6.3	-2.0	23.3	9.1
27	---	---	---	---	1.3	-2.1	6.6	-3.0	13.4	1.0	26.0	15.9
28	---	---	---	---	.3	-3.5	5.4	-4.6	8.1	.0	24.5	12.9
29	---	---	---	---	1.0	-4.7	6.9	-4.5	---	---	17.9	11.0
30	---	---	9.1	2.0	-.9	-5.7	.6	-.7	---	---	26.6	16.0
31	---	---	---	---	-5.6	-8.5	1.4	-3.8	---	---	25.6	14.5
MONTH	25.8	2.9	9.1	2.0	8.5	-8.5	15.6	-10.3	13.4	-8.2	26.6	-9.7

415307080414500 AB-134 NR KINGSVILLE OH—Continued

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	20.1	5.4	18.5	13.0	---	---	---	---	24.8	8.5	24.1	10.3
2	8.5	5.1	16.9	10.3	---	---	---	---	26.8	8.1	20.1	12.3
3	7.5	2.2	17.4	9.2	---	---	---	---	27.3	12.0	21.3	11.1
4	4.6	2.7	17.1	8.5	---	---	---	---	27.5	16.0	22.9	11.4
5	---	---	19.8	8.5	---	---	---	---	23.3	18.6	26.1	9.3
6	8.5	-5.5	22.6	8.9	---	---	---	---	30.4	19.3	30.3	17.1
7	12.3	-5.0	24.6	12.2	---	---	---	---	31.6	20.5	24.2	15.2
8	16.4	5.1	17.6	12.0	---	---	---	---	33.3	20.4	15.7	11.4
9	6.7	3.4	17.9	10.8	---	---	---	---	30.1	20.8	18.0	13.3
10	7.0	1.3	15.7	9.9	---	---	---	---	23.3	19.5	20.3	6.4
11	9.8	-3.8	15.0	10.0	---	---	---	---	24.6	17.6	26.5	11.0
12	17.2	-.8	16.5	10.5	---	---	25.7	10.0	23.3	16.0	25.3	14.1
13	21.5	3.1	23.6	11.4	---	---	27.9	11.9	24.8	13.8	26.9	14.5
14	15.7	11.3	26.5	13.6	---	---	29.8	15.6	25.4	14.3	31.5	16.2
15	12.1	6.6	28.0	12.5	---	---	30.2	19.2	27.6	16.3	27.9	20.3
16	19.9	9.5	26.3	13.8	---	---	28.5	19.0	27.0	17.5	20.7	14.2
17	14.0	4.5	23.5	9.7	---	---	24.3	18.3	28.4	17.2	21.4	8.2
18	13.9	.2	26.5	11.9	---	---	25.8	10.2	21.9	13.5	24.9	5.7
19	8.5	4.7	28.0	16.4	---	---	28.6	13.5	19.8	8.1	27.9	14.4
20	13.4	3.2	25.5	13.7	---	---	29.8	20.8	24.0	7.0	27.0	17.7
21	17.1	2.1	15.9	5.7	---	---	29.6	20.0	27.3	16.9	23.5	16.9
22	15.4	5.7	16.0	5.4	---	---	27.8	18.9	24.4	16.1	17.8	11.7
23	15.2	4.5	18.7	2.6	---	---	25.9	19.1	30.5	15.9	15.6	4.1
24	18.7	.8	22.0	4.4	---	---	23.4	12.9	28.1	18.6	18.4	5.2
25	13.3	.3	17.5	10.4	---	---	23.8	12.6	23.9	17.8	21.9	13.4
26	7.4	2.2	22.0	10.3	---	---	24.1	10.6	23.9	16.2	31.0	17.5
27	8.0	1.3	26.6	7.8	---	---	27.1	13.1	25.3	13.2	24.7	17.3
28	11.6	.0	---	---	---	---	29.1	17.9	28.8	14.3	17.9	7.6
29	15.4	-1.0	---	---	---	---	26.4	15.4	26.5	18.1	22.6	6.6
30	18.3	11.9	---	---	---	---	26.0	16.2	25.6	15.1	19.3	12.7
31	---	---	---	---	---	---	23.3	13.0	23.5	11.7	---	---
MONTH	21.5	-5.5	28.0	2.6	---	---	30.2	10.0	33.3	7.0	31.5	4.1
YEAR	33.3	-10.3										

TEMPERATURE, SOIL (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.6	13.2	---	---	5.7	4.1	.7	.6	1.0	.7	4.8	4.1
2	13.3	11.9	---	---	4.1	3.4	.8	.5	2.0	.9	4.5	3.9
3	14.3	12.5	---	---	4.1	2.8	4.1	.8	1.8	1.2	3.9	3.2
4	16.1	14.1	---	---	4.8	4.1	4.9	4.1	1.2	.8	3.3	2.7
5	17.0	15.8	---	---	4.4	3.5	7.0	4.8	.8	.6	3.0	2.4
6	17.4	16.3	---	---	3.5	3.1	8.4	7.0	.6	.5	3.2	2.5
7	17.8	16.5	---	---	3.1	2.8	8.0	6.7	.5	.4	3.4	2.0
8	18.2	16.9	---	---	2.8	2.7	6.7	5.1	.6	.5	4.4	2.6
9	18.1	16.9	---	---	2.7	2.6	5.1	4.3	.5	.4	5.9	4.4
10	18.0	16.1	---	---	2.6	2.3	4.3	3.1	.9	.5	5.1	2.8
11	16.1	14.8	---	---	2.4	2.3	3.1	1.8	2.7	.7	2.8	1.8
12	15.4	13.8	---	---	2.3	2.2	1.8	1.4	3.0	2.2	1.8	1.3
13	16.5	14.7	---	---	2.2	2.2	1.9	1.3	2.2	1.6	1.3	1.0
14	16.4	14.3	---	---	2.2	2.1	1.3	.8	1.6	1.2	1.0	.9
15	14.3	13.0	---	---	2.1	2.0	.8	.7	1.3	.9	.9	.8
16	---	---	---	---	2.0	1.9	.8	.7	1.6	.8	.8	.7
17	---	---	---	---	2.0	2.0	.7	.7	3.1	1.6	1.0	.7
18	---	---	---	---	2.0	1.8	.7	.7	4.0	3.1	3.2	1.0
19	---	---	---	---	1.9	1.8	.7	.7	4.0	3.4	---	---
20	---	---	---	---	2.0	1.9	.7	.7	3.6	3.2	---	---
21	---	---	---	---	1.9	1.6	.7	.7	3.4	3.0	---	---
22	---	---	---	---	1.6	1.2	.7	.7	3.8	3.0	2.2	1.9
23	---	---	---	---	1.6	1.2	.7	.6	3.4	2.8	1.9	1.6
24	---	---	---	---	2.1	1.6	.7	.6	3.4	2.7	1.6	1.3
25	---	---	---	---	3.2	2.1	.7	.6	3.2	3.0	3.0	1.1
26	---	---	---	---	3.0	2.2	.6	.6	3.9	2.7	7.4	3.0
27	---	---	---	---	2.2	1.9	.7	.6	4.3	3.3	9.8	7.4
28	---	---	---	---	1.9	1.3	.8	.6	4.3	3.5	10.6	9.3
29	---	---	---	---	1.3	1.0	1.4	.7	---	---	11.6	10.0
30	---	---	6.2	5.6	1.0	.9	1.3	1.0	---	---	13.1	11.1
31	---	---	---	---	.9	.7	1.1	.8	---	---	13.6	12.4
MONTH	18.2	11.9	6.2	5.6	5.7	.7	8.4	.5	4.3	.4	13.6	.7

415307080414500 AB-134 NR KINGSVILLE OH—Continued

TEMPERATURE, SOIL (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.2	11.9	12.3	11.2	---	---	---	---	21.3	19.7	20.7	19.5
2	11.9	9.4	13.1	12.1	---	---	---	---	21.1	19.4	20.1	19.4
3	9.4	8.7	13.6	12.5	---	---	---	---	21.1	19.6	19.5	18.4
4	8.7	7.9	13.6	12.8	---	---	---	---	21.4	20.2	19.2	18.1
5	---	---	13.8	12.9	---	---	---	---	21.2	20.7	19.4	18.0
6	7.6	5.9	14.4	12.9	---	---	---	---	21.7	20.6	20.5	18.7
7	7.5	5.6	14.7	13.7	---	---	---	---	22.5	20.9	20.5	19.2
8	9.1	7.2	14.6	14.4	---	---	---	---	23.1	21.5	19.2	17.4
9	8.8	7.7	14.9	14.1	---	---	---	---	23.3	22.3	17.4	16.6
10	8.1	6.8	14.7	14.1	---	---	---	---	23.2	22.2	17.0	15.9
11	7.8	6.2	14.3	13.8	---	---	---	---	22.4	21.7	17.3	16.0
12	8.7	6.2	14.4	13.8	---	---	20.7	19.0	22.5	21.5	18.0	16.8
13	9.7	7.6	15.4	13.9	---	---	21.2	19.3	22.0	20.6	19.2	17.6
14	10.1	9.3	16.5	14.8	---	---	21.5	20.0	21.9	20.5	19.7	18.4
15	10.6	9.7	17.3	15.6	---	---	22.3	20.7	22.0	20.8	19.9	19.3
16	11.6	10.1	17.8	16.5	---	---	22.7	21.4	22.5	21.1	19.9	19.5
17	11.7	9.8	17.5	16.3	---	---	22.5	21.7	22.5	21.3	19.5	18.6
18	9.8	8.6	17.3	16.0	---	---	21.9	20.3	22.3	21.2	18.9	17.2
19	9.7	8.9	18.0	16.4	---	---	21.7	20.2	21.2	19.5	19.2	18.0
20	9.8	8.4	18.4	17.1	---	---	22.7	21.3	20.0	18.4	20.0	18.8
21	10.5	8.6	18.1	16.4	---	---	22.9	21.7	21.0	19.3	20.4	19.6
22	10.9	9.5	16.4	15.0	---	---	22.7	21.8	21.3	20.6	20.1	18.6
23	10.9	9.8	16.0	14.2	---	---	22.6	21.9	21.9	20.3	18.6	16.7
24	10.8	9.5	15.6	14.1	---	---	22.2	21.0	22.0	21.0	16.8	15.5
25	10.8	9.2	15.3	14.8	---	---	21.5	20.4	21.9	21.0	17.1	16.0
26	10.5	9.4	16.2	14.7	---	---	21.1	19.8	21.7	20.7	19.2	17.0
27	9.6	8.5	16.5	14.9	---	---	20.8	19.6	21.6	20.4	19.3	18.7
28	9.9	8.2	---	---	---	---	21.6	20.3	21.5	20.2	19.2	17.8
29	9.6	8.4	---	---	---	---	22.0	21.1	21.7	21.0	17.8	16.4
30	11.3	9.6	---	---	---	---	21.7	20.6	21.5	20.6	17.5	16.9
31	---	---	---	---	---	---	21.7	20.3	21.3	20.2	---	---
MONTH	13.2	5.6	18.4	11.2	---	---	22.9	19.0	23.3	18.4	20.7	15.5
YEAR	23.3	.4										

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	---	.00	.00	.00	.02	.42	.48	---	---	.00	.00
2	.00	---	.01	.00	.00	.00	.01	.46	---	---	.00	.30
3	.00	---	.25	.32	.00	.00	.00	.00	---	---	.00	.00
4	.61	---	.08	.32	.00	.11	.00	.36	---	---	.00	.00
5	.03	---	.00	.09	.00	.01	.00	.00	---	---	.02	.00
6	.00	---	.23	.07	.00	.00	.00	.01	---	---	.01	.00
7	.00	---	.04	1.44	.00	.00	.00	.01	---	---	.00	.24
8	.00	---	.00	.39	.00	.24	.04	.17	---	---	.00	.31
9	.08	---	.00	.72	.00	.27	.96	.00	---	---	.36	.00
10	.00	---	.79	.02	.00	.00	.00	.00	---	---	.93	.00
11	.00	---	.14	.00	.07	.00	.00	.07	---	---	.00	.01
12	.00	---	.00	.01	.35	.00	.00	.01	---	.00	.00	.00
13	.00	---	.00	.05	.00	.01	.00	.00	---	.00	.00	.00
14	.19	---	.03	.00	.01	.00	.42	.00	---	.00	.00	.00
15	.00	---	.00	.30	.00	.00	.00	.00	---	.00	.00	.16
16	---	---	.00	.00	.08	.00	.97	.00	---	.00	.00	.01
17	---	---	.00	.01	.72	.08	.12	.00	---	.48	.00	.00
18	---	---	.00	.01	.15	.12	.00	.00	---	.00	.31	.00
19	---	---	.00	.01	.02	.03	.67	.00	---	.00	.00	.57
20	---	---	.02	.00	.11	---	.10	.00	---	.00	.00	.39
21	---	---	.00	.01	.02	.02	.00	.00	---	.25	.00	.00
22	---	---	.23	.00	.01	.04	.00	.00	---	.04	.00	.09
23	---	---	.03	.02	.01	.00	.00	.00	---	.90	.00	.00
24	---	---	.11	.00	.00	.00	.00	.00	---	.00	.78	.00
25	---	---	.13	.00	.00	.00	.01	.00	---	.00	.28	.08
26	---	---	.13	.00	.00	.00	.79	.00	---	.00	.00	.00
27	---	---	.00	.00	.00	.00	.00	.00	---	.00	.00	.14
28	---	---	.00	.00	.05	.46	.00	---	---	.00	.00	.00
29	---	.19	.00	.28	---	.00	.00	---	---	.00	1.10	.00
30	---	.12	.00	.02	---	.00	.01	---	---	.00	.01	.00
31	---	---	.00	.00	---	.00	---	---	---	.00	.00	---
TOTAL	0.91	0.31	2.22	4.09	1.60	1.41	4.52	1.57	---	1.67	3.80	2.30

WTR YR 1998 TOTAL 24.40

415307080414500 AB-134 NR KINGSVILLE OH—Continued

DEICING SALT LBS/LANE-MILE
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	1200	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	2400	---	---	---	---	---	---	---	---	---
6	---	---	600	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	1800	---	---	---	---	---	---
11	---	1500	---	---	---	1200	---	---	---	---	---	---
12	---	1200	---	---	---	---	---	---	---	---	---	---
13	---	---	---	1200	---	---	---	---	---	---	---	---
14	---	400	---	---	---	1800	---	---	---	---	---	---
15	---	2200	---	2200	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	1200	---	---	---	---	---	---
22	---	---	---	900	---	---	---	---	---	---	---	---
23	---	1200	---	1200	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	6500	3000	6700	---	6000	---	---	---	---	---	---

WTR YR 1998 TOTAL 22200

GROUND-WATER RECORDS

415307080414600. Local number, AB-140.

LOCATION.--Lat 41°53'07" Long 80°41'46", Hydrologic Unit 04120101, along State Route 84 near Kingsville, OH.
Owner.--USGS/Ohio State University (OARDC-Grape Research Branch).

AQUIFER.--Sand and Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 20.8 ft. Cased with Sch 40 PVC to 5.8 ft; .020 in. screen from 5.8 to 20.8 ft.

INSTRUMENMay 6, 1997TATION - Data logger--60 minute record. At this well there are 4 conductivity/water temperature probes at increasing depths within the well to better document vertical movement of high conductivity water on an hourly basis. Conductance/water temperature probes are set at 8.3 (level 4), 12.3 (level 3), 16.3 (level 2), and 20.3 (level 1) feet below land surface.

DATUM.--Elevation of land-surface datum is 772.22 feet above sea level.
Measuring point: top of PVC casing 1.70 ft above land-surface datum.

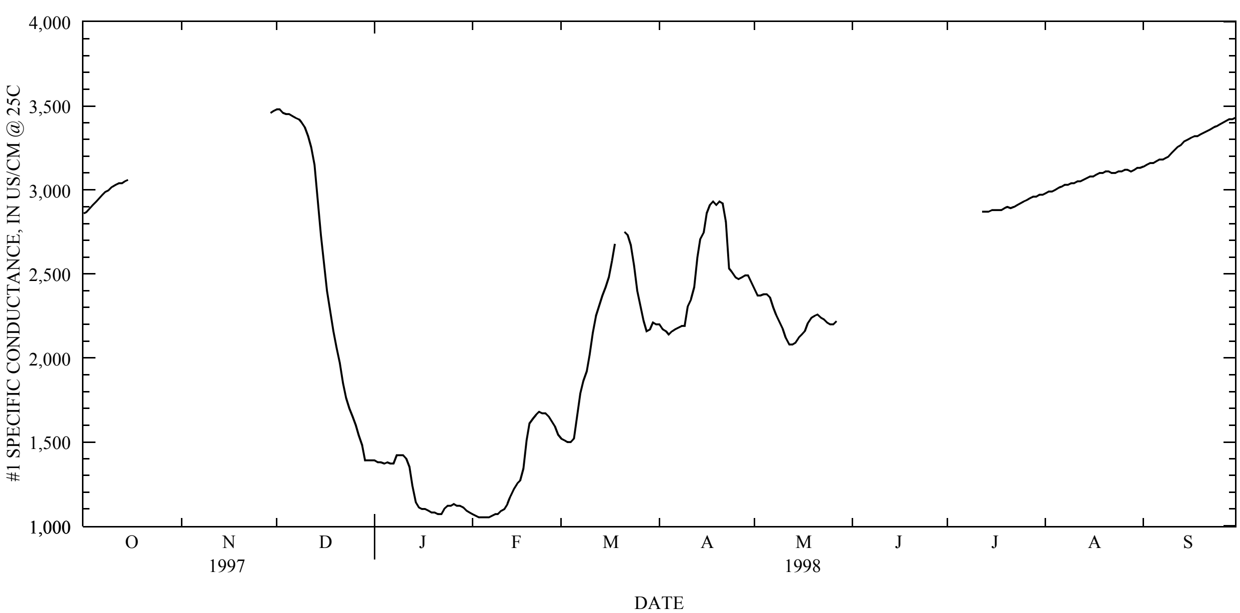
REMARKS.--This station is part of an eight-site network to collect data for the Ohio Department of Transportation concerning road salt application and its effect(s) on shallow ground-water quality. Water-quality data for nearby wells is available in preceding tables.

PERIOD OF RECORD.--July 1992 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE: (FOUR LEVELS): July 1992 to current year
WATER TEMPERATURE: (FOUR LEVELS): July 1992 to current year

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE:
LEVEL 1- Maximum, 3480 microsiemens December 1-2, 1997; minimum, 837 microsiemens January 30-31, 1995.
LEVEL 2- Maximum, 3670 microsiemens May 6, 1997; minimum, 359 microsiemens January 18, 1996.
LEVEL 3- Maximum, 3560 microsiemens May 5-6, 1997; minimum, 322 microsiemens March 13, 1995.
LEVEL 4- Maximum, 3610 microsiemens May 5, 1997; minimum, 254 microsiemens October 21, 1995.
WATER TEMPERATURE:
LEVEL 1- Maximum, 12.3°C many days in October,November,December, 1993,1996; minimum, 7.2°C March 31, April 2-3, 1993.
LEVEL 2- Maximum, 13.0°C many days in October, November, 1992,1995,1996; minimum, 6.7°C March 23, 1993, and 1994.
LEVEL 3- Maximum, 14.8°C September 30, 1995, October 1, 2, 1996; minimum, 5.7°C March 22, 1994.
LEVEL 4- Maximum, 17.8°C August 12, 1994, July 27, 1997; minimum, 3.8°C March 23-24, 1993.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE:
LEVEL 1- Maximum, 3480 microsiemens December 1-2, 1997; minimum, 1050 microsiemens February 2-7, 1998.
LEVEL 2- Maximum, 3390 microsiemens September 28-29, 1998; minimum, 735 microsiemens January 12, 1998.
LEVEL 3- Maximum, 3220 microsiemens April 17-18, 1998; minimum, 734 microsiemens January 12, 1998.
LEVEL 4- Maximum, 3110 microsiemens April 22-23, 1998; minimum, 728 microsiemens January 12, 1998.
WATER TEMPERATURE:
LEVEL 1- Maximum, 12.0°C December 3, 1997; minimum, 8.3°C March 27-28, 1998.
LEVEL 2- Maximum, 12.3°C several days in October, November, December, 1997, September, 1998; minimum, 7.9°C March 22, 1998.
LEVEL 3- Maximum, 13.7°C September 29, 1998; minimum, 7.2°C March 21, 30, 1998.
LEVEL 4- Maximum, 11.4°C November 29-December 6, 1997; minimum, 6.2°C March 29, 1998.



415307080414600 AB-140 NR KINGSVILLE, OH—Continued

#1 (22.0’ BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2860	2850	---	---	3480	3470	1390	1380	1070	1060	1520	1500
2	2870	2850	---	---	3480	3460	1380	1380	1060	1050	1510	1490
3	2890	2860	---	---	3460	3440	1380	1360	1050	1050	1500	1490
4	2910	2880	---	---	3450	3370	1370	1340	1050	1050	1500	1490
5	2930	2900	---	---	3450	3440	1380	1370	1050	1050	1520	1500
6	2950	2920	---	---	3440	3430	1370	1370	1050	1050	1660	1520
7	2970	2940	---	---	3430	3410	1370	1340	1060	1050	1790	1660
8	2990	2970	---	---	3420	3400	1420	1370	1070	1060	1860	1790
9	3000	2990	---	---	3400	3370	1420	1410	1070	1060	1920	1860
10	3020	3000	---	---	3370	3320	1420	1400	1090	1070	2020	1920
11	3030	3020	---	---	3320	3250	1400	1350	1100	1090	2150	2020
12	3040	3030	---	---	3250	3140	1350	1240	1130	1100	2250	2150
13	3040	3040	---	---	3150	2950	1240	1140	1180	1130	2310	2250
14	3050	3040	---	---	2950	2730	1140	1110	1220	1180	2370	2310
15	3060	3050	---	---	2730	2550	1110	1100	1250	1220	2420	2370
16	---	---	---	---	2550	2400	1100	1100	1270	1250	2480	2420
17	---	---	---	---	2400	2270	1100	1090	1340	1270	2580	2480
18	---	---	---	---	2270	2160	1090	1080	1510	1340	2680	2580
19	---	---	---	---	2160	2060	1080	1070	1610	1510	---	---
20	---	---	---	---	2060	1970	1080	1070	1640	1610	---	---
21	---	---	---	---	1970	1850	1070	1060	1660	1630	2750	2730
22	---	---	---	---	1850	1760	1070	1060	1680	1660	2730	2670
23	---	---	---	---	1760	1700	1100	1070	1670	1650	2670	2550
24	---	---	---	---	1700	1650	1120	1100	1670	1650	2550	2400
25	---	---	---	---	1650	1600	1120	1120	1650	1610	2400	2310
26	---	---	---	---	1600	1540	1130	1120	1620	1580	2310	2220
27	---	---	---	---	1540	1480	1120	1110	1590	1540	2220	2160
28	---	---	---	---	1480	1390	1120	1110	1540	1520	2160	2100
29	---	---	3460	3440	1390	1360	1110	1090	---	---	2170	2110
30	---	---	3470	3460	1390	1370	1090	1080	---	---	2210	2160
31	---	---	---	---	1390	1390	1080	1070	---	---	2200	2190
MONTH	3060	2850	3470	3440	3480	1360	1420	1060	1680	1050	2750	1490

#1 (22.0’ BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2200	2170	2410	2350	---	---	---	---	2980	2970	3140	3130
2	2170	2140	2370	2340	---	---	---	---	2990	2980	3150	3130
3	2160	2140	2370	2350	---	---	---	---	2990	2990	3160	3130
4	2140	2130	2380	2350	---	---	---	---	3000	2990	3160	3140
5	2160	2140	2380	2360	---	---	---	---	3010	3000	3170	3150
6	2170	2150	2360	2300	---	---	---	---	3020	3010	3180	3160
7	2180	2160	2300	2250	---	---	---	---	3030	3020	3180	3170
8	2190	2170	2250	2210	---	---	---	---	3030	3010	3190	3180
9	2190	2160	2210	2170	---	---	---	---	3040	3020	3200	3190
10	2310	2190	2170	2120	---	---	---	---	3040	3030	3220	3200
11	2350	2300	2120	2080	---	---	---	---	3050	3030	3240	3220
12	2420	2350	2080	2070	---	---	2870	2860	3050	3040	3260	3240
13	2600	2420	2080	2070	---	---	2870	2870	3060	3050	3270	3250
14	2710	2600	2090	2080	---	---	2870	2870	3070	3060	3290	3260
15	2750	2710	2120	2090	---	---	2880	2860	3080	3070	3300	3270
16	2860	2750	2140	2120	---	---	2880	2860	3080	3080	3310	3280
17	2910	2850	2160	2120	---	---	2880	2860	3090	3070	3320	3290
18	2930	2890	2210	2160	---	---	2880	2870	3100	3080	3320	3310
19	2910	2880	2240	2200	---	---	2890	2870	3100	3080	3330	3320
20	2930	2870	2250	2230	---	---	2900	2880	3110	3090	3340	3330
21	2920	2810	2260	2240	---	---	2890	2880	3110	3090	3350	3340
22	2810	2530	2240	2230	---	---	2900	2890	3100	3090	3360	3350
23	2530	2500	2230	2210	---	---	2910	2890	3100	3080	3370	3360
24	2510	2480	2210	2200	---	---	2920	2890	3110	3100	3380	3370
25	2480	2450	2200	2200	---	---	2930	2900	3110	3090	3390	3380
26	2470	2450	2200	2200	---	---	2940	2910	3120	3100	3400	3390
27	2480	2460	2220	2200	---	---	2950	2930	3120	3100	3410	3400
28	2490	2470	---	---	---	---	2960	2940	3110	3110	3420	3410
29	2490	2450	---	---	---	---	2960	2950	3120	3110	3420	3400
30	2450	2410	---	---	---	---	2970	2960	3130	3120	3430	3410
31	---	---	---	---	---	---	2970	2970	3130	3130	---	---
MONTH	2930	2130	2410	2070	---	---	2970	2860	3130	2970	3430	3130
YEAR	3480	1050										

415307080414600 AB-140 NR KINGSVILLE, OH—Continued

#2 (18.0' BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2910	2890	---	---	3050	2930	1540	1510	1170	1160	1940	1920
2	2930	2900	---	---	2930	2760	1510	1460	1190	1170	1950	1940
3	2950	2920	---	---	2760	2680	1460	1450	1220	1190	1960	1950
4	2970	2950	---	---	2680	2270	1620	1450	1240	1220	1970	1960
5	3000	2970	---	---	2270	2020	1620	1610	1250	1240	2000	1970
6	3020	2990	---	---	2020	1770	1610	1370	1260	1240	2030	2000
7	3040	3010	---	---	2080	1770	1670	1410	1280	1260	2060	2030
8	3060	3030	---	---	2350	2080	1720	986	1300	1270	2100	2050
9	3080	3050	---	---	2330	1570	987	836	1310	1290	2180	2100
10	3080	3060	---	---	1570	1560	836	806	1350	1310	2290	2180
11	3080	3080	---	---	1570	1560	809	768	1380	1350	2360	2290
12	3090	3080	---	---	1590	1570	812	735	1440	1380	2400	2360
13	3100	3090	---	---	1590	1560	1050	812	1530	1440	2440	2390
14	3100	3080	---	---	1560	1520	1190	1050	1570	1530	2460	2430
15	3100	3090	---	---	1530	1500	1210	1190	1610	1570	2510	2460
16	---	---	---	---	1500	1480	1220	1190	1640	1610	2570	2510
17	---	---	---	---	1480	1470	1190	1160	1770	1640	2690	2570
18	---	---	---	---	1470	1450	1180	1160	2060	1770	2790	2690
19	---	---	---	---	1460	1430	1200	1180	2210	2060	---	---
20	---	---	---	---	1440	1410	1200	1190	2220	2200	---	---
21	---	---	---	---	1410	1380	1220	1200	2230	2220	2720	2640
22	---	---	---	---	1420	1380	1240	1220	2230	2210	2720	2160
23	---	---	---	---	1520	1420	1350	1240	2220	2000	2270	2190
24	---	---	---	---	1490	1310	1380	1350	2010	1960	2330	2270
25	---	---	---	---	1310	886	1380	1200	1960	1860	2390	2330
26	---	---	---	---	886	818	1200	1100	1900	1870	2440	2370
27	---	---	---	---	879	811	1190	1170	1910	1890	2600	2440
28	---	---	---	---	1230	879	1200	1190	1920	1890	2700	2600
29	---	---	3060	3030	1470	1230	1200	1200	---	---	2780	2700
30	---	---	3060	3020	1540	1470	1210	1200	---	---	2790	2640
31	---	---	---	---	1550	1540	1200	1160	---	---	2640	2560
MONTH	3100	2890	3060	3020	3050	811	1720	735	2230	1160	2790	1920

#2 (18.0' BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2710	2640	2250	2210	---	---	---	---	2960	2950	3130	3110
2	2750	2710	2690	2250	---	---	---	---	2970	2950	3140	3120
3	2770	2740	2720	2630	---	---	---	---	2970	2950	3140	3120
4	2770	2560	2630	2490	---	---	---	---	2980	2960	3140	3130
5	2660	2600	2590	2310	---	---	---	---	2990	2970	3160	3140
6	2680	2640	2310	2210	---	---	---	---	3000	2980	3160	3150
7	2710	2670	2380	2270	---	---	---	---	3000	2980	3180	3160
8	2730	2710	2460	2380	---	---	---	---	3000	2990	3200	3180
9	2820	2720	2520	2460	---	---	---	---	3010	3000	3210	3200
10	3020	2820	2570	2520	---	---	---	---	3020	3010	3230	3200
11	3060	3020	2610	2570	---	---	---	---	3020	3010	3250	3220
12	3100	3050	2640	2600	---	---	2800	2780	3030	3010	3260	3230
13	3110	2980	2660	2620	---	---	2800	2780	3040	3020	3270	3250
14	2980	2860	2680	2650	---	---	2810	2790	3050	3030	3280	3260
15	3000	2870	2710	2680	---	---	2820	2800	3060	3040	3300	3280
16	3160	3000	2740	2710	---	---	2820	2800	3060	3050	3300	3270
17	3240	3160	2770	2740	---	---	2820	2810	3060	3050	3310	3280
18	3240	3220	2790	2770	---	---	2830	2820	3070	3060	3310	3290
19	3230	2710	2810	2790	---	---	2850	2830	3070	3050	3320	3300
20	3050	2750	2830	2800	---	---	2860	2850	3070	3050	3330	3310
21	3060	2730	2840	2810	---	---	2870	2860	3070	3060	3330	3310
22	3040	2700	2830	2830	---	---	2880	2870	3060	3060	3340	3330
23	3050	3020	2840	2820	---	---	2890	2870	3080	3060	3350	3340
24	3030	2840	2850	2820	---	---	2910	2880	3070	3070	3360	3340
25	2850	2710	2840	2830	---	---	2920	2900	3080	3070	3370	3360
26	2760	2690	2850	2830	---	---	2940	2920	3080	3070	3370	3350
27	2800	2760	2860	2830	---	---	2950	2940	3090	3080	3380	3370
28	2810	2670	---	---	---	---	2960	2950	3100	3090	3390	3360
29	2680	2660	---	---	---	---	2970	2950	3110	3100	3390	3370
30	2690	2230	---	---	---	---	2970	2950	3110	3110	3380	3370
31	---	---	---	---	---	---	2970	2940	3120	3100	---	---
MONTH	3240	2230	2860	2210	---	---	2970	2780	3120	2950	3390	3110
YEAR	3390	735										

415307080414600 AB-140 NR KINGSVILLE, OH—Continued

#3 (14.0’ BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	2600	2580	---	---	2680	1830	1540	1500	1170	1160	1940	1910
2	2610	2590	---	---	1830	1810	1500	1460	1190	1170	1950	1930
3	2610	2590	---	---	1810	1800	1460	1440	1220	1190	1960	1940
4	2610	2590	---	---	1810	1800	1600	1440	1240	1220	1960	1940
5	2620	2580	---	---	1810	1790	1620	1280	1250	1230	1990	1960
6	2620	2610	---	---	1790	1770	1420	1310	1260	1240	2030	1990
7	2620	2610	---	---	1770	1760	1610	1420	1280	1250	2050	2030
8	2620	2610	---	---	1810	1690	1690	986	1300	1270	2090	2050
9	2620	2600	---	---	1700	1570	986	835	1310	1290	2170	2090
10	2620	2600	---	---	1570	1550	836	802	1350	1310	2270	2170
11	2610	2600	---	---	1570	1550	807	762	1380	1350	2340	2270
12	2610	2600	---	---	1590	1570	820	734	1430	1380	2400	2340
13	2610	2590	---	---	1580	1550	1060	820	1520	1430	2420	2390
14	2600	2590	---	---	1560	1520	1200	1060	1570	1520	2460	2280
15	2600	2590	---	---	1530	1500	1220	1200	1610	1570	2310	2290
16	---	---	---	---	1510	1480	1220	1190	1630	1600	2330	2300
17	---	---	---	---	1480	1460	1190	1160	1740	1630	2670	2320
18	---	---	---	---	1470	1450	1180	1160	2030	1740	2780	2670
19	---	---	---	---	1450	1430	1190	1170	2180	2030	---	---
20	---	---	---	---	1440	1400	1200	1180	2220	2180	---	---
21	---	---	---	---	1400	1380	1210	1200	2210	2020	2140	2020
22	---	---	---	---	1420	1390	1230	1210	2030	1980	2180	2050
23	---	---	---	---	1510	1420	1340	1230	2000	1870	2280	2180
24	---	---	---	---	1490	1300	1380	1340	1890	1720	2330	2270
25	---	---	---	---	1300	877	1380	1000	1870	1790	2390	2320
26	---	---	---	---	877	816	1170	1080	1890	1860	2440	2360
27	---	---	---	---	897	812	1180	1160	1900	1880	2600	2440
28	---	---	---	---	1240	897	1200	1180	1920	1890	2700	2600
29	---	---	2810	2680	1460	1240	1200	1190	---	---	2770	2690
30	---	---	2710	2680	1540	1460	1200	1190	---	---	2770	2460
31	---	---	---	---	1550	1530	1190	1160	---	---	2630	2530
MONTH	2620	2580	2810	2680	2680	812	1690	734	2220	1160	2780	1910

#3 (14.0’ BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2690	2630	2230	2120	---	---	---	---	2680	2670	2690	2690
2	2730	2670	2480	2220	---	---	---	---	2690	2670	2700	2690
3	2670	2430	2470	2250	---	---	---	---	2690	2670	2700	2690
4	2590	2450	2250	2140	---	---	---	---	2690	2670	2700	2700
5	2650	2580	2140	1960	---	---	---	---	2680	2670	2700	2700
6	2660	2630	2270	2080	---	---	---	---	2680	2680	2710	2700
7	2700	2660	2380	2270	---	---	---	---	2680	2680	2710	2690
8	2720	2570	2460	2380	---	---	---	---	2680	2680	2690	2690
9	2790	2500	2520	2460	---	---	---	---	2680	2680	2700	2690
10	3010	2790	2560	2510	---	---	---	---	2690	2660	2710	2700
11	3050	2990	2590	2560	---	---	---	---	2700	2670	2720	2710
12	3020	2670	2620	2590	---	---	2660	2640	2710	2690	2730	2720
13	2670	2590	2650	2620	---	---	2660	2650	2710	2700	2730	2720
14	2610	2570	2660	2620	---	---	2660	2650	2700	2700	2730	2720
15	2650	2610	2640	2620	---	---	2660	2650	2700	2690	2720	2720
16	3140	2630	2670	2630	---	---	2670	2660	2690	2670	2720	2700
17	3220	3140	2680	2670	---	---	2680	2670	2680	2660	2720	2700
18	3220	2530	2680	2680	---	---	2690	2680	2660	2660	2720	2700
19	2530	2400	2690	2680	---	---	2690	2670	2660	2660	2710	2690
20	2780	2470	2710	2690	---	---	2700	2680	2660	2660	2750	2690
21	2700	2580	2720	2710	---	---	2690	2680	2660	2660	2800	2730
22	3040	2680	2720	2710	---	---	2690	2690	2670	2660	2830	2800
23	3050	2900	2710	2690	---	---	2700	2680	2670	2660	2860	2830
24	2900	2710	2690	2680	---	---	2700	2690	2670	2650	2870	2860
25	2710	2560	2690	2660	---	---	2710	2690	2670	2650	2880	2870
26	2740	2530	2660	2630	---	---	2710	2700	2680	2660	2890	2880
27	2770	2510	2630	2630	---	---	2700	2700	2680	2660	2890	2880
28	2510	2130	---	---	---	---	2700	2690	2670	2670	2880	2880
29	2130	1920	---	---	---	---	2700	2670	2670	2670	2890	2870
30	2130	2030	---	---	---	---	2680	2670	2680	2660	2890	2880
31	---	---	---	---	---	---	2680	2670	2690	2680	---	---
MONTH	3220	1920	2720	1960	---	---	2710	2640	2710	2650	2890	2690
YEAR	3220	734										

415307080414600 AB-140 NR KINGSVILLE, OH—Continued

#4 (10.0’ BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	1910	1880	1580	1530	1200	1190	1630	1550
2	---	---	---	---	1880	1860	1540	1480	1220	1200	1560	1550
3	---	---	---	---	1860	1850	1490	1470	1240	1220	1560	1490
4	---	---	---	---	1850	1850	1640	1470	1260	1240	1490	1460
5	---	---	---	---	1850	1840	1650	1300	1270	1260	1460	1450
6	---	---	---	---	1840	1610	1450	1340	1280	1260	1480	1450
7	---	---	---	---	1630	1600	1620	1450	1300	1120	1490	1470
8	---	---	---	---	1770	1630	1710	993	1310	1080	1650	1490
9	---	---	---	---	1740	1550	1000	829	1340	1110	1710	1650
10	---	---	---	---	1610	1590	841	808	1350	1160	1800	1710
11	---	---	---	---	1610	1590	812	762	1410	1220	1710	1680
12	---	---	---	---	1640	1610	848	728	1420	1160	1690	1670
13	---	---	---	---	1630	1590	1100	848	1360	1220	1810	1690
14	---	---	---	---	1590	1560	1230	1100	1380	1290	1860	1680
15	---	---	---	---	1560	1530	1240	1230	1430	1380	1790	1710
16	---	---	---	---	1540	1510	1240	1200	1420	1380	1930	1790
17	---	---	---	---	1510	1500	1210	1180	1760	1390	2360	1930
18	---	---	---	---	1500	1490	1200	1180	2050	1760	2800	2360
19	---	---	---	---	1490	1470	1220	1200	2210	2050	---	---
20	---	---	---	---	1470	1430	1220	1210	2250	2050	---	---
21	---	---	---	---	1440	1410	1240	1220	2050	1690	2080	2030
22	---	---	---	---	1460	1430	1260	1240	1690	1650	2220	2080
23	---	---	---	---	1540	1450	1350	1260	1700	1660	2300	2220
24	---	---	---	---	1520	1100	1400	1000	1810	1700	2350	2300
25	---	---	---	---	1100	862	1110	989	1900	1770	2430	2340
26	---	---	---	---	862	805	1190	1110	1930	1760	2480	2300
27	---	---	---	---	930	808	1220	1190	1820	1670	2650	2480
28	---	---	---	---	1300	930	1220	1210	1710	1590	2760	2650
29	---	---	1940	1930	1510	1300	1230	1210	---	---	2780	2370
30	---	---	1930	1910	1580	1510	1230	1210	---	---	2620	2430
31	---	---	---	---	1590	1570	1210	1180	---	---	2690	2500
MONTH	---	---	1940	1910	1910	805	1710	728	2250	1080	2800	1450

#4 (10.0’ BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	2730	2520	2210	2170	---	---	---	---	---	---	---	---
2	2520	2330	2310	2160	---	---	---	---	---	---	---	---
3	2520	2380	2300	1730	---	---	---	---	---	---	---	---
4	2530	2430	1930	1780	---	---	---	---	---	---	---	---
5	2480	2430	2120	1930	---	---	---	---	---	---	---	---
6	2430	2270	2320	2120	---	---	---	---	---	---	---	---
7	2270	2120	2430	2320	---	---	---	---	---	---	---	---
8	2120	1950	2510	2430	---	---	---	---	---	---	---	---
9	2300	1800	2570	2500	---	---	---	---	---	---	---	---
10	2630	2300	2620	2570	---	---	---	---	---	---	---	---
11	2510	2100	2630	2570	---	---	---	---	---	---	---	---
12	2100	2050	2570	2540	---	---	---	---	---	---	---	---
13	2060	2030	2580	2540	---	---	---	---	---	---	---	---
14	2110	2010	2580	2550	---	---	---	---	---	---	---	---
15	2210	2100	2550	2520	---	---	---	---	---	---	---	---
16	2770	2050	2540	2520	---	---	---	---	---	---	---	---
17	2960	2470	2570	2520	---	---	---	---	---	---	---	---
18	2470	2320	2580	2570	---	---	---	---	---	---	---	---
19	2520	2420	2590	2570	---	---	---	---	---	---	---	---
20	2600	2520	2600	2580	---	---	---	---	---	---	---	---
21	2750	2600	2600	2580	---	---	---	---	---	---	---	---
22	3110	2750	2590	2580	---	---	---	---	---	---	---	---
23	3110	2840	2580	2520	---	---	---	---	---	---	---	---
24	2840	2600	2520	2490	---	---	---	---	---	---	---	---
25	2600	2500	2490	2400	---	---	---	---	---	---	---	---
26	2540	2400	2410	2310	---	---	---	---	---	---	---	---
27	2530	1640	2310	2290	---	---	---	---	---	---	---	---
28	1910	1670	---	---	---	---	---	---	---	---	---	---
29	2060	1910	---	---	---	---	---	---	---	---	---	---
30	2180	2060	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	3110	1640	2630	1730	---	---	---	---	---	---	---	---
YEAR	3110	728										

415307080414600 AB-140 NR KINGSVILLE, OH—Continued

#1 (22.0' BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11.2	11.2	---	---	11.8	11.8	10.3	10.3	9.5	9.4	9.5	9.3
2	11.4	11.1	---	---	11.8	11.8	10.3	10.3	9.5	9.5	9.5	9.3
3	11.4	11.2	---	---	12.0	11.8	10.3	10.3	9.5	9.5	9.5	9.3
4	11.4	11.2	---	---	11.8	11.8	10.5	10.3	9.5	9.4	9.5	9.3
5	11.4	11.2	---	---	11.8	11.8	10.7	10.5	9.5	9.4	9.3	9.3
6	11.4	11.2	---	---	11.8	11.8	11.0	10.7	9.5	9.4	9.3	9.3
7	11.4	11.2	---	---	11.8	11.8	10.7	10.3	9.5	9.4	9.3	9.2
8	11.4	11.2	---	---	11.8	11.8	11.1	10.3	9.5	9.4	9.3	9.3
9	11.4	11.4	---	---	11.8	11.8	11.1	10.7	9.6	9.4	9.3	9.1
10	11.4	11.4	---	---	11.8	11.8	10.7	10.3	9.5	9.4	9.3	9.2
11	11.4	11.4	---	---	11.8	11.8	10.3	9.9	9.5	9.5	9.3	9.2
12	11.4	11.4	---	---	11.8	11.6	10.1	9.8	9.5	9.5	9.3	9.2
13	11.4	11.4	---	---	11.6	11.4	9.9	9.7	9.5	9.5	9.3	9.2
14	11.4	11.4	---	---	11.4	11.4	9.9	9.8	9.5	9.4	9.5	9.3
15	11.4	11.4	---	---	11.4	11.1	9.9	9.8	9.5	9.4	9.5	9.4
16	---	---	---	---	11.2	11.1	9.9	9.9	9.5	9.4	9.5	9.4
17	---	---	---	---	11.2	11.1	9.9	9.9	9.5	9.5	9.5	9.3
18	---	---	---	---	11.1	11.1	9.9	9.6	9.5	9.3	9.3	8.9
19	---	---	---	---	11.2	10.9	9.9	9.7	9.5	9.3	---	---
20	---	---	---	---	11.1	10.9	9.9	9.6	9.3	9.3	---	---
21	---	---	---	---	10.9	10.9	9.9	9.6	9.7	9.3	9.9	9.7
22	---	---	---	---	10.9	10.9	9.9	9.6	9.9	9.7	9.9	9.7
23	---	---	---	---	10.9	10.7	9.9	9.7	10.1	9.9	9.9	9.8
24	---	---	---	---	10.7	10.5	9.9	9.7	10.1	9.9	9.9	9.4
25	---	---	---	---	11.1	10.7	10.3	9.9	10.1	9.7	9.4	8.9
26	---	---	---	---	11.1	10.9	10.3	9.7	9.9	9.5	8.9	8.5
27	---	---	---	---	10.9	10.3	9.7	9.5	9.5	9.3	8.5	8.3
28	---	---	---	---	10.3	10.3	9.7	9.4	9.3	9.3	8.5	8.3
29	---	---	11.8	11.8	10.5	10.3	9.7	9.4	---	---	8.7	8.5
30	---	---	11.8	11.8	10.5	10.3	9.7	9.5	---	---	9.1	8.7
31	---	---	---	---	10.5	10.3	9.7	9.4	---	---	9.3	8.5
MONTH	11.4	11.1	11.8	11.8	12.0	10.3	11.1	9.4	10.1	9.3	9.9	8.3

#1 (22.0' BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.7	8.5	9.5	9.5	---	---	---	---	10.4	10.3	11.0	10.9
2	8.9	8.7	9.5	8.9	---	---	---	---	10.4	10.3	11.2	11.0
3	9.1	8.9	9.3	8.9	---	---	---	---	10.4	10.3	11.2	10.9
4	9.3	9.1	9.5	9.3	---	---	---	---	10.4	10.3	11.2	10.9
5	9.3	8.7	9.5	9.3	---	---	---	---	10.4	10.3	11.2	11.0
6	8.9	8.6	9.6	9.3	---	---	---	---	10.4	10.3	11.2	11.0
7	8.9	8.7	9.6	9.5	---	---	---	---	10.4	10.3	11.2	11.0
8	8.9	8.9	9.5	9.3	---	---	---	---	10.6	10.3	11.2	11.2
9	9.1	8.9	9.3	9.1	---	---	---	---	10.6	10.4	11.2	11.2
10	8.9	8.7	9.1	8.9	---	---	---	---	10.6	10.6	11.2	11.1
11	8.9	8.7	8.9	8.9	---	---	---	---	10.6	10.4	11.2	11.2
12	9.1	8.9	8.9	8.9	---	---	10.0	9.9	10.6	10.5	11.2	11.2
13	9.3	9.1	8.9	8.9	---	---	10.0	9.9	10.6	10.5	11.4	11.2
14	9.5	9.3	9.0	8.9	---	---	10.0	9.9	10.6	10.5	11.4	11.2
15	9.5	9.3	9.0	8.9	---	---	10.1	9.9	10.6	10.5	11.4	11.2
16	9.5	8.9	9.1	8.9	---	---	10.1	9.9	10.6	10.5	11.4	11.2
17	8.9	8.7	9.1	8.9	---	---	10.2	9.9	10.8	10.5	11.4	11.2
18	9.3	8.9	9.2	9.0	---	---	10.2	10.0	10.8	10.6	11.4	11.4
19	9.5	9.3	9.2	9.1	---	---	10.2	10.0	10.8	10.6	11.4	11.4
20	9.5	9.3	9.3	9.1	---	---	10.2	10.0	10.8	10.6	11.4	11.4
21	9.5	9.3	9.3	9.1	---	---	10.2	10.1	10.8	10.6	11.4	11.4
22	9.5	8.7	9.3	9.1	---	---	10.2	10.1	10.8	10.8	11.4	11.4
23	8.9	8.7	9.3	9.3	---	---	10.4	10.1	11.0	10.8	11.4	11.4
24	9.3	8.9	9.3	9.1	---	---	10.4	10.1	10.8	10.8	11.4	11.4
25	9.5	9.3	9.3	9.3	---	---	10.4	10.1	11.0	10.8	11.4	11.4
26	9.5	9.5	9.4	9.3	---	---	10.4	10.1	11.0	10.8	11.5	11.4
27	9.5	9.3	9.4	9.3	---	---	10.4	10.2	11.0	10.8	11.4	11.4
28	9.5	9.3	---	---	---	---	10.4	10.2	11.0	11.0	11.4	11.4
29	9.5	9.3	---	---	---	---	10.4	10.3	11.0	11.0	11.6	11.4
30	9.5	9.3	---	---	---	---	10.4	10.3	11.0	11.0	11.6	11.4
31	---	---	---	---	---	---	10.4	10.3	11.0	11.0	---	---
MONTH	9.5	8.5	9.6	8.9	---	---	10.4	9.9	11.0	10.3	11.6	10.9
YEAR	12.0	8.3										

415307080414600 AB-140 NR KINGSVILLE, OH—Continued

#2 (18.0' BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.1	11.8	---	---	12.3	12.3	10.3	10.3	9.5	9.4	9.3	9.3
2	12.0	11.8	---	---	12.3	12.2	10.3	10.3	9.5	9.5	9.3	9.3
3	12.1	11.8	---	---	12.3	12.0	10.3	10.3	9.5	9.5	9.5	9.3
4	11.9	11.8	---	---	12.0	12.0	10.3	10.3	9.5	9.4	9.3	9.3
5	12.1	11.8	---	---	12.0	12.0	10.7	10.3	9.5	9.4	9.3	9.3
6	12.1	11.8	---	---	12.0	11.6	10.7	9.7	9.5	9.4	9.3	9.3
7	12.1	11.8	---	---	12.0	11.6	10.3	10.1	9.5	9.4	9.3	9.1
8	12.1	11.9	---	---	12.0	12.0	10.7	8.9	9.5	9.4	9.3	8.9
9	12.1	11.9	---	---	12.0	11.4	9.5	9.1	9.5	9.4	9.1	8.9
10	12.1	12.1	---	---	11.4	11.4	9.7	9.4	9.5	9.4	9.0	8.8
11	12.1	12.0	---	---	11.4	11.4	9.7	9.4	9.5	9.3	9.0	8.8
12	12.1	12.0	---	---	11.4	11.1	9.7	9.4	9.5	9.3	9.1	8.8
13	12.1	12.1	---	---	11.4	11.1	9.7	9.6	9.5	9.3	9.1	8.8
14	12.3	12.1	---	---	11.4	11.1	9.9	9.6	9.5	9.3	9.3	9.1
15	12.1	12.0	---	---	11.4	11.1	9.9	9.7	9.5	9.4	9.3	9.3
16	---	---	---	---	11.2	11.1	9.9	9.9	9.5	9.4	9.4	9.2
17	---	---	---	---	11.2	11.1	9.9	9.6	9.5	9.1	9.3	8.9
18	---	---	---	---	11.1	11.1	9.9	9.6	9.3	8.9	8.9	8.9
19	---	---	---	---	11.1	10.9	9.9	9.6	9.1	8.9	---	---
20	---	---	---	---	11.1	10.9	9.7	9.6	9.3	8.9	---	---
21	---	---	---	---	10.9	10.9	9.7	9.6	9.5	9.3	9.3	9.1
22	---	---	---	---	10.9	10.7	9.7	9.6	9.7	9.5	9.4	7.9
23	---	---	---	---	10.9	10.5	9.7	9.5	9.5	9.1	8.5	8.1
24	---	---	---	---	10.9	10.5	9.9	9.5	9.5	9.5	8.5	8.3
25	---	---	---	---	11.1	10.1	10.3	9.3	9.5	8.9	8.7	8.5
26	---	---	---	---	10.3	10.1	9.7	9.3	9.3	9.1	8.7	8.3
27	---	---	---	---	10.3	10.1	9.7	9.4	9.3	9.1	8.4	8.3
28	---	---	---	---	10.3	10.3	9.7	9.4	9.3	9.1	8.5	8.3
29	---	---	12.3	12.3	10.3	10.3	9.5	9.4	---	---	8.6	8.3
30	---	---	12.3	12.3	10.3	10.3	9.7	9.5	---	---	9.0	8.0
31	---	---	---	---	10.3	10.3	9.5	9.4	---	---	8.4	8.0
MONTH	12.3	11.8	12.3	12.3	12.3	10.1	10.7	8.9	9.7	8.9	9.5	7.9

#2 (18.0' BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.5	8.3	8.7	8.3	---	---	---	---	10.8	10.6	11.6	11.4
2	8.7	8.5	8.9	8.3	---	---	---	---	10.8	10.6	11.6	11.4
3	8.9	8.7	8.9	8.9	---	---	---	---	11.0	10.7	11.6	11.4
4	9.1	8.1	8.9	8.7	---	---	---	---	11.0	10.8	11.7	11.6
5	8.7	8.3	8.9	8.7	---	---	---	---	11.0	10.8	11.7	11.4
6	8.7	8.3	8.9	8.4	---	---	---	---	11.0	10.8	11.7	11.6
7	8.7	8.5	8.8	8.5	---	---	---	---	11.0	10.8	11.6	11.6
8	8.9	8.5	8.7	8.7	---	---	---	---	11.0	11.0	11.6	11.6
9	8.9	8.7	8.7	8.5	---	---	---	---	11.0	11.0	11.8	11.6
10	8.7	8.3	8.7	8.7	---	---	---	---	11.0	11.0	11.8	11.6
11	8.7	8.5	8.7	8.7	---	---	---	---	11.2	11.0	11.9	11.6
12	8.9	8.7	8.9	8.7	---	---	10.3	10.1	11.2	11.0	11.9	11.7
13	9.1	8.7	8.9	8.7	---	---	10.4	10.1	11.2	11.0	11.9	11.7
14	8.9	8.7	9.0	8.9	---	---	10.3	10.1	11.2	11.0	11.9	11.8
15	8.9	8.7	9.0	8.9	---	---	10.4	10.1	11.2	11.0	11.9	11.7
16	8.9	8.5	9.0	8.9	---	---	10.4	10.3	11.2	11.2	12.1	11.8
17	8.7	8.5	8.9	8.9	---	---	10.4	10.3	11.2	11.2	12.1	11.8
18	9.1	8.7	9.0	8.9	---	---	10.4	10.3	11.2	11.2	12.1	11.9
19	8.9	8.7	9.0	8.9	---	---	10.4	10.3	11.4	11.2	12.1	11.9
20	8.9	8.7	9.1	8.9	---	---	10.4	10.3	11.4	11.2	12.1	11.9
21	8.9	8.1	9.1	8.9	---	---	10.4	10.3	11.4	11.2	12.1	12.1
22	8.7	8.1	9.1	9.1	---	---	10.4	10.3	11.4	11.4	12.1	12.1
23	8.9	8.5	9.3	9.1	---	---	10.6	10.3	11.5	11.2	12.1	12.0
24	8.9	8.3	9.3	8.9	---	---	10.6	10.3	11.4	11.4	12.3	12.0
25	8.9	8.5	9.3	9.1	---	---	10.6	10.4	11.4	11.4	12.1	12.1
26	8.9	8.7	9.3	9.1	---	---	10.6	10.5	11.4	11.4	12.3	12.1
27	8.9	8.7	9.3	9.1	---	---	10.6	10.5	11.4	11.4	12.1	12.1
28	8.9	8.7	---	---	---	---	10.6	10.6	11.4	11.4	12.3	12.1
29	8.9	8.7	---	---	---	---	10.6	10.6	11.4	11.4	12.3	12.1
30	8.9	8.7	---	---	---	---	10.8	10.5	11.4	11.4	12.3	12.3
31	---	---	---	---	---	---	10.8	10.5	11.6	11.4	---	---
MONTH	9.1	8.1	9.3	8.3	---	---	10.8	10.1	11.6	10.6	12.3	11.4
YEAR	12.3	7.9										

415307080414600 AB-140 NR KINGSVILLE, OH—Continued

#3 (14.0’ BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.2	13.0	---	---	12.3	11.6	10.1	9.8	9.2	8.9	9.3	8.9
2	13.3	13.0	---	---	11.8	11.6	10.1	9.7	9.3	8.9	9.3	8.9
3	13.3	13.0	---	---	11.8	11.8	10.3	9.9	9.3	8.9	9.3	9.1
4	13.3	13.0	---	---	11.8	11.6	10.3	10.1	9.3	8.9	9.3	8.9
5	13.3	13.0	---	---	11.8	11.6	10.3	9.3	9.3	9.1	9.1	8.9
6	13.3	13.0	---	---	11.8	11.8	9.7	9.5	9.3	9.0	9.1	8.9
7	13.3	13.0	---	---	12.0	11.6	10.1	9.5	9.3	9.0	9.1	8.9
8	13.3	13.0	---	---	11.6	11.4	10.3	8.7	9.3	9.1	9.1	8.9
9	13.3	13.0	---	---	11.6	11.1	9.3	8.9	9.4	9.1	8.9	8.7
10	13.3	13.0	---	---	11.4	11.4	9.3	8.9	9.3	8.9	9.0	8.8
11	13.3	13.0	---	---	11.4	11.1	9.3	8.9	9.3	8.9	9.0	8.8
12	13.3	13.0	---	---	11.1	10.9	9.3	8.9	9.3	9.1	9.1	8.8
13	13.3	13.0	---	---	11.1	10.9	9.5	9.3	9.3	9.1	9.1	8.9
14	13.3	13.2	---	---	11.1	10.9	9.5	9.2	9.3	9.2	9.1	8.5
15	13.2	13.2	---	---	11.1	10.9	9.7	9.3	9.4	9.1	8.7	8.7
16	---	---	---	---	11.0	10.9	9.7	9.4	9.3	9.1	8.9	8.6
17	---	---	---	---	10.9	10.7	9.5	9.4	9.3	9.1	9.3	8.1
18	---	---	---	---	10.9	10.7	9.5	9.3	9.1	8.9	8.9	8.5
19	---	---	---	---	10.9	10.7	9.5	9.2	8.9	8.9	---	---
20	---	---	---	---	10.9	10.7	9.5	9.3	9.1	8.9	---	---
21	---	---	---	---	10.7	10.5	9.5	9.2	9.5	8.7	7.9	7.2
22	---	---	---	---	10.5	10.3	9.5	9.4	9.1	8.7	8.1	7.3
23	---	---	---	---	10.7	10.3	9.5	9.3	9.3	8.7	8.1	7.7
24	---	---	---	---	10.5	10.3	9.7	9.3	8.7	7.7	8.3	8.1
25	---	---	---	---	10.7	9.7	9.9	8.3	8.9	8.1	8.3	8.1
26	---	---	---	---	9.9	9.5	9.3	8.9	8.9	8.5	8.3	8.0
27	---	---	---	---	9.7	9.5	9.3	9.1	8.9	8.7	8.0	7.8
28	---	---	---	---	10.1	9.7	9.3	9.1	9.1	8.9	8.1	7.8
29	---	---	12.5	12.3	10.1	9.9	9.3	8.9	---	---	8.7	8.1
30	---	---	12.3	12.3	10.1	9.9	9.3	9.1	---	---	8.7	7.2
31	---	---	---	---	10.1	9.8	9.3	9.1	---	---	8.1	7.6
MONTH	13.3	13.0	12.5	12.3	12.3	9.5	10.3	8.3	9.5	7.7	9.3	7.2

#3 (14.0’ BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.3	7.9	8.5	8.1	---	---	---	---	12.1	12.1	13.0	13.0
2	8.7	8.1	8.5	8.3	---	---	---	---	12.3	12.1	13.0	13.0
3	8.1	7.4	8.4	8.3	---	---	---	---	12.3	12.1	13.0	13.0
4	8.1	7.5	8.4	8.3	---	---	---	---	12.3	12.1	13.0	13.0
5	8.5	8.1	8.5	8.3	---	---	---	---	12.3	12.3	13.1	13.0
6	8.7	8.3	8.7	8.3	---	---	---	---	12.4	12.3	13.1	13.0
7	8.7	8.5	8.8	8.5	---	---	---	---	12.4	12.3	13.2	13.0
8	8.7	7.9	8.9	8.7	---	---	---	---	12.4	12.3	13.2	13.2
9	8.9	7.9	8.9	8.7	---	---	---	---	12.4	12.3	13.3	13.2
10	8.9	8.3	8.9	8.7	---	---	---	---	12.5	12.3	13.3	13.2
11	8.7	8.3	8.9	8.9	---	---	---	---	12.5	12.3	13.3	13.2
12	8.3	7.9	8.9	8.9	---	---	11.4	11.2	12.6	12.3	13.3	13.2
13	8.0	7.9	8.9	8.9	---	---	11.4	11.2	12.6	12.3	13.3	13.2
14	7.9	7.9	9.1	8.8	---	---	11.4	11.2	12.6	12.5	13.3	13.2
15	8.0	7.9	8.9	8.8	---	---	11.5	11.4	12.6	12.5	13.3	13.3
16	8.9	7.9	9.0	8.9	---	---	11.4	11.4	12.8	12.5	13.5	13.2
17	8.7	8.5	8.9	8.9	---	---	11.4	11.4	12.8	12.5	13.5	13.3
18	8.7	7.9	9.0	8.9	---	---	11.4	11.4	12.8	12.8	13.5	13.3
19	7.9	7.7	9.0	8.9	---	---	11.6	11.4	12.8	12.7	13.5	13.3
20	8.1	7.9	9.0	8.9	---	---	11.7	11.4	12.8	12.7	13.5	13.3
21	8.1	7.9	8.9	8.9	---	---	11.7	11.6	12.8	12.8	13.5	13.5
22	8.3	7.9	9.1	8.9	---	---	11.7	11.6	12.8	12.8	13.5	13.5
23	8.5	7.9	9.1	8.9	---	---	11.9	11.6	12.8	12.8	13.5	13.4
24	8.2	7.9	9.3	9.1	---	---	11.9	11.6	13.0	12.8	13.5	13.4
25	8.1	7.9	9.3	9.1	---	---	11.9	11.6	13.0	12.8	13.5	13.5
26	8.9	8.1	9.4	9.1	---	---	11.9	11.7	13.0	12.8	13.5	13.5
27	8.9	8.1	9.4	9.3	---	---	11.9	11.8	13.0	12.8	13.5	13.5
28	8.3	8.1	---	---	---	---	11.9	11.9	13.1	13.0	13.5	13.5
29	8.1	8.1	---	---	---	---	12.1	11.9	13.1	13.0	13.7	13.4
30	8.3	8.1	---	---	---	---	12.1	12.1	13.0	13.0	13.5	13.5
31	---	---	---	---	---	---	12.1	12.1	13.0	13.0	---	---
MONTH	8.9	7.4	9.4	8.1	---	---	12.1	11.2	13.1	12.1	13.7	13.0
YEAR	13.7	7.2										

415307080414600 AB-140 NR KINGSVILLE, OH—Continued

#4 (10.0’ BLS) EMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	---	---	---	---	11.4	11.4	9.2	9.0	8.3	8.1	7.0	6.7
2	---	---	---	---	11.4	11.3	9.3	8.9	8.1	8.1	6.8	6.8
3	---	---	---	---	11.4	11.3	9.5	9.1	8.3	8.1	6.8	6.6
4	---	---	---	---	11.4	11.4	9.5	9.5	8.3	8.1	6.6	6.6
5	---	---	---	---	11.4	11.4	9.5	8.1	8.3	8.1	6.7	6.6
6	---	---	---	---	11.4	10.7	8.9	8.7	8.3	8.3	6.7	6.6
7	---	---	---	---	10.9	10.7	9.3	8.9	8.5	7.4	6.8	6.6
8	---	---	---	---	10.9	10.5	9.5	7.4	8.5	7.3	6.8	6.6
9	---	---	---	---	10.9	10.3	8.3	7.9	8.5	7.5	6.8	6.7
10	---	---	---	---	10.9	10.7	8.1	7.9	8.3	7.3	7.0	6.8
11	---	---	---	---	10.9	10.5	8.1	7.9	8.5	7.7	7.0	6.8
12	---	---	---	---	10.5	10.3	8.3	7.9	8.3	7.4	6.8	6.8
13	---	---	---	---	10.3	10.1	8.5	8.3	7.5	7.3	6.8	6.8
14	---	---	---	---	10.3	10.3	8.7	8.4	7.7	7.5	6.8	6.6
15	---	---	---	---	10.3	10.1	8.7	8.5	7.7	7.2	6.8	6.8
16	---	---	---	---	10.3	10.1	8.9	8.7	7.6	7.2	6.8	6.7
17	---	---	---	---	10.3	10.1	8.7	8.5	8.5	7.2	7.4	6.8
18	---	---	---	---	10.1	9.9	8.7	8.5	8.3	7.9	8.1	7.0
19	---	---	---	---	10.1	9.9	8.7	8.5	7.9	7.9	---	---
20	---	---	---	---	10.1	9.9	8.7	8.5	8.3	7.4	---	---
21	---	---	---	---	9.9	9.4	8.5	8.5	7.4	6.8	7.0	6.8
22	---	---	---	---	9.9	9.4	8.7	8.5	6.8	6.6	7.2	6.8
23	---	---	---	---	9.9	9.3	8.7	8.5	6.8	6.6	7.3	7.2
24	---	---	---	---	9.7	8.9	8.9	7.7	7.5	6.8	7.4	7.2
25	---	---	---	---	9.3	8.7	8.1	7.7	7.9	7.2	7.6	6.8
26	---	---	---	---	8.7	8.3	8.3	8.1	8.1	7.2	7.3	6.7
27	---	---	---	---	8.7	8.3	8.3	8.1	7.4	6.7	7.2	7.0
28	---	---	---	---	9.1	8.7	8.3	8.1	7.2	6.8	7.4	7.2
29	---	---	11.4	11.4	9.3	9.0	8.5	8.1	---	---	7.6	6.2
30	---	---	11.4	11.4	9.3	9.0	8.5	8.3	---	---	7.1	6.5
31	---	---	---	---	9.2	9.0	8.3	8.1	---	---	7.3	6.5
MONTH	---	---	11.4	11.4	11.4	8.3	9.5	7.4	8.5	6.6	8.1	6.2

#4 (10.0’ BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.2	6.5	8.1	7.9	---	---	---	---	---	---	---	---
2	6.5	6.3	8.1	7.9	---	---	---	---	---	---	---	---
3	7.2	6.5	8.2	8.1	---	---	---	---	---	---	---	---
4	7.0	6.6	8.2	8.1	---	---	---	---	---	---	---	---
5	6.8	6.6	8.3	8.1	---	---	---	---	---	---	---	---
6	6.8	6.6	8.4	8.2	---	---	---	---	---	---	---	---
7	6.9	6.6	8.5	8.3	---	---	---	---	---	---	---	---
8	6.9	6.8	8.5	8.5	---	---	---	---	---	---	---	---
9	7.0	6.8	8.7	8.5	---	---	---	---	---	---	---	---
10	7.2	7.0	8.7	8.7	---	---	---	---	---	---	---	---
11	7.2	7.0	8.7	8.7	---	---	---	---	---	---	---	---
12	7.2	7.0	8.9	8.7	---	---	---	---	---	---	---	---
13	7.2	7.1	8.9	8.7	---	---	---	---	---	---	---	---
14	7.2	7.2	9.0	8.9	---	---	---	---	---	---	---	---
15	7.2	7.2	9.0	8.9	---	---	---	---	---	---	---	---
16	7.2	7.2	9.1	8.9	---	---	---	---	---	---	---	---
17	7.4	7.2	9.1	8.9	---	---	---	---	---	---	---	---
18	7.4	7.2	9.2	9.1	---	---	---	---	---	---	---	---
19	7.7	7.4	9.4	9.1	---	---	---	---	---	---	---	---
20	7.7	7.4	9.4	9.3	---	---	---	---	---	---	---	---
21	7.8	7.5	9.5	9.3	---	---	---	---	---	---	---	---
22	7.9	7.7	9.5	9.5	---	---	---	---	---	---	---	---
23	7.9	7.7	9.7	9.5	---	---	---	---	---	---	---	---
24	7.8	7.7	9.7	9.5	---	---	---	---	---	---	---	---
25	7.9	7.7	9.9	9.7	---	---	---	---	---	---	---	---
26	7.9	7.7	9.9	9.7	---	---	---	---	---	---	---	---
27	7.9	7.9	10.0	9.9	---	---	---	---	---	---	---	---
28	8.0	7.9	---	---	---	---	---	---	---	---	---	---
29	8.0	7.9	---	---	---	---	---	---	---	---	---	---
30	8.0	7.9	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	8.0	6.3	10.0	7.9	---	---	---	---	---	---	---	---
YEAR	11.4	6.2										

GROUND-WATER RECORDS

413551083481200. Local number, LU-20.

LOCATION.--Lat 41°35'51" Long 83°48'12", Hydrologic Unit 04100009, along State Route 2 near Holland, OH.
Owner.--USGS/Toledo Express Airport.

AQUIFER.--Sand of Quaternary age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 31 ft. Cased with Sch 40 PVC to 6.0 ft; .010 in. screen from 6.0 to 31 ft.

INSTRUMENTATION - Data logger--60 minute record. Precipitation data collected with a propane-heated, tipping-bucket rain gauge. Also collected: air temperature, soil temperature, water temperature, and specific conductance. At this well there are 4 conductivity/water temperature probes at various depths within the well to better document vertical movement of high conductivity water on an hourly basis. Conductivity/water temperature probes set at 8.6 (level 4), 13.6 (level 3), 21.6 (level 2), and 26.6 (level 1) feet below land surface.

DATUM.--Elevation of land-surface datum is 676.13 feet above sea level.
Measuring point: shelter shelf 2.38 ft above land-surface datum.

REMARKS.--This station is part of an eight-site network to collect data for the Ohio Department of Transportation concerning road salt application and its effect(s) on shallow ground-water quality. Water-quality data for nearby wells is available in preceding tables. Incomplete data this year due to damage to wiring by animals or problems with recorder.

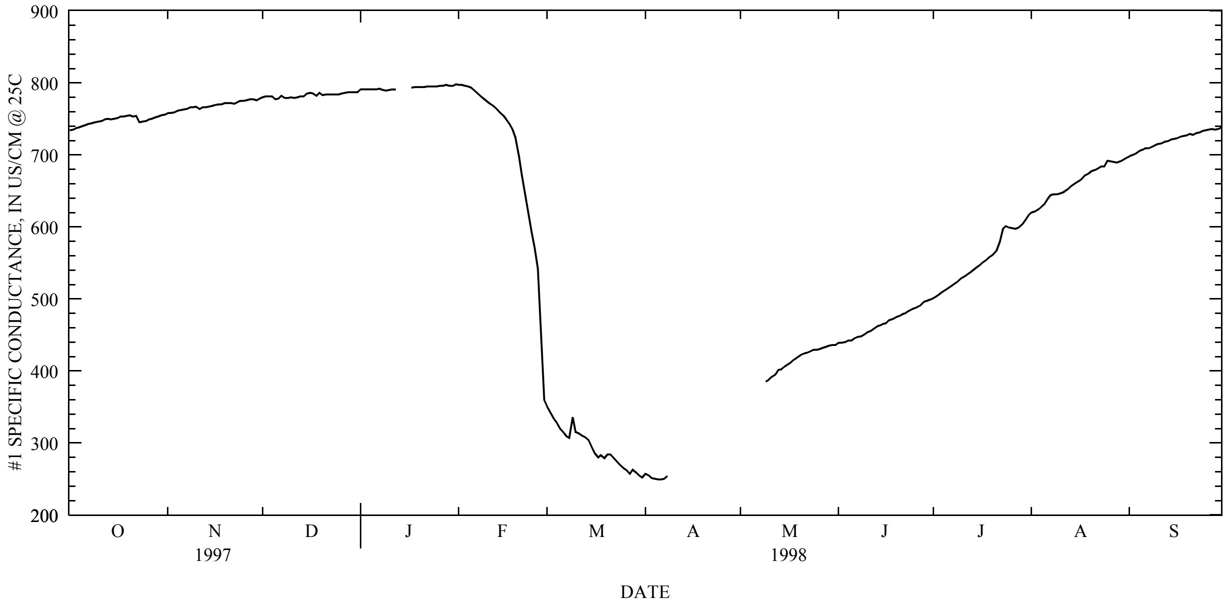
PERIOD OF RECORD.--February 1991 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (FOUR LEVELS): February 1991 to current year.
AIR TEMPERATURE: February 1991 to current year.
WATER TEMPERATURE (FOUR LEVELS): February 1991 to current year.
SOIL TEMPERATURE: February 1991 to current year.
PRECIPITATION: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE:
LEVEL 1- Maximum, 1260 microsiemens August 13, 1991; minimum, 247 microsiemens April 4-6, 1998.
LEVEL 2- Maximum, 953 microsiemens July 1, 1991; minimum, 201 microsiemens February 7-11, 1998.
LEVEL 3- Maximum, 785 microsiemens April 25, 1991; minimum, 99 microsiemens June 9-10, 1993.
LEVEL 4- Maximum, 634 microsiemens January 29, 1994; minimum, 70 microsiemens July 14-17, 19, 1996.
AIR TEMPERATURE: Maximum, 38.2°C July 14, 1995; minimum, -28.1°C January 19,1994.
WATER TEMPERATURE:
LEVEL 1- Maximum, 12.7°C several days in November, December 1991; minimum, 7.8°C August 5-6, 1997.
LEVEL 2- Maximum, 13.6°C several days in November, 1991; minimum, 7.8°C August 5, 1997.
LEVEL 3- Maximum, 15.2°C many days in October 1991; minimum, 7.6°C March 26, 28, 1993.
LEVEL 4- Maximum, 17.5°C many days in 1991; minimum, 6.0°C March 24-26, 1993.
SOIL TEMPERATURE: Maximum, 31.3°C June 19, 1994; minimum, -4.7°C February 6, 1994.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE:
LEVEL 1- Maximum, 798 microsiemens January 31, 1998; minimum, 247 microsiemens April 4-6, 1998.
LEVEL 2- Maximum, 718 microsiemens January 9, 1998; minimum, 201 microsiemens February 7-11, 1998.
LEVEL 3- Maximum, 398 microsiemens May 19-20, 1998; minimum, 103 microsiemens June 2-5, 1998.
LEVEL 4- Maximum, 331 microsiemens February 27, 1998; minimum, 85 microsiemens June 4,8, 1998.
AIR TEMPERATURE: Maximum, 36.5°C June 25, 1998; minimum, -12.4°C December 31, 1997.
WATER TEMPERATURE:
LEVEL 1- Maximum, 12.2°C December 14-19, 1997, January 2-7, 1998; minimum, 10.2°C May 19-21, 1998.
LEVEL 2- Maximum, 12.4°C October 29-31, November 2-30, December 1-15, 17, 1997; minimum, 9.2°C March 26, 29, April 8, 1998.
LEVEL 3- Maximum, 15.1°C September 24, 28-30, 1998; minimum, 8.6°C March 26, 1998.
LEVEL 4- Maximum, 17.4°C September 10-12, 14, 1998; minimum, 7.4°C March 18-19, 21-26, 1998.
SOIL TEMPERATURE: Maximum, 28.2C June 28, 1998; minimum, 1.2°C January 1-2, 16-20, 1998.

413551083481200 LU-20 NR HOLLAND OH—Continued



413551083481200 LU-20 NR HOLLAND OH—Continued

#1 (26.6' BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	734	732	758	756	780	774	791	786	797	792	350	342
2	735	734	758	757	781	775	791	786	797	791	342	334
3	737	735	759	758	781	776	791	786	796	790	334	327
4	738	736	761	759	781	775	791	784	795	790	328	320
5	740	738	762	761	777	775	791	786	793	789	320	314
6	741	739	763	762	778	776	791	787	789	785	315	309
7	743	741	764	762	782	778	792	786	785	781	309	304
8	744	742	766	764	779	778	790	780	781	778	307	303
9	745	744	766	761	779	779	789	783	778	774	336	305
10	746	741	767	762	780	779	790	784	774	771	315	313
11	747	743	764	763	779	778	791	786	771	767	313	310
12	749	744	766	764	780	778	791	786	768	763	310	308
13	750	745	766	765	781	780	---	---	764	758	308	304
14	749	745	767	766	781	780	---	---	759	754	304	293
15	750	745	768	767	785	781	---	---	755	749	294	285
16	751	746	769	768	786	781	---	---	749	743	285	278
17	753	747	770	768	785	781	793	789	743	735	280	276
18	753	748	770	769	782	780	794	789	735	724	283	276
19	754	750	772	770	786	781	794	789	724	698	279	273
20	755	750	772	771	783	782	794	793	698	672	284	271
21	753	752	772	770	784	783	794	794	672	646	284	275
22	754	734	771	769	784	784	795	794	646	620	279	272
23	745	742	773	769	784	783	795	793	620	594	274	269
24	746	745	775	773	784	783	795	794	594	571	269	264
25	747	746	775	775	784	780	795	795	571	542	265	262
26	749	747	776	775	785	782	796	795	542	450	262	257
27	750	749	777	773	786	785	796	795	450	359	257	254
28	752	750	777	774	787	786	797	796	359	350	263	253
29	753	752	776	774	787	786	796	795	---	---	259	254
30	755	753	778	776	787	786	796	794	---	---	255	251
31	756	755	---	---	787	786	798	793	---	---	252	250
MONTH	756	732	778	756	787	774	798	780	797	350	350	250

#1 (26.6' BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	257	250	---	---	439	434	501	499	620	616	698	692
2	255	250	---	---	439	435	504	501	621	620	700	694
3	251	250	---	---	440	437	507	504	624	621	702	697
4	250	247	---	---	442	438	510	507	627	624	705	700
5	249	247	---	---	442	439	513	510	631	627	707	702
6	249	247	---	---	445	440	516	513	638	631	709	704
7	250	248	---	---	447	442	519	516	644	638	709	706
8	254	249	---	---	448	444	522	519	645	644	711	709
9	---	---	385	382	450	446	525	522	645	644	713	711
10	---	---	388	384	453	448	529	525	646	645	715	713
11	---	---	392	387	455	451	532	527	648	646	716	715
12	---	---	395	391	458	453	535	529	651	648	718	716
13	---	---	401	394	461	456	538	532	654	651	719	718
14	---	---	402	398	463	459	541	536	658	654	721	716
15	---	---	406	402	465	460	545	538	661	658	722	718
16	---	---	409	405	466	462	548	543	664	660	723	718
17	---	---	412	408	470	465	552	546	667	664	725	720
18	---	---	416	412	472	468	555	549	672	665	726	721
19	---	---	419	415	474	470	559	552	674	669	727	723
20	---	---	422	418	476	471	562	556	677	671	729	725
21	---	---	424	419	478	474	567	560	679	673	728	726
22	---	---	425	421	480	476	579	565	681	676	730	725
23	---	---	427	424	483	478	597	579	684	678	731	726
24	---	---	429	424	485	480	601	596	684	680	733	728
25	---	---	429	427	487	483	599	595	692	684	734	729
26	---	---	430	427	489	485	598	594	691	689	735	730
27	---	---	432	428	491	487	597	594	690	688	736	731
28	---	---	433	429	496	490	599	595	689	688	735	733
29	---	---	435	431	497	493	603	597	691	689	736	735
30	---	---	436	433	499	496	609	602	693	688	738	736
31	---	---	436	434	---	---	616	609	696	689	---	---
MONTH	257	247	436	382	499	434	616	499	696	616	738	692
YEAR	798	247										

413551083481200 LU-20 NR HOLLAND OH—Continued

#2 (21.6' BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	589	588	650	646	699	696	677	673	209	206	340	332
2	590	589	657	649	696	689	676	672	208	206	332	325
3	591	590	660	656	689	684	672	667	207	205	326	317
4	591	591	663	660	688	684	667	660	205	203	318	310
5	592	591	666	663	689	688	666	655	204	202	310	304
6	593	592	667	666	689	687	655	647	203	202	305	298
7	593	590	667	666	687	685	649	627	203	201	300	294
8	593	590	670	666	686	684	717	649	203	201	297	292
9	593	590	667	665	684	682	718	716	203	201	317	296
10	590	590	666	665	682	681	716	712	203	201	306	303
11	591	590	665	664	686	681	713	679	205	201	304	300
12	591	590	665	664	688	683	679	612	206	204	301	298
13	592	591	665	664	689	684	---	---	207	205	299	292
14	592	591	664	664	689	685	---	---	206	205	295	284
15	595	589	664	663	689	684	---	---	207	205	284	276
16	597	591	665	664	687	685	---	---	207	205	277	269
17	601	595	668	665	686	682	388	337	714	207	271	266
18	604	598	676	668	686	685	337	257	715	704	274	269
19	606	601	681	676	690	686	257	204	704	679	272	265
20	608	603	683	680	687	686	206	203	681	653	272	261
21	610	605	688	683	687	685	206	204	654	627	274	267
22	609	601	707	688	688	683	207	205	628	602	270	264
23	615	606	712	707	686	682	209	206	602	577	268	261
24	621	615	712	707	686	682	210	208	577	551	261	256
25	625	621	707	699	693	685	211	210	551	522	258	254
26	626	623	699	691	693	687	211	210	522	376	255	249
27	629	624	695	692	687	681	212	209	380	345	250	245
28	633	629	695	693	681	676	210	208	347	339	253	244
29	639	630	699	695	676	673	209	207	---	---	252	246
30	644	638	699	698	676	672	208	207	---	---	248	244
31	646	643	---	---	678	673	207	206	---	---	245	242
MONTH	646	588	712	646	699	672	718	203	715	201	340	242

#2 (21.6' BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	249	243	---	---	429	428	492	489	514	511	494	490
2	248	241	---	---	431	429	495	492	514	511	495	491
3	244	240	---	---	432	429	498	495	515	512	497	493
4	244	239	---	---	433	430	500	498	512	512	499	495
5	242	238	---	---	435	431	503	500	513	512	500	498
6	242	238	---	---	436	433	506	503	523	512	500	500
7	243	239	---	---	439	435	510	506	534	523	503	500
8	247	240	---	---	440	436	513	510	534	526	506	503
9	---	---	378	375	442	438	516	513	526	517	507	503
10	---	---	382	377	444	440	520	514	517	513	508	505
11	---	---	385	381	445	442	522	517	514	508	508	506
12	---	---	389	383	449	445	525	520	510	507	508	505
13	---	---	393	387	452	448	525	522	511	508	507	505
14	---	---	396	393	454	451	525	522	511	508	505	504
15	---	---	398	394	456	453	525	522	509	509	504	503
16	---	---	402	397	457	455	526	523	510	509	504	501
17	---	---	404	400	460	457	524	523	512	510	503	500
18	---	---	408	403	464	460	524	523	518	512	502	500
19	---	---	412	407	464	462	524	523	521	518	502	499
20	---	---	414	409	466	462	523	522	522	521	502	499
21	---	---	417	412	469	466	524	523	522	522	500	499
22	---	---	418	415	471	467	532	524	523	522	500	500
23	---	---	420	416	473	469	549	532	523	523	501	500
24	---	---	422	418	476	471	549	545	524	523	502	500
25	---	---	422	421	478	473	545	529	558	521	502	501
26	---	---	423	421	480	475	531	520	558	528	503	502
27	---	---	424	421	483	478	520	515	528	511	504	503
28	---	---	425	422	485	481	516	512	511	496	505	503
29	---	---	426	424	486	484	513	510	496	493	505	502
30	---	---	426	425	489	486	512	510	495	493	507	503
31	---	---	428	426	---	---	514	510	494	491	---	---
MONTH	249	238	428	375	489	428	549	489	558	491	508	490
YEAR	718	201										

413551083481200 LU-20 NR HOLLAND OH—Continued

#3 (13.6' BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	203	202	271	270	143	142	162	160	201	200	328	322
2	203	202	276	270	142	142	163	162	201	199	322	314
3	204	202	280	276	142	141	164	163	199	197	315	307
4	203	202	283	280	142	141	167	164	198	196	308	301
5	203	202	283	281	143	142	169	167	198	195	301	294
6	202	202	283	281	143	142	170	168	197	195	294	289
7	202	202	282	279	143	143	171	169	196	195	290	285
8	202	201	279	276	144	143	175	170	197	195	288	283
9	201	198	276	275	144	143	181	175	196	194	298	285
10	200	199	276	273	144	142	186	181	197	195	297	294
11	200	199	274	273	143	143	190	185	198	196	295	291
12	200	199	274	272	144	143	197	189	200	198	291	287
13	201	199	273	272	146	144	---	---	201	199	288	283
14	210	201	273	270	146	145	---	---	200	199	284	275
15	217	210	273	270	146	145	---	---	201	199	275	266
16	223	217	277	272	146	145	---	---	202	200	267	261
17	226	223	281	277	148	146	198	197	206	202	262	258
18	228	226	283	281	150	148	198	195	207	204	264	260
19	230	228	283	277	150	149	198	195	217	206	262	256
20	233	230	277	275	151	150	198	196	228	217	259	253
21	235	233	276	274	151	150	199	197	234	227	262	258
22	239	218	298	275	153	151	200	198	240	234	260	256
23	240	234	305	287	154	152	202	199	247	240	258	253
24	244	240	287	144	156	154	204	201	253	246	253	248
25	249	244	144	142	158	156	204	203	260	252	249	245
26	254	249	142	141	159	158	204	202	322	260	247	242
27	260	254	141	140	159	157	204	203	340	322	243	238
28	266	260	141	140	159	157	204	200	336	328	244	237
29	270	266	142	140	159	158	202	200	---	---	244	240
30	271	270	143	142	160	158	201	199	---	---	240	236
31	273	271	---	---	160	159	201	199	---	---	238	235
MONTH	273	198	305	140	160	141	204	160	340	194	328	235

#3 (13.6' BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	240	235	---	---	105	104	134	131	175	169	191	189
2	239	234	---	---	105	103	136	134	177	174	195	191
3	235	232	---	---	103	103	136	135	178	177	199	195
4	235	231	---	---	104	103	135	131	181	178	202	198
5	233	231	---	---	104	103	132	131	185	181	204	201
6	233	231	---	---	105	104	133	132	198	185	206	204
7	233	231	---	---	105	105	132	131	204	198	209	205
8	237	233	---	---	105	104	131	131	203	200	213	209
9	---	---	368	364	106	104	135	131	200	196	214	213
10	---	---	371	367	107	106	138	135	196	190	215	214
11	---	---	374	371	109	107	142	137	190	187	215	214
12	---	---	378	374	114	109	143	141	187	186	215	214
13	---	---	383	378	116	114	141	138	188	187	215	213
14	---	---	385	383	116	115	139	136	191	188	214	213
15	---	---	387	385	115	113	141	138	193	191	213	213
16	---	---	390	387	115	113	146	141	197	192	213	213
17	---	---	393	390	122	115	147	143	199	196	214	213
18	---	---	396	392	123	122	151	147	204	198	215	214
19	---	---	398	395	123	122	158	151	206	204	216	215
20	---	---	398	394	122	122	163	157	207	206	216	216
21	---	---	397	279	123	122	177	162	207	206	217	216
22	---	---	279	184	123	122	185	177	208	207	218	217
23	---	---	184	180	122	120	202	185	209	208	219	218
24	---	---	191	182	120	119	202	197	210	208	220	219
25	---	---	191	125	120	119	197	190	230	209	221	220
26	---	---	125	107	121	118	190	183	231	217	221	221
27	---	---	107	105	124	121	183	175	218	203	222	221
28	---	---	105	105	128	124	175	170	203	193	222	220
29	---	---	105	104	132	128	170	167	193	189	223	221
30	---	---	105	104	131	130	167	166	189	188	223	221
31	---	---	107	105	---	---	170	166	189	188	---	---
MONTH	240	231	398	104	132	103	202	131	231	169	223	189
YEAR	398	103										

413551083481200 LU-20 NR HOLLAND OH—Continued

#4 (8.6' BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	97	95	99	99	141	140	157	156	197	194	319	311
2	97	96	99	99	140	139	159	157	197	193	311	304
3	96	96	100	99	140	139	160	159	194	192	304	298
4	96	96	101	100	140	139	163	160	192	190	298	291
5	96	96	102	101	141	139	165	163	191	190	291	285
6	96	96	102	101	141	140	167	164	191	190	285	281
7	96	96	102	102	141	140	168	165	190	189	281	276
8	96	96	103	102	141	140	170	166	190	189	282	275
9	96	95	103	102	142	140	175	170	190	189	291	274
10	96	95	104	102	141	140	180	175	190	190	292	285
11	96	96	104	103	141	140	185	180	192	190	288	282
12	96	96	104	104	142	141	191	185	194	192	285	280
13	97	96	105	104	143	142	203	190	193	192	281	274
14	97	97	106	105	143	142	---	---	194	192	275	268
15	98	97	107	106	143	143	---	---	194	192	269	261
16	98	98	108	107	144	143	195	192	195	193	261	254
17	98	98	110	108	146	143	194	191	199	195	257	250
18	98	97	112	110	147	144	193	190	202	198	258	252
19	98	97	114	112	147	146	194	190	212	200	256	248
20	99	97	117	114	148	146	194	190	221	211	251	245
21	99	97	119	116	149	146	194	191	228	219	256	249
22	104	97	123	119	149	147	193	192	234	227	255	247
23	100	99	129	123	151	148	197	192	240	233	251	245
24	99	99	142	128	152	150	198	196	247	239	247	241
25	99	98	140	138	154	151	198	196	251	244	243	237
26	99	99	139	138	156	154	200	197	289	251	238	234
27	99	98	139	137	156	153	200	196	331	289	234	230
28	99	99	139	138	155	153	199	196	324	317	236	230
29	99	99	141	138	155	153	198	194	---	---	236	233
30	100	99	141	140	156	154	195	194	---	---	233	229
31	100	99	---	---	156	155	196	193	---	---	230	228
MONTH	104	95	142	99	156	139	203	156	331	189	319	228

#4 (8.6' BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	232	228	---	---	86	86	88	88	93	92	93	93
2	231	226	---	---	86	86	89	88	93	92	93	93
3	227	225	---	---	86	86	89	88	93	92	93	93
4	226	223	---	---	86	85	89	88	93	92	93	93
5	225	223	---	---	86	86	89	88	93	92	93	93
6	224	223	---	---	87	86	89	88	97	93	93	93
7	225	223	---	---	87	86	89	89	98	97	94	93
8	229	225	93	91	86	85	89	89	98	94	94	93
9	232	228	91	90	86	86	89	89	94	93	93	93
10	---	---	90	89	86	86	89	89	93	93	93	93
11	---	---	90	89	87	86	89	89	93	92	93	92
12	---	---	90	89	87	86	90	89	93	92	93	92
13	---	---	90	89	87	87	89	89	92	92	93	93
14	---	---	90	89	87	87	90	89	92	92	93	92
15	---	---	89	89	87	86	90	90	93	92	93	93
16	---	---	89	88	87	86	90	90	93	92	93	93
17	---	---	88	88	87	87	90	90	93	92	93	93
18	---	---	88	87	87	87	91	90	93	92	93	93
19	---	---	88	87	87	87	91	90	93	92	93	93
20	---	---	88	87	88	87	91	90	92	92	93	93
21	---	---	88	87	88	87	92	91	93	92	93	93
22	---	---	87	86	88	87	96	92	93	92	93	92
23	---	---	87	86	88	87	126	96	93	92	93	92
24	---	---	87	86	88	87	128	110	93	92	93	92
25	---	---	87	86	88	87	110	93	116	93	93	93
26	---	---	87	86	88	88	93	92	116	94	93	93
27	---	---	87	86	88	88	93	92	94	93	93	93
28	---	---	87	86	88	88	93	92	93	93	93	92
29	---	---	86	86	88	88	93	92	93	93	93	92
30	---	---	86	86	88	88	93	93	93	93	93	93
31	---	---	87	86	---	---	93	92	93	93	---	---
MONTH	232	223	93	86	88	85	128	88	116	92	94	92
YEAR	331	85										

413551083481200 LU-20 NR HOLLAND OH—Continued

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.8	5.0	12.7	8.4	3.2	-3.0	3.9	-9.1	9.2	-4.0	8.4	2.4
2	19.8	3.8	8.4	4.0	5.3	-3.6	9.7	1.8	6.6	-3.4	4.3	.9
3	27.1	12.1	5.2	.9	5.3	-1.5	12.9	6.9	2.9	-5.7	3.9	-.6
4	28.5	15.2	5.8	1.0	4.5	-1.1	11.7	2.1	2.5	-4.2	3.5	-2.6
5	29.2	10.6	6.1	1.4	.2	-4.9	13.8	9.1	3.2	-3.5	2.9	-2.6
6	28.8	15.9	10.9	2.5	-.3	-4.9	13.9	9.6	5.8	-6.0	5.3	.0
7	29.2	15.3	11.3	4.8	2.0	-.3	9.7	3.2	6.1	-4.7	6.9	-1.1
8	28.6	13.7	13.2	2.4	-.2	-.9	4.4	2.7	6.1	-5.6	11.8	2.7
9	24.8	17.3	5.9	.6	1.7	-.9	5.0	.7	8.1	-7.7	11.8	-5.5
10	19.5	6.5	6.8	-1.9	1.4	-2.2	1.5	-6.4	12.1	-5.6	-3.6	-7.8
11	19.8	5.1	5.6	-2.1	-.5	-2.8	-2.7	-8.6	6.3	3.5	-3.3	-10.2
12	27.3	6.5	1.0	-6.7	-.4	-3.8	4.2	-3.9	5.5	.4	-1.1	-8.9
13	25.4	9.5	3.3	-8.8	-2.0	-3.3	.4	-6.8	2.6	-1.8	2.8	-8.5
14	14.4	2.9	.6	-3.2	-1.2	-5.2	---	---	2.5	-3.0	3.5	-4.3
15	11.4	-.3	1.2	-4.3	4.7	-2.9	---	---	10.1	-3.4	3.4	-6.8
16	12.0	3.1	-.7	-7.6	7.6	.1	-2.5	-4.1	7.0	-.2	2.5	-5.3
17	11.8	2.8	-1.4	-8.4	6.6	-4.6	-.7	-2.9	4.8	2.7	6.5	-1.2
18	14.7	.0	2.3	-10.3	6.7	-5.2	-1.5	-3.7	5.3	3.4	11.4	3.8
19	16.3	-.4	1.5	-4.5	10.0	-.9	-.2	-3.8	4.7	2.1	10.9	1.6
20	11.7	.9	7.0	-5.7	3.0	-2.2	-.1	-4.2	4.1	1.5	1.6	-.4
21	11.8	-.6	7.5	2.6	.8	-1.5	-.3	-3.1	4.6	.4	.1	-.9
22	5.3	-3.2	3.3	.3	2.5	-.5	.2	-2.4	9.4	-3.3	6.2	-3.7
23	8.2	-2.1	3.3	-2.3	2.7	-1.3	.7	-.8	6.8	.0	6.3	-3.7
24	11.1	4.8	1.0	-6.2	3.0	-.1	.6	-1.6	5.0	-2.7	8.2	-4.3
25	11.9	4.7	11.7	-3.8	5.6	1.0	-.2	-2.0	11.7	-1.1	13.4	-.6
26	7.3	2.9	11.9	1.7	1.0	-1.9	6.6	-2.6	8.8	1.5	24.0	10.1
27	2.9	.4	9.0	-1.8	1.2	-2.5	6.7	-3.6	15.4	3.6	25.8	14.2
28	9.1	-.9	11.6	4.1	.6	-7.4	2.2	-3.6	13.8	-1.2	20.0	12.9
29	14.0	1.4	9.0	6.0	1.2	-4.3	5.0	-.9	---	---	25.2	6.9
30	17.1	.1	7.3	3.2	-1.0	-6.4	2.2	-.3	---	---	27.0	18.0
31	18.5	8.7	---	---	-6.4	-12.4	4.4	-2.2	---	---	24.9	13.0
MONTH	29.2	-3.2	13.2	-10.3	10.0	-12.4	13.9	-9.1	15.4	-7.7	27.0	-10.2

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	15.9	5.4	---	---	23.1	9.6	27.5	15.8	26.8	12.4	24.3	12.7
2	11.0	3.8	---	---	29.1	12.4	29.3	13.7	28.8	10.6	24.1	12.9
3	8.5	1.5	---	---	17.0	6.1	31.5	17.3	30.4	14.7	25.0	10.5
4	11.5	.3	---	---	20.6	5.6	25.2	16.0	22.8	19.3	25.4	14.6
5	15.3	-2.7	---	---	12.3	5.3	26.3	12.7	22.5	19.5	29.0	10.9
6	14.5	-1.5	---	---	17.0	2.2	30.3	15.2	28.8	19.7	32.9	19.9
7	15.2	.4	---	---	19.0	8.0	26.8	21.1	30.3	21.4	24.4	13.6
8	18.1	6.7	16.8	14.4	23.0	4.4	27.0	19.9	32.6	19.6	18.8	9.3
9	8.2	7.0	22.8	12.2	17.4	12.9	28.7	19.2	29.3	21.8	20.1	8.3
10	---	---	19.7	9.4	27.2	13.6	26.2	13.9	30.6	20.0	24.5	8.4
11	---	---	19.4	12.9	24.2	15.5	26.8	10.4	26.4	18.5	28.1	12.8
12	---	---	22.5	12.5	30.3	17.8	29.1	10.7	24.9	15.4	30.5	15.6
13	---	---	27.1	13.4	24.9	16.4	30.9	13.8	26.4	14.4	31.7	13.2
14	---	---	30.3	13.3	25.8	14.8	30.7	16.9	28.2	15.8	30.2	16.5
15	---	---	32.5	13.6	26.9	17.0	33.1	20.2	29.0	16.0	27.3	21.9
16	---	---	27.7	15.0	23.6	16.9	33.5	21.0	29.5	17.0	25.1	18.0
17	---	---	29.0	13.1	29.0	16.2	28.8	17.0	30.8	17.5	25.9	14.2
18	---	---	31.5	11.3	31.1	15.2	31.8	14.8	25.7	14.9	27.6	11.4
19	---	---	30.9	17.3	29.9	19.4	32.7	17.8	23.1	10.0	30.3	13.8
20	---	---	31.4	18.3	31.6	16.7	33.4	19.8	27.1	9.6	31.4	18.3
21	---	---	23.7	10.5	31.2	17.8	35.7	20.5	30.4	20.0	27.4	16.9
22	---	---	18.1	8.0	32.2	19.5	29.8	20.1	29.8	20.1	20.3	9.8
23	---	---	20.8	10.4	31.9	20.9	27.8	17.0	30.7	20.1	19.8	5.8
24	---	---	19.2	11.9	34.4	19.0	25.3	14.3	28.8	19.8	19.4	5.2
25	---	---	19.4	12.5	36.5	23.7	24.9	13.1	27.9	19.0	27.9	14.2
26	---	---	26.6	9.3	32.7	19.4	27.3	13.1	26.6	14.7	33.1	20.3
27	---	---	28.8	10.0	31.2	20.7	27.9	15.4	28.3	15.2	29.0	16.8
28	---	---	30.0	14.0	32.8	22.0	30.0	19.1	26.3	14.6	22.8	10.4
29	---	---	31.4	17.3	28.9	22.0	28.5	18.9	28.8	18.4	27.4	7.9
30	---	---	30.6	14.7	26.4	19.4	25.8	15.0	28.7	15.6	25.0	13.5
31	---	---	30.3	13.5	---	---	26.5	13.4	26.2	13.6	---	---
MONTH	18.1	-2.7	32.5	8.0	36.5	2.2	35.7	10.4	32.6	9.6	33.1	5.2
YEAR	36.5	-12.4										

413551083481200 LU-20 NR HOLLAND OH—Continued

#1 (26.6' BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11.3	11.3	11.7	11.7	12.1	11.9	12.1	11.9	11.9	11.7	11.1	10.8
2	11.3	11.3	11.7	11.7	12.1	11.9	12.2	11.9	11.9	11.7	11.0	10.8
3	11.3	11.3	11.7	11.7	12.1	11.9	12.2	11.9	11.9	11.7	11.0	10.8
4	11.3	11.3	11.7	11.7	12.1	11.9	12.2	11.9	11.9	11.7	11.0	10.8
5	11.3	11.3	11.7	11.7	12.1	12.1	12.2	11.9	11.7	11.7	11.0	10.8
6	11.3	11.3	11.7	11.7	12.1	12.1	12.2	11.9	11.7	11.7	10.8	10.8
7	11.3	11.3	11.7	11.7	12.1	11.9	12.2	11.9	11.7	11.7	11.0	10.8
8	11.3	11.3	11.7	11.7	12.1	12.1	12.1	11.9	11.7	11.7	10.8	10.8
9	11.3	11.3	11.9	11.7	12.1	12.1	12.1	11.9	11.7	11.7	10.8	10.8
10	11.5	11.3	11.9	11.7	12.1	12.1	12.1	11.9	11.7	11.7	10.8	10.8
11	11.5	11.3	11.9	11.9	12.1	12.1	12.1	11.9	11.7	11.7	10.8	10.8
12	11.5	11.3	11.9	11.9	12.1	12.1	12.1	11.9	11.7	11.7	10.8	10.8
13	11.5	11.3	11.9	11.9	12.1	12.1	---	---	11.7	11.7	10.8	10.8
14	11.7	11.5	11.9	11.9	12.2	12.1	---	---	11.7	11.7	10.8	10.8
15	11.7	11.5	11.9	11.9	12.2	11.9	---	---	11.7	11.7	10.8	10.8
16	11.7	11.5	11.9	11.9	12.2	11.9	---	---	11.7	11.7	10.8	10.8
17	11.7	11.5	11.9	11.9	12.2	11.9	12.1	11.9	11.7	11.7	10.8	10.8
18	11.7	11.5	11.9	11.9	12.2	12.1	12.1	11.9	11.7	11.5	10.8	10.8
19	11.7	11.5	11.9	11.9	12.2	11.9	12.1	11.9	11.5	11.5	10.8	10.8
20	11.7	11.5	11.9	11.9	12.1	12.1	11.9	11.9	11.5	11.3	10.8	10.8
21	11.7	11.7	11.9	11.9	12.1	12.1	11.9	11.9	11.5	11.3	10.8	10.6
22	11.7	11.7	11.9	11.9	12.1	12.1	11.9	11.9	11.5	11.3	10.8	10.6
23	11.7	11.7	11.9	11.9	12.1	12.1	11.9	11.9	11.5	11.3	10.8	10.6
24	11.7	11.7	11.9	11.9	12.1	12.1	11.9	11.9	11.5	11.2	10.8	10.6
25	11.7	11.7	11.9	11.9	12.1	12.1	11.9	11.9	11.5	11.2	10.8	10.6
26	11.7	11.7	11.9	11.9	12.1	12.1	11.9	11.9	11.3	11.3	10.7	10.6
27	11.7	11.7	12.1	11.9	12.1	12.1	11.9	11.9	11.3	10.8	10.7	10.6
28	11.7	11.7	11.9	11.9	12.1	12.1	11.9	11.9	11.1	10.8	10.6	10.6
29	11.7	11.7	11.9	11.9	12.1	12.1	11.9	11.9	---	---	10.7	10.6
30	11.7	11.7	11.9	11.9	12.1	12.1	11.9	11.9	---	---	10.7	10.6
31	11.7	11.7	---	---	12.1	12.1	11.9	11.7	---	---	10.7	10.6
MONTH	11.7	11.3	12.1	11.7	12.2	11.9	12.2	11.7	11.9	10.8	11.1	10.6

#1 (26.6' BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.6	10.6	---	---	10.6	10.3	10.7	10.6	10.9	10.8	11.3	11.1
2	10.6	10.6	---	---	10.6	10.4	10.7	10.6	10.9	10.8	11.3	11.1
3	10.6	10.6	---	---	10.6	10.4	10.7	10.6	10.9	10.9	11.3	11.1
4	10.6	10.6	---	---	10.6	10.4	10.7	10.6	10.9	10.9	11.3	11.1
5	10.6	10.6	---	---	10.6	10.4	10.7	10.6	10.9	10.9	11.3	11.1
6	10.6	10.6	---	---	10.6	10.4	10.7	10.6	10.9	10.9	11.4	11.1
7	10.6	10.6	---	---	10.6	10.4	10.7	10.6	10.9	10.9	11.3	11.3
8	10.6	10.6	---	---	10.6	10.4	10.7	10.6	10.9	10.9	11.3	11.3
9	---	---	10.5	10.3	10.6	10.4	10.7	10.6	10.9	10.9	11.3	11.3
10	---	---	10.6	10.4	10.6	10.4	10.7	10.6	10.9	10.9	11.3	11.3
11	---	---	10.6	10.4	10.6	10.4	10.8	10.6	10.9	10.9	11.3	11.3
12	---	---	10.6	10.4	10.6	10.4	10.9	10.6	10.9	10.9	11.3	11.3
13	---	---	10.6	10.4	10.7	10.4	10.9	10.6	10.9	10.9	11.4	11.3
14	---	---	10.6	10.3	10.7	10.4	10.9	10.6	10.9	10.9	11.5	11.3
15	---	---	10.5	10.3	10.7	10.4	10.9	10.6	10.9	10.9	11.5	11.3
16	---	---	10.5	10.3	10.7	10.4	10.9	10.6	10.9	10.9	11.5	11.3
17	---	---	10.5	10.3	10.7	10.4	10.9	10.6	10.9	10.9	11.5	11.3
18	---	---	10.5	10.3	10.7	10.4	10.9	10.7	11.1	10.9	11.6	11.3
19	---	---	10.5	10.2	10.7	10.4	10.9	10.7	11.1	10.9	11.6	11.3
20	---	---	10.5	10.2	10.7	10.4	10.9	10.7	11.1	10.9	11.6	11.3
21	---	---	10.6	10.2	10.7	10.4	10.9	10.7	11.1	10.9	11.6	11.5
22	---	---	10.6	10.4	10.7	10.4	10.9	10.7	11.1	10.9	11.7	11.5
23	---	---	10.5	10.3	10.7	10.4	10.9	10.7	11.1	10.9	11.7	11.5
24	---	---	10.6	10.4	10.7	10.4	10.9	10.7	11.1	11.1	11.7	11.5
25	---	---	10.6	10.4	10.7	10.4	10.9	10.7	11.1	10.9	11.8	11.5
26	---	---	10.6	10.3	10.7	10.5	10.9	10.7	11.1	11.1	11.8	11.5
27	---	---	10.6	10.3	10.7	10.5	10.9	10.7	11.1	11.1	11.8	11.5
28	---	---	10.6	10.3	10.7	10.5	10.9	10.7	11.1	11.1	11.8	11.7
29	---	---	10.5	10.3	10.7	10.5	10.9	10.7	11.1	11.1	11.8	11.7
30	---	---	10.5	10.3	10.7	10.6	10.9	10.9	11.3	11.1	11.8	11.7
31	---	---	10.5	10.4	---	---	10.9	10.8	11.3	11.1	---	---
MONTH	10.6	10.6	10.6	10.2	10.7	10.3	10.9	10.6	11.3	10.8	11.8	11.1
YEAR	12.2	10.2										

413551083481200 LU-20 NR HOLLAND OH—Continued

#2 (21.6' BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11.8	11.7	12.2	12.2	12.4	12.4	11.9	11.7	10.4	10.2	10.0	9.8
2	11.8	11.7	12.4	12.2	12.4	12.4	11.7	11.7	10.4	10.2	10.0	9.8
3	11.8	11.7	12.4	12.4	12.4	12.4	11.7	11.7	10.4	10.1	10.0	9.8
4	11.8	11.7	12.4	12.4	12.4	12.4	11.7	11.7	10.2	10.2	10.0	9.8
5	11.8	11.7	12.4	12.4	12.4	12.4	11.7	11.7	10.2	10.2	10.0	9.7
6	11.8	11.7	12.4	12.4	12.4	12.4	11.7	11.5	10.2	10.1	10.0	9.6
7	12.0	11.7	12.4	12.4	12.4	12.4	11.7	11.5	10.2	10.1	10.0	9.6
8	12.0	11.8	12.4	12.2	12.4	12.4	11.7	11.7	10.2	10.1	9.8	9.6
9	12.0	11.8	12.4	12.4	12.4	12.4	11.7	11.7	10.2	10.1	10.0	9.5
10	12.0	11.9	12.4	12.4	12.4	12.4	11.7	11.7	10.2	10.0	9.9	9.5
11	12.0	11.9	12.4	12.4	12.4	12.1	11.7	11.7	10.2	10.0	9.9	9.5
12	12.0	11.9	12.4	12.3	12.4	12.1	11.7	11.4	10.0	10.0	9.9	9.5
13	12.0	11.9	12.4	12.3	12.4	12.1	---	---	10.0	9.9	9.8	9.5
14	12.0	11.9	12.4	12.4	12.4	12.1	---	---	10.0	9.9	9.8	9.5
15	12.1	11.9	12.4	12.4	12.4	12.1	---	---	10.0	9.8	9.8	9.5
16	12.1	11.9	12.4	12.4	12.2	12.1	---	---	10.0	10.0	9.7	9.4
17	12.2	11.9	12.4	12.3	12.4	12.1	10.8	10.6	10.8	9.8	9.8	9.3
18	12.1	11.9	12.4	12.3	12.2	12.1	10.6	10.4	10.8	10.8	9.8	9.4
19	12.2	11.9	12.4	12.4	12.2	11.9	10.4	10.4	10.8	10.6	9.6	9.4
20	12.2	11.9	12.4	12.4	12.1	12.1	10.6	10.4	10.8	10.6	9.6	9.4
21	12.2	11.9	12.4	12.4	12.1	12.1	10.6	10.4	10.8	10.6	9.6	9.3
22	12.2	12.1	12.4	12.4	12.1	11.9	10.6	10.4	10.8	10.6	9.6	9.3
23	12.2	12.1	12.4	12.4	12.1	11.9	10.4	10.4	10.6	10.6	9.6	9.3
24	12.2	12.1	12.4	12.4	12.1	11.9	10.4	10.4	10.8	10.6	9.6	9.3
25	12.2	12.1	12.4	12.4	11.9	11.9	10.4	10.4	10.6	10.4	9.6	9.3
26	12.2	12.1	12.4	12.4	11.9	11.9	10.4	10.4	10.6	9.8	9.6	9.2
27	12.1	12.1	12.4	12.4	11.9	11.9	10.6	10.4	10.0	9.8	9.6	9.4
28	12.2	12.1	12.4	12.4	11.9	11.9	10.6	10.4	10.0	9.8	9.6	9.4
29	12.4	12.1	12.4	12.4	11.9	11.9	10.4	10.4	---	---	9.4	9.2
30	12.4	12.1	12.4	12.4	11.9	11.7	10.4	10.4	---	---	9.4	9.4
31	12.4	12.2	---	---	11.9	11.6	10.4	10.4	---	---	9.4	9.4
MONTH	12.4	11.7	12.4	12.2	12.4	11.6	11.9	10.4	10.8	9.8	10.0	9.2

#2 (21.6' BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.4	9.4	---	---	9.6	9.6	10.1	10.0	10.6	10.4	11.3	11.1
2	9.6	9.4	---	---	9.6	9.6	10.1	10.0	10.6	10.4	11.3	11.1
3	9.4	9.4	---	---	9.8	9.6	10.1	10.0	10.7	10.5	11.3	11.1
4	9.6	9.4	---	---	9.8	9.6	10.1	10.0	10.7	10.6	11.3	11.1
5	9.6	9.3	---	---	9.8	9.6	10.1	10.0	10.7	10.6	11.3	11.3
6	9.6	9.3	---	---	9.8	9.6	10.1	10.0	10.7	10.6	11.4	11.3
7	9.6	9.4	---	---	9.8	9.6	10.0	10.0	10.7	10.6	11.3	11.3
8	9.4	9.2	---	---	9.8	9.6	10.1	10.0	10.7	10.6	11.3	11.3
9	---	---	9.4	9.4	9.8	9.6	10.1	10.0	10.7	10.6	11.5	11.3
10	---	---	9.6	9.4	9.8	9.6	10.2	10.0	10.7	10.6	11.5	11.3
11	---	---	9.6	9.4	9.8	9.8	10.2	10.0	10.9	10.6	11.5	11.3
12	---	---	9.6	9.4	9.8	9.6	10.2	10.0	10.9	10.7	11.6	11.3
13	---	---	9.6	9.4	9.8	9.6	10.2	10.0	10.9	10.7	11.6	11.3
14	---	---	9.5	9.4	9.8	9.6	10.3	10.0	10.9	10.7	11.6	11.5
15	---	---	9.6	9.4	9.9	9.6	10.3	10.1	10.9	10.9	11.6	11.5
16	---	---	9.6	9.4	9.8	9.8	10.3	10.1	10.9	10.9	11.7	11.5
17	---	---	9.6	9.4	9.9	9.8	10.3	10.2	10.9	10.9	11.8	11.5
18	---	---	9.6	9.4	9.9	9.7	10.3	10.2	10.9	10.9	11.8	11.5
19	---	---	9.6	9.4	9.9	9.8	10.3	10.2	10.9	10.8	11.8	11.5
20	---	---	9.6	9.4	10.0	9.8	10.3	10.2	10.9	10.8	11.8	11.6
21	---	---	9.6	9.4	9.9	9.8	10.3	10.2	10.9	10.9	11.8	11.7
22	---	---	9.6	9.4	10.0	9.8	10.3	10.2	10.9	10.9	11.8	11.7
23	---	---	9.6	9.4	10.0	9.8	10.3	10.2	10.9	10.9	11.8	11.7
24	---	---	9.6	9.4	10.0	9.8	10.4	10.2	10.9	10.9	11.7	11.7
25	---	---	9.6	9.6	10.0	9.8	10.4	10.2	11.1	10.9	11.8	11.7
26	---	---	9.6	9.4	10.1	9.8	10.5	10.2	11.1	10.9	11.8	11.7
27	---	---	9.7	9.4	10.1	9.8	10.5	10.2	11.1	10.9	11.8	11.7
28	---	---	9.6	9.4	10.1	9.9	10.5	10.3	11.1	11.1	11.8	11.7
29	---	---	9.6	9.4	10.1	10.0	10.5	10.3	11.1	11.1	11.9	11.7
30	---	---	9.7	9.6	10.1	10.0	10.5	10.4	11.1	11.1	12.0	11.7
31	---	---	9.6	9.6	---	---	10.6	10.4	11.3	11.1	---	---
MONTH	9.6	9.2	9.7	9.4	10.1	9.6	10.6	10.0	11.3	10.4	12.0	11.1
YEAR	12.4	9.2										

413551083481200 LU-20 NR HOLLAND OH—Continued

#3 (13.6’ BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.1	14.1	14.4	14.1	12.4	12.4	11.0	10.8	10.2	9.9	9.4	9.2
2	14.3	14.1	14.3	14.3	12.6	12.4	11.0	10.8	10.0	9.8	9.4	9.4
3	14.4	14.1	14.3	14.1	12.4	12.4	10.8	10.8	10.0	9.9	9.4	9.4
4	14.1	14.1	14.3	14.1	12.4	12.4	10.8	10.8	10.0	9.7	9.4	9.3
5	14.1	14.1	14.3	14.1	12.4	12.1	10.8	10.6	10.0	9.7	9.4	9.3
6	14.2	14.1	14.3	14.1	12.4	12.1	10.8	10.6	10.0	9.7	9.4	9.1
7	14.2	14.1	14.1	14.1	12.1	12.1	10.8	10.6	10.0	9.5	9.4	9.2
8	14.4	14.1	14.1	13.9	12.1	11.9	10.8	10.4	9.9	9.6	9.4	9.1
9	14.4	14.1	14.1	14.1	12.1	11.9	10.6	10.4	9.8	9.5	9.4	9.1
10	14.4	14.1	14.1	13.8	12.1	11.9	10.6	10.4	9.8	9.5	9.4	9.1
11	14.4	14.1	14.1	13.8	11.9	11.9	10.6	10.4	9.8	9.6	9.3	9.1
12	14.4	14.1	14.1	13.8	11.9	11.9	10.6	10.4	9.8	9.6	9.4	9.1
13	14.4	14.1	13.8	13.8	11.9	11.7	---	---	9.6	9.4	9.3	9.1
14	14.4	14.3	13.8	13.8	11.7	11.7	---	---	9.6	9.4	9.2	9.0
15	14.4	14.3	13.8	13.8	11.7	11.7	---	---	9.6	9.3	9.2	8.9
16	14.4	14.3	13.8	13.8	11.7	11.7	---	---	9.6	9.3	9.2	8.9
17	14.4	14.3	13.8	13.8	11.7	11.7	10.6	10.4	9.6	9.4	9.2	8.9
18	14.4	14.3	13.8	13.6	11.7	11.5	10.6	10.2	9.4	9.0	9.2	9.0
19	14.4	14.3	13.8	13.5	11.7	11.5	10.6	10.2	9.2	9.0	9.0	9.0
20	14.4	14.3	13.6	13.5	11.5	11.4	10.4	10.1	9.2	8.9	9.1	8.9
21	14.4	14.3	13.6	13.3	11.7	11.2	10.4	10.2	9.2	9.0	9.0	8.9
22	14.3	14.3	13.6	13.3	11.5	11.2	10.4	10.2	9.2	8.9	9.1	8.8
23	14.3	14.3	13.6	13.1	11.5	11.2	10.4	10.2	9.2	8.9	9.0	8.8
24	14.3	14.3	13.3	12.6	11.3	11.2	10.4	10.2	9.2	9.0	9.0	8.8
25	14.4	14.3	12.6	12.6	11.3	11.0	10.2	10.2	9.2	9.0	9.0	8.8
26	14.3	14.3	12.6	12.6	11.3	11.0	10.2	10.0	9.4	9.0	9.0	8.6
27	14.3	14.3	12.6	12.6	11.2	11.0	10.2	10.0	9.4	9.2	9.0	8.8
28	14.4	14.3	12.6	12.6	11.2	11.0	10.2	9.9	9.4	9.2	9.0	8.8
29	14.4	14.3	12.6	12.4	11.2	11.0	10.2	10.0	---	---	9.0	8.8
30	14.4	14.3	12.4	12.4	11.0	10.8	10.2	10.0	---	---	9.0	8.8
31	14.4	14.1	---	---	11.0	10.8	10.2	9.9	---	---	9.0	8.8
MONTH	14.4	14.1	14.4	12.4	12.6	10.8	11.0	9.9	10.2	8.9	9.4	8.6

#3 (13.6’ BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	9.2	9.0	---	---	10.3	10.0	11.6	11.3	13.1	12.9	14.4	14.3
2	9.2	9.0	---	---	10.3	10.2	11.6	11.5	13.2	12.9	14.4	14.4
3	9.2	9.0	---	---	10.2	10.2	11.6	11.5	13.2	13.1	14.6	14.3
4	9.2	9.0	---	---	10.3	10.2	11.8	11.5	13.1	13.1	14.6	14.4
5	9.2	9.0	---	---	10.4	10.2	11.8	11.7	13.1	13.1	14.6	14.4
6	9.2	9.0	---	---	10.4	10.2	11.8	11.7	13.2	13.1	14.7	14.4
7	9.2	9.0	---	---	10.4	10.4	11.8	11.7	13.4	13.1	14.6	14.6
8	9.2	9.2	---	---	10.6	10.4	11.8	11.7	13.4	13.4	14.6	14.6
9	---	---	10.0	9.8	10.6	10.4	12.0	11.7	13.4	13.4	14.6	14.6
10	---	---	10.0	10.0	10.7	10.6	12.0	11.8	13.7	13.4	14.7	14.6
11	---	---	10.0	10.0	10.7	10.6	12.0	11.9	13.7	13.4	14.9	14.6
12	---	---	10.1	10.0	10.7	10.6	12.0	11.9	13.6	13.6	14.9	14.6
13	---	---	10.1	10.0	10.7	10.6	12.2	12.0	13.7	13.6	14.9	14.6
14	---	---	10.1	10.0	10.9	10.6	12.2	12.0	13.7	13.6	14.9	14.7
15	---	---	10.1	10.0	10.9	10.9	12.3	12.2	13.9	13.6	14.9	14.9
16	---	---	10.1	10.0	10.9	10.9	12.4	12.2	13.9	13.6	14.9	14.9
17	---	---	10.1	9.9	10.9	10.9	12.5	12.2	13.9	13.7	14.9	14.9
18	---	---	10.1	10.0	10.9	10.9	12.5	12.4	13.9	13.9	14.9	14.9
19	---	---	10.1	10.0	10.9	10.9	12.5	12.4	13.9	13.8	14.9	14.9
20	---	---	10.1	9.8	10.9	10.9	12.5	12.4	13.9	13.8	14.9	14.9
21	---	---	10.0	9.8	11.1	10.9	12.7	12.4	13.9	13.9	14.9	14.9
22	---	---	10.0	9.8	11.1	10.9	12.7	12.4	13.9	13.9	14.9	14.9
23	---	---	10.0	9.8	11.1	11.1	12.7	12.4	13.9	13.9	14.9	14.8
24	---	---	10.0	9.8	11.1	11.1	12.7	12.6	14.1	13.9	15.1	14.8
25	---	---	10.0	9.8	11.1	11.1	12.7	12.6	14.1	13.9	14.9	14.9
26	---	---	10.0	9.8	11.4	11.1	12.7	12.6	14.4	13.9	14.9	14.9
27	---	---	10.0	9.8	11.4	11.1	12.9	12.6	14.4	14.1	14.9	14.9
28	---	---	10.1	9.8	11.4	11.3	12.9	12.7	14.4	14.1	15.1	14.9
29	---	---	10.1	10.0	11.3	11.3	12.9	12.7	14.4	14.1	15.1	14.9
30	---	---	10.1	10.0	11.5	11.3	12.9	12.9	14.4	14.1	15.1	14.9
31	---	---	10.2	10.0	---	---	12.9	12.9	14.4	14.4	---	---
MONTH	9.2	9.0	10.2	9.8	11.5	10.0	12.9	11.3	14.4	12.9	15.1	14.3
YEAR	15.1	8.6										

413551083481200 LU-20 NR HOLLAND OH—Continued

#4 (8.6’ BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	15.7	15.6	14.4	14.3	11.9	11.7	10.0	9.8	9.0	8.5	8.0	7.8
2	15.7	15.6	14.3	14.3	11.9	11.7	10.0	9.8	8.6	8.6	8.0	7.8
3	15.7	15.6	14.3	14.1	11.9	11.7	9.8	9.6	8.7	8.4	8.2	8.0
4	15.7	15.7	14.3	14.1	11.9	11.7	10.0	9.6	8.8	8.6	8.0	8.0
5	15.7	15.6	14.1	13.8	11.7	11.7	10.0	9.6	8.6	8.4	8.2	7.8
6	15.7	15.7	14.1	13.8	11.7	11.7	9.8	9.6	8.6	8.4	8.2	7.8
7	15.7	15.7	13.8	13.8	11.7	11.5	9.8	9.4	8.6	8.4	8.0	7.8
8	15.7	15.4	13.9	13.8	11.7	11.5	9.6	9.4	8.6	8.3	8.0	7.8
9	15.7	15.7	13.8	13.8	11.7	11.2	9.6	9.4	8.5	8.3	8.2	7.8
10	15.7	15.6	13.8	13.6	11.5	11.2	9.6	9.3	8.4	8.3	8.2	7.6
11	15.7	15.4	13.8	13.6	11.5	11.0	9.5	9.3	8.4	8.4	8.2	7.6
12	15.7	15.4	13.6	13.5	11.2	11.2	9.6	9.3	8.4	8.2	8.2	7.6
13	15.7	15.4	13.6	13.3	11.2	11.0	---	---	8.4	8.2	8.0	7.6
14	15.7	15.6	13.6	13.3	11.3	11.0	---	---	8.4	8.2	8.0	7.6
15	15.7	15.6	13.3	13.1	11.1	10.8	---	---	8.4	8.2	8.0	7.6
16	15.7	15.6	13.3	13.1	11.1	10.8	---	---	8.4	8.2	8.0	7.6
17	15.7	15.6	13.1	13.1	11.0	10.8	9.4	9.1	8.4	8.2	8.0	7.6
18	15.7	15.4	13.1	12.8	11.0	10.6	9.6	9.1	8.2	7.6	8.0	7.4
19	15.6	15.4	12.9	12.8	10.8	10.6	9.4	9.1	8.2	7.6	7.8	7.4
20	15.6	15.4	12.9	12.6	10.8	10.6	9.4	9.1	8.2	7.6	7.8	7.6
21	15.6	15.3	12.9	12.6	10.8	10.6	9.4	8.9	8.2	7.6	8.0	7.4
22	15.4	14.8	12.6	12.6	10.6	10.4	9.1	8.9	8.0	7.6	7.8	7.4
23	15.1	15.1	12.6	12.4	10.8	10.4	9.4	8.9	8.0	7.6	7.6	7.4
24	15.1	15.1	12.6	12.4	10.6	10.4	9.1	8.8	8.2	7.6	7.8	7.4
25	15.1	14.8	12.4	12.4	10.6	10.2	8.9	8.7	8.0	7.6	7.8	7.4
26	14.8	14.8	12.4	12.4	10.4	10.2	9.0	8.7	8.2	7.6	7.7	7.4
27	14.8	14.8	12.4	12.1	10.4	10.2	9.0	8.6	8.0	7.8	7.7	7.5
28	14.9	14.6	12.2	12.1	10.4	9.9	9.0	8.6	8.0	7.8	7.7	7.5
29	14.6	14.6	12.2	11.9	10.4	9.9	8.9	8.6	---	---	7.8	7.6
30	14.6	14.4	11.9	11.9	10.2	9.9	8.8	8.6	---	---	7.9	7.7
31	14.6	14.3	---	---	9.9	9.9	9.0	8.6	---	---	7.9	7.8
MONTH	15.7	14.3	14.4	11.9	11.9	9.9	10.0	8.6	9.0	7.6	8.2	7.4

#4 (8.6’ BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.0	7.8	---	---	11.8	11.5	13.9	13.9	16.0	15.7	17.1	17.0
2	8.2	8.0	---	---	11.8	11.7	13.9	13.8	16.0	15.9	17.1	17.0
3	8.2	8.0	---	---	11.7	11.7	13.9	13.9	16.0	15.9	17.1	17.0
4	8.4	8.2	---	---	12.0	11.7	14.1	13.9	16.0	15.9	17.1	17.0
5	8.4	8.2	---	---	12.0	11.9	14.4	14.1	16.2	15.9	17.3	17.0
6	8.4	8.2	---	---	12.2	11.9	14.4	14.2	16.0	15.9	17.1	17.1
7	8.4	8.4	---	---	12.2	12.0	14.4	14.4	16.0	15.9	17.1	17.1
8	8.4	8.4	---	---	12.4	12.1	14.6	14.4	16.3	15.9	17.3	17.0
9	---	---	9.4	9.2	12.4	12.2	14.7	14.4	16.3	16.2	17.3	17.0
10	---	---	9.4	9.4	12.5	12.2	14.7	14.6	16.3	16.2	17.4	17.0
11	---	---	9.6	9.4	12.4	12.4	14.7	14.6	16.5	16.2	17.4	17.0
12	---	---	9.6	9.4	12.5	12.4	14.9	14.6	16.5	16.5	17.4	17.0
13	---	---	9.6	9.4	12.4	12.4	14.9	14.9	16.5	16.5	17.3	17.0
14	---	---	9.8	9.6	12.7	12.4	14.9	14.9	16.5	16.5	17.4	17.1
15	---	---	9.9	9.6	12.7	12.4	14.9	14.9	16.5	16.5	17.1	17.1
16	---	---	10.1	9.8	12.7	12.6	14.9	14.9	16.8	16.5	17.1	17.1
17	---	---	10.1	10.0	12.7	12.6	15.2	14.9	16.8	16.5	17.1	17.1
18	---	---	10.3	10.0	12.7	12.6	15.2	14.9	16.8	16.5	17.1	17.0
19	---	---	10.3	10.2	12.7	12.7	15.2	15.1	16.8	16.8	17.1	17.0
20	---	---	10.4	10.2	12.7	12.6	15.2	15.1	16.8	16.8	17.1	17.1
21	---	---	10.5	10.2	12.9	12.7	15.2	15.1	16.8	16.8	17.1	17.1
22	---	---	10.7	10.4	12.9	12.7	15.2	15.1	16.8	16.8	17.3	17.0
23	---	---	10.9	10.6	12.9	12.9	15.2	14.9	16.8	16.8	17.3	17.0
24	---	---	10.9	10.8	13.2	12.9	15.7	15.1	16.8	16.8	17.3	17.0
25	---	---	10.9	10.8	13.2	13.0	15.7	15.4	16.8	16.5	17.1	17.0
26	---	---	11.1	10.8	13.2	13.1	15.7	15.4	17.1	16.8	17.1	17.1
27	---	---	11.1	11.1	13.4	13.1	15.7	15.7	17.1	17.0	17.1	17.1
28	---	---	11.3	11.1	13.6	13.4	15.7	15.7	17.1	17.0	17.3	17.0
29	---	---	11.3	11.3	13.7	13.4	15.7	15.7	17.1	17.1	17.3	17.0
30	---	---	11.4	11.3	13.9	13.6	15.7	15.7	17.1	17.1	17.1	17.0
31	---	---	11.6	11.3	---	---	15.9	15.7	17.1	17.0	---	---
MONTH	8.4	7.8	11.6	9.2	13.9	11.5	15.9	13.8	17.1	15.7	17.4	17.0
YEAR	17.4	7.4										

413551083481200 LU-20 NR HOLLAND OH—Continued

TEMPERATURE, SOIL (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	17.1	15.1	11.3	10.8	7.0	5.4	1.4	1.2	3.2	2.1	7.1	5.9
2	16.4	14.2	11.1	9.2	5.4	4.3	2.2	1.2	3.3	3.0	6.3	5.2
3	18.1	15.3	9.2	8.0	4.9	4.0	5.6	2.2	3.0	2.1	5.2	4.6
4	19.1	17.0	8.0	7.3	5.0	4.5	6.2	5.3	2.3	1.9	4.7	3.7
5	19.5	17.2	7.7	7.1	4.5	3.3	7.6	5.3	2.4	1.8	4.1	3.2
6	20.3	18.2	8.3	6.9	3.3	2.7	8.8	7.6	2.6	1.7	4.4	3.3
7	20.4	18.3	8.8	7.7	3.0	2.6	8.6	7.1	2.9	1.8	5.5	3.3
8	20.4	18.6	9.7	8.3	3.0	2.8	7.1	5.8	2.9	1.8	5.5	4.7
9	20.0	18.9	9.2	7.7	3.2	2.7	5.8	4.4	2.9	1.8	6.7	4.8
10	19.3	17.2	8.1	7.4	3.2	2.9	4.4	3.1	3.5	1.8	4.8	3.2
11	17.9	15.6	7.4	6.2	2.9	2.9	3.1	2.1	4.1	3.3	3.2	2.2
12	17.7	15.4	6.5	4.9	2.9	2.5	2.1	2.0	4.2	3.4	2.2	1.6
13	18.0	17.1	4.9	3.8	2.5	2.3	2.0	1.8	3.4	2.7	1.6	1.4
14	17.4	14.9	4.4	4.3	2.3	2.2	---	---	3.5	2.7	1.7	1.4
15	14.9	12.4	4.3	4.2	2.2	2.2	---	---	3.8	2.3	2.5	1.5
16	13.5	11.8	4.2	4.0	2.3	2.2	1.2	1.2	3.5	2.7	3.4	1.9
17	12.9	11.8	4.0	3.6	2.3	2.1	1.3	1.2	3.9	3.5	3.3	2.3
18	12.7	10.3	3.6	3.3	2.2	1.9	1.3	1.2	4.6	3.9	5.4	3.3
19	12.7	10.1	3.4	3.3	4.1	2.0	1.3	1.2	4.7	4.2	6.2	5.4
20	12.8	11.4	3.3	3.0	3.6	2.7	1.3	1.2	4.7	4.3	5.9	3.7
21	12.1	10.2	4.7	3.1	2.9	2.6	1.4	1.3	4.5	4.0	3.7	2.9
22	10.8	8.9	4.7	4.1	2.9	2.4	1.4	1.4	5.0	3.1	4.4	2.7
23	9.6	8.3	4.6	3.8	3.2	2.9	1.4	1.3	5.1	3.7	4.5	2.8
24	10.0	9.2	3.8	3.0	3.1	2.7	1.4	1.3	4.8	3.3	5.3	3.0
25	10.9	9.8	4.7	2.7	3.7	3.1	1.5	1.4	5.8	3.0	6.0	3.5
26	10.6	9.3	5.8	4.7	3.6	2.6	2.6	1.5	5.6	4.3	9.6	6.0
27	9.3	7.3	5.5	4.3	2.6	2.3	3.0	2.0	7.3	4.9	11.9	9.5
28	8.2	6.7	7.3	5.3	2.3	1.9	2.8	2.1	7.1	4.8	11.6	10.7
29	9.5	7.2	7.5	7.3	1.9	1.7	3.0	2.4	---	---	13.3	9.8
30	9.8	7.7	7.5	7.0	1.7	1.5	2.8	2.3	---	---	14.8	12.3
31	11.0	9.3	---	---	1.6	1.4	3.3	2.3	---	---	14.4	13.2
MONTH	20.4	6.7	11.3	2.7	7.0	1.4	8.8	1.2	7.3	1.7	14.8	1.4

TEMPERATURE, SOIL (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.1	11.2	---	---	22.6	19.7	26.3	22.7	26.0	22.2	24.2	21.2
2	11.2	9.4	---	---	22.6	20.4	26.6	22.6	26.0	22.1	23.9	20.5
3	9.8	8.0	---	---	22.1	19.3	26.4	23.4	25.7	22.9	24.0	19.8
4	10.4	7.7	---	---	20.1	17.4	25.8	23.7	25.4	23.0	25.0	21.0
5	10.8	7.1	---	---	19.9	17.4	25.9	21.5	23.0	22.0	24.7	20.7
6	11.1	7.8	---	---	17.4	15.2	26.4	22.4	24.1	21.8	25.7	22.1
7	10.7	8.3	---	---	17.5	15.4	25.8	24.0	25.6	22.6	25.1	21.8
8	11.4	8.9	15.5	15.3	18.8	15.3	25.1	23.0	26.0	22.9	21.8	18.4
9	10.8	9.2	17.6	14.3	18.6	17.0	27.0	22.7	26.6	23.8	21.2	16.9
10	---	---	17.1	14.8	19.8	16.5	26.6	23.2	27.5	24.1	22.1	17.2
11	---	---	16.8	15.3	19.6	18.2	26.3	22.0	27.0	23.5	22.8	18.5
12	---	---	17.7	15.2	22.0	18.8	26.7	22.1	26.4	23.0	23.7	19.4
13	---	---	19.1	15.9	21.0	19.0	26.9	22.8	25.5	22.4	24.5	20.3
14	---	---	21.4	16.7	21.7	18.8	26.3	23.6	25.6	22.5	23.6	21.3
15	---	---	22.0	18.1	22.5	19.6	27.5	24.2	25.5	22.7	23.5	22.1
16	---	---	22.4	19.7	22.2	20.2	28.0	25.0	25.8	22.4	23.2	22.1
17	---	---	22.3	18.7	23.0	19.2	27.5	24.6	26.5	22.6	24.5	21.0
18	---	---	22.0	18.9	24.9	20.2	27.1	23.9	25.8	23.3	24.1	20.5
19	---	---	22.3	19.4	25.6	22.3	26.8	24.3	25.1	20.4	24.3	20.9
20	---	---	22.8	20.1	25.8	22.1	28.0	22.9	24.6	20.0	24.8	21.9
21	---	---	22.4	19.7	25.4	22.9	27.2	23.9	25.5	22.2	24.7	22.3
22	---	---	21.7	19.0	26.2	22.5	26.1	23.3	26.8	22.6	23.4	21.0
23	---	---	20.8	18.1	26.3	23.7	26.3	23.0	26.7	23.3	21.7	18.5
24	---	---	20.4	18.2	26.9	23.7	25.6	21.6	25.7	23.5	20.7	17.8
25	---	---	18.3	16.7	27.5	24.4	24.6	21.3	24.5	21.4	21.6	18.4
26	---	---	20.7	15.9	27.1	24.3	26.0	20.5	25.9	20.8	23.6	20.5
27	---	---	21.5	17.6	26.9	24.3	26.1	22.0	26.8	21.5	23.3	21.6
28	---	---	21.6	18.8	28.2	24.1	26.6	23.0	25.0	21.9	22.8	19.4
29	---	---	22.8	20.1	27.9	25.2	27.4	23.9	25.8	21.9	22.0	18.3
30	---	---	23.4	20.1	27.1	24.4	26.5	23.5	25.4	21.5	22.3	19.5
31	---	---	23.0	21.7	---	---	25.3	22.4	25.6	21.1	---	---
MONTH	14.1	7.1	23.4	14.3	28.2	15.2	28.0	20.5	27.5	20.0	25.7	16.9
YEAR	28.2	1.2										

413551083481200 LU-20 NR HOLLAND OH—Continued

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.14	.00	.02	.00	.02	.12	---	.00	.00	.00	.00
2	.00	.01	.00	.00	.00	.00	.00	---	.00	.00	.00	.07
3	.05	.03	.13	.11	.00	.02	.00	---	.00	.00	.00	.01
4	.00	.02	.00	.27	.00	.00	.00	---	.00	.10	.13	.00
5	.01	.00	.00	.17	.00	.00	.00	---	.01	.00	.48	.00
6	.00	.00	.00	.00	.00	.00	.00	---	.01	.00	.46	.00
7	.00	.00	.00	.29	.00	.00	.00	---	.00	.06	.26	.49
8	.00	.00	.00	.23	.00	.11	.10	.00	.00	.19	.17	.00
9	.01	.00	.01	.00	.00	.98	.26	.00	.03	.00	.00	.00
10	.00	.00	.09	.00	.00	.00	---	.01	.12	.00	.03	.00
11	.00	.00	.01	.00	.25	.00	---	.01	.16	.00	.00	.00
12	.00	.00	.00	.05	.02	.00	---	.05	.11	.00	.00	.00
13	.06	.01	.00	.01	.00	.00	---	.05	.02	.00	.00	.00
14	.03	.00	.03	---	.00	.00	---	.03	.00	.00	.00	.00
15	.04	.02	.09	---	.00	.00	---	.00	.00	.00	.35	.00
16	.00	.00	.00	.00	.13	.00	---	.00	.16	.00	.01	.01
17	.00	.00	.00	.01	.75	.09	---	.00	.00	.00	.00	.00
18	.00	.02	.00	.01	.09	.16	---	.00	.00	.00	.37	.00
19	.01	.02	.00	.01	.04	.01	---	.00	.09	.27	.00	.00
20	.00	.00	.01	.00	.05	.12	---	.00	.00	.00	.00	.11
21	.00	.09	.00	.00	.01	.06	---	.00	.04	1.21	.11	.00
22	.00	.07	.09	.01	.00	.03	---	.01	.01	.22	.00	.00
23	.00	.00	.01	.09	.00	.00	---	.00	.02	.12	.14	.00
24	.01	.00	.28	.00	.06	.00	---	.10	.00	.00	.39	.00
25	.01	.00	.07	.01	.00	.00	---	.00	.00	.00	.75	.01
26	.27	.00	.00	.00	.00	.00	---	.00	.24	.00	.00	.00
27	.04	.22	.00	.00	.04	.00	---	.00	.08	.00	.00	.06
28	.00	.08	.00	.00	.05	.26	---	.00	.04	.00	.06	.00
29	.00	.07	.00	.04	---	.00	---	.00	.00	.00	.00	.00
30	.00	.01	.00	.00	---	.00	---	.00	.02	.00	.00	.04
31	.06	---	.00	.00	---	.09	---	.01	---	.00	.00	---
TOTAL	0.61	0.81	0.82	1.33	1.49	1.95	0.48	0.27	1.16	2.17	3.71	0.80

WTR YR 1998 TOTAL 15.60

DEICING SALT LBS/LANE-MILE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	400	---	---	---	---	---	---	---	---	---
6	---	---	600	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	800	---	---	---	---	---	---
10	---	---	1800	---	---	1000	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	600	---	---	---	---	---	---	---	---
14	---	400	---	---	---	---	---	---	---	---	---	---
15	---	800	---	800	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	400	---	---	---	---	---	---	---	---
21	---	---	---	---	---	1000	---	---	---	---	---	---
22	---	---	---	400	---	---	---	---	---	---	---	---
23	---	---	---	600	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	800	---	---	---	---	---	---	---	---	---
31	---	---	600	---	---	---	---	---	---	---	---	---
TOTAL	---	1200	4200	2800	---	2800	---	---	---	---	---	---

WTR YR 1998 TOTAL 11000

GROUND-WATER RECORDS

413547083481400. Local number, LU-23.

LOCATION.--Lat 41°35'47" Long 83°48'14", Hydrologic Unit 04100009, along State Route 2 near Holland, OH.
Owner.--USGS/Toledo Express Airport.

AQUIFER.--Sand of Quaternary age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 29.4 ft. Cased with Sch 40 PVC to 4.4 ft; .010 in. screen from 4.4 to 29.4 ft.

INSTRUMENTATION - Data logger--60 minute record. At this well there are 4 conductivity/water temperature probes at increasing depths within the well to better document vertical movement of high conductivity water on an hourly basis. Conductivity/water temperature probes are set at 6.9 (level 4), 10.4 (level 3), 16.9 (level 2), and 25.4 (level 1) feet below land surface.

DATUM.--Elevation of land-surface datum is 676.97 feet above sea level.
Measuring point: top of PVC casing 0.58 ft above land-surface datum.

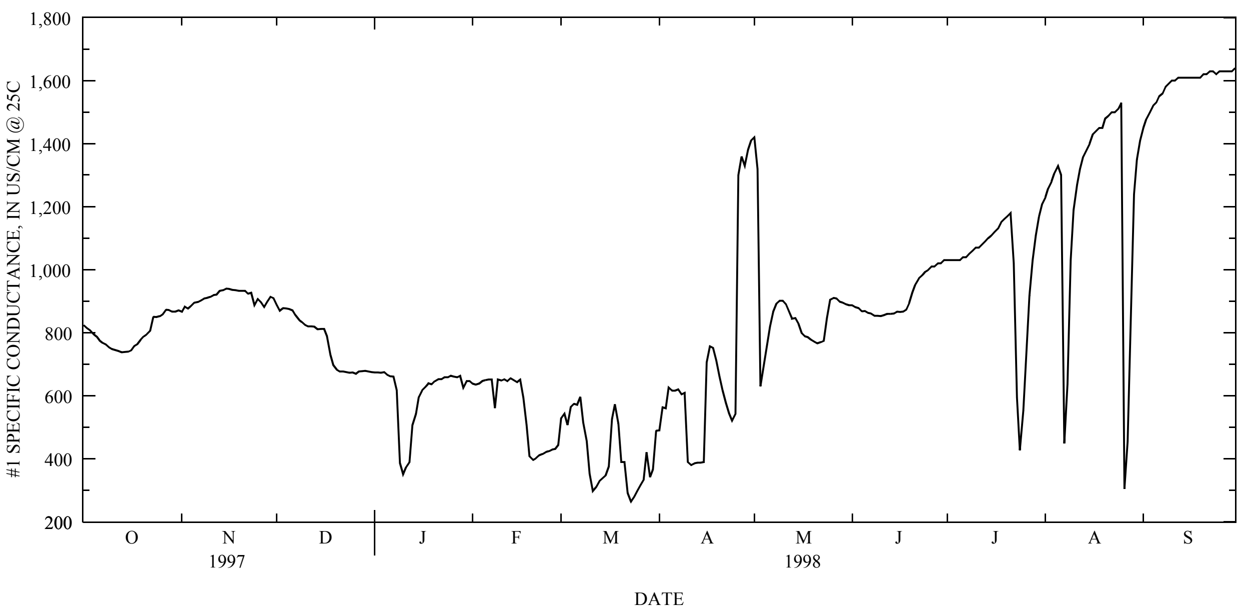
REMARKS.--This station is part of an eight-site network to collect data for the Ohio Department of Transportation concerning road salt application and its effect(s) on shallow ground-water quality. Water-quality data for nearby wells is available in preceding tables.

PERIOD OF RECORD.--February 1991 to current year.

PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE (FOUR LEVELS): February 1991 to current year.
WATER TEMPERATURE (FOUR LEVELS): February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
SPECIFIC CONDUCTANCE:
LEVEL 1- Maximum, 1640 microsiemens September 30, 1998; minimum, 259 microsiemens March 23, 1998.
LEVEL 2- Maximum, 1790 microsiemens July 15, 1991; minimum, 249 microsiemens March 23, 1998.
LEVEL 3- Maximum, 1530 microsiemens July 22-23, 1991; minimum, 243 microsiemens March 23, 1998.
LEVEL 4- Maximum, 1360 microsiemens April 26, 1998; minimum, 107 microsiemens August 31, 1991.
WATER TEMPERATURE:
LEVEL 1- Maximum, 13.9°C many days in 1991; minimum, 9.5°C April 1-2, 1998.
LEVEL 2- Maximum, 17.7°C August 25, 1998; minimum, 6.8°C April 1, 1998.
LEVEL 3- Maximum, 17.5°C many days in 1991; minimum, 1.5°C April 1, 1998.
LEVEL 4- Maximum, 19.0°C many days in 1991; minimum, 3.1°C April 1, 1998.

EXTREMES FOR CURRENT YEAR.--
SPECIFIC CONDUCTANCE:
LEVEL 1- Maximum, 1640 microsiemens September 30, 1998; minimum, 259 microsiemens March 23, 1998.
LEVEL 2- Maximum, 1540 microsiemens September 29-30, 1998; minimum, 249 microsiemens March 23, 1998.
LEVEL 3- Maximum, 1510 microsiemens September 29-30, 1998; minimum, 243 microsiemens March 23, 1998.
LEVEL 4- Maximum, 1360 microsiemens April 26, 1998; minimum, 217 microsiemens August 25, 1998.
WATER TEMPERATURE:
LEVEL 1- Maximum, 13.6°C many days in November, December, 1997, January 1, 1998; minimum, 9.5°C April 1-2, 1998.
LEVEL 2- Maximum, 17.7°C August 25, 1998; minimum, 6.8°C April 1, 1998.
LEVEL 3- Maximum, 15.5°C August 25, 1998; minimum, 1.5°C April 1, 1998.
LEVEL 4- Maximum, 18.3°C August 25, 1998; minimum, 3.1°C April 1, 1998.



413547083481400 LU-23 NR HOLLAND OH—Continued

#1 (25.4' BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	824	812	867	855	889	865	674	670	638	538	530	437
2	815	805	883	867	870	851	674	672	635	539	544	456
3	808	794	877	869	878	838	673	671	638	535	507	461
4	798	784	885	872	877	844	675	654	647	547	564	493
5	788	773	895	879	875	860	666	649	650	560	574	462
6	776	764	897	885	871	851	662	655	651	525	571	469
7	768	759	902	891	856	841	660	618	651	561	597	464
8	763	753	909	896	842	834	618	386	561	518	515	456
9	754	748	910	896	834	777	386	351	651	517	456	353
10	748	745	914	903	825	777	351	349	648	539	353	298
11	745	738	919	911	820	784	375	351	652	514	298	292
12	742	734	921	914	820	780	391	374	647	556	310	293
13	738	732	933	917	819	799	506	391	656	550	328	310
14	739	736	935	927	811	796	542	506	650	517	337	327
15	740	734	940	930	812	798	596	540	644	504	346	337
16	744	735	939	924	812	789	617	596	651	593	375	344
17	758	740	936	911	789	729	627	617	593	507	527	357
18	764	754	935	906	729	696	639	627	507	407	573	372
19	777	762	933	893	696	683	636	608	407	394	511	386
20	789	771	933	897	683	677	646	600	396	392	389	385
21	796	782	933	916	677	674	652	592	401	396	389	291
22	806	743	924	874	677	672	653	587	410	400	291	260
23	851	779	927	872	675	670	659	592	415	407	264	259
24	850	844	888	870	673	669	659	611	421	414	280	263
25	852	848	907	874	674	667	663	602	424	420	299	279
26	858	849	897	870	670	667	661	607	429	424	317	299
27	873	858	882	864	677	669	659	550	431	426	334	317
28	872	859	900	861	678	673	664	614	444	429	421	334
29	867	855	915	900	679	674	626	549	---	---	342	329
30	867	848	910	883	677	671	647	544	---	---	366	336
31	871	854	---	---	675	670	647	549	---	---	489	350
MONTH	873	732	940	855	889	667	675	349	656	392	597	259

#1 (25.4' BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	490	362	1420	1320	887	859	1030	1020	1230	1200	1450	1410
2	563	366	1320	619	881	855	1030	1020	1260	1230	1480	1450
3	560	415	630	609	878	859	1030	1020	1280	1260	1500	1470
4	626	411	695	630	868	851	1030	1020	1310	1280	1520	1500
5	616	421	758	695	869	853	1030	1020	1330	1300	1530	1520
6	616	402	820	758	863	847	1040	1030	1300	448	1550	1530
7	620	440	867	820	861	841	1040	1030	448	388	1560	1540
8	605	414	892	867	854	837	1050	1040	636	395	1580	1550
9	610	360	901	892	854	840	1060	1050	1030	636	1590	1570
10	389	360	901	888	853	835	1070	1050	1190	1030	1600	1580
11	380	375	891	866	855	839	1070	1060	1270	1190	1600	1590
12	385	380	866	835	860	836	1080	1070	1320	1270	1610	1590
13	388	384	844	818	860	837	1090	1080	1360	1320	1610	1600
14	388	386	846	824	861	839	1100	1090	1380	1360	1610	1590
15	389	386	828	796	867	841	1110	1090	1400	1380	1610	1600
16	706	384	799	770	866	843	1120	1100	1430	1400	1610	1600
17	757	706	789	769	867	854	1130	1120	1440	1430	1610	1600
18	752	712	785	760	874	860	1150	1130	1450	1410	1610	1600
19	712	662	777	756	894	865	1160	1140	1450	1400	1610	1600
20	662	616	772	751	928	894	1170	1160	1480	1450	1620	1600
21	616	577	766	743	955	924	1180	1020	1490	1480	1620	1610
22	577	544	770	750	972	954	1020	592	1500	1480	1630	1610
23	544	516	774	751	982	967	595	422	1500	1490	1630	1610
24	521	495	848	744	994	978	427	415	1510	1490	1620	1620
25	544	489	905	848	1000	988	554	427	1530	289	1630	1620
26	1300	483	910	891	1010	996	738	554	304	291	1630	1620
27	1360	1300	909	882	1010	1000	918	738	455	304	1630	1620
28	1330	1310	898	869	1020	1010	1030	918	927	455	1630	1620
29	1380	1330	895	868	1020	1010	1110	1030	1240	927	1630	1620
30	1410	1380	890	864	1030	1020	1170	1110	1350	1240	1640	1620
31	---	---	887	863	---	---	1210	1160	1410	1350	---	---
MONTH	1410	360	1420	609	1030	835	1210	415	1530	289	1640	1410
YEAR	1640	259										

413547083481400 LU-23 NR HOLLAND OH—Continued

#2 (16.9’ BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	755	749	803	800	839	838	664	657	522	514	416	403
2	753	748	803	801	839	837	658	654	520	513	419	411
3	752	744	804	801	837	835	654	648	514	508	421	417
4	748	741	802	798	835	831	658	646	513	503	432	417
5	746	738	802	798	835	829	648	618	510	501	427	422
6	743	736	811	801	833	828	619	606	508	501	434	424
7	737	736	815	807	830	824	606	591	507	498	439	424
8	738	737	820	813	824	817	591	360	507	498	438	429
9	738	733	821	815	820	811	360	340	498	491	430	312
10	737	732	825	820	815	810	340	337	495	490	312	284
11	737	732	830	824	816	814	350	339	493	483	285	282
12	738	732	831	823	814	809	371	350	490	483	298	284
13	737	732	838	830	809	802	404	371	485	477	311	298
14	738	736	838	833	803	796	442	404	490	478	322	311
15	739	734	845	835	797	789	469	442	486	480	330	322
16	740	735	849	843	793	786	492	469	486	476	339	329
17	739	734	854	844	786	777	509	491	497	483	359	339
18	739	733	859	848	777	769	519	508	483	390	363	355
19	739	733	860	858	769	762	527	517	391	380	378	363
20	741	735	859	851	762	752	536	525	381	378	373	369
21	741	736	852	837	752	743	538	531	383	379	371	272
22	789	737	845	837	743	734	540	534	388	382	272	250
23	786	780	840	838	734	725	540	535	392	387	254	249
24	788	779	842	836	728	719	542	535	395	390	268	253
25	791	783	841	836	725	711	541	534	397	393	287	268
26	787	786	840	837	711	689	538	532	400	395	303	287
27	788	785	840	835	689	683	536	531	402	398	319	303
28	792	787	839	834	686	679	532	525	405	400	334	319
29	796	789	836	835	683	676	534	526	---	---	326	316
30	801	793	839	836	676	669	527	519	---	---	340	321
31	806	798	---	---	670	663	526	519	---	---	344	339
MONTH	806	732	860	798	839	663	664	337	522	378	439	249

#2 (16.9’ BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	379	344	1380	1070	828	820	842	835	961	914	1160	1070
2	378	357	1100	599	825	816	847	840	1000	961	1210	1160
3	370	346	621	591	822	815	853	845	1040	1000	1270	1210
4	367	364	685	621	818	811	857	851	1060	1040	1300	1270
5	405	363	749	685	812	808	862	853	1080	1050	1310	1290
6	401	390	808	749	809	805	863	855	1050	340	1340	1310
7	417	387	853	808	806	798	870	862	340	310	1350	1310
8	415	401	874	853	804	797	876	868	311	307	1310	1290
9	419	324	883	874	801	800	881	873	369	309	1330	1290
10	381	347	883	867	801	794	881	877	670	369	1350	1320
11	370	365	869	843	800	794	886	880	896	670	1370	1340
12	373	369	846	814	799	785	893	884	1020	896	1410	1370
13	376	371	825	801	796	788	902	891	1080	1020	1440	1410
14	379	373	825	804	797	790	906	899	1120	1080	1460	1440
15	380	374	806	778	800	792	916	906	1150	1120	1480	1460
16	731	373	778	752	814	797	925	916	1160	1150	1490	1480
17	743	729	754	732	816	809	934	920	1160	1150	1490	1480
18	729	694	736	717	816	804	942	933	1170	881	1500	1490
19	694	645	719	710	808	792	950	940	895	833	1500	1490
20	645	600	714	702	794	773	953	947	1040	895	1510	1500
21	600	562	708	702	777	770	968	710	1060	1040	1510	1500
22	563	529	708	699	779	772	710	456	1080	1060	1520	1500
23	529	504	712	705	783	776	552	378	1130	1080	1520	1510
24	504	483	835	709	796	779	384	377	1190	1130	1520	1510
25	485	477	860	835	804	792	384	377	1130	275	1520	1510
26	1340	473	858	852	809	799	419	384	291	287	1520	1510
27	1340	1280	852	842	815	806	528	419	290	288	1530	1510
28	1300	1270	842	830	817	812	669	528	321	288	1530	1520
29	1350	1300	835	826	827	813	769	669	619	321	1540	1520
30	1380	1350	831	823	836	824	851	769	913	619	1540	1530
31	---	---	829	823	---	---	914	850	1070	913	---	---
MONTH	1380	324	1380	591	836	770	968	377	1190	275	1540	1070
YEAR	1540	249										

413547083481400 LU-23 NR HOLLAND OH—Continued

#3 (10.4’ BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	746	742	740	737	807	803	645	638	510	502	408	395
2	745	740	745	740	807	803	639	631	506	501	407	403
3	745	739	746	744	806	803	634	629	502	496	413	406
4	744	737	747	746	807	801	635	625	500	492	423	409
5	742	730	752	747	806	799	625	597	496	487	422	415
6	735	727	752	751	803	798	599	586	494	485	426	417
7	731	723	757	752	801	794	586	572	493	484	429	418
8	728	722	758	752	795	788	573	341	493	488	430	420
9	727	721	759	757	792	783	341	326	488	480	420	290
10	725	720	764	758	786	782	330	326	485	478	293	279
11	724	722	766	760	785	782	339	329	484	474	280	277
12	724	720	770	765	784	779	358	339	479	473	292	279
13	724	718	774	767	779	772	388	357	478	468	305	290
14	722	718	776	773	776	769	424	388	479	468	315	305
15	722	717	778	775	771	763	451	424	478	470	324	315
16	722	716	784	777	766	758	473	451	474	467	332	323
17	721	715	789	781	759	751	491	473	487	443	351	332
18	721	715	790	788	752	745	503	491	443	379	354	349
19	722	716	797	790	746	738	511	502	380	371	366	353
20	723	720	799	793	738	729	519	511	373	370	369	358
21	722	716	803	798	730	724	522	516	375	370	358	258
22	736	717	804	802	724	715	524	519	379	373	258	245
23	747	736	803	801	715	704	524	519	383	377	249	243
24	749	747	805	800	706	696	525	519	386	382	262	248
25	751	749	808	800	699	685	525	520	390	385	279	261
26	753	751	805	800	688	667	523	517	393	388	298	279
27	753	752	804	799	668	662	521	516	395	389	313	298
28	757	752	803	797	665	658	519	513	398	392	328	313
29	755	744	799	796	662	653	520	515	---	---	315	309
30	745	729	806	797	656	649	517	509	---	---	334	315
31	738	731	---	---	651	642	513	508	---	---	340	334
MONTH	757	715	808	737	807	642	645	326	510	370	430	243

#3 (10.4’ BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	382	340	1370	967	830	823	814	804	681	605	814	642
2	372	351	967	576	824	817	816	810	756	681	925	814
3	362	341	626	576	822	810	821	813	821	756	962	925
4	362	359	691	626	818	810	828	820	876	819	947	927
5	394	358	756	691	815	809	832	824	916	692	945	916
6	396	387	814	756	813	808	840	832	692	307	996	945
7	403	384	854	814	809	803	848	840	309	288	1090	560
8	406	397	872	854	808	802	854	846	289	282	560	407
9	399	265	879	871	803	802	861	853	307	283	459	418
10	383	358	880	866	802	797	862	857	319	307	544	459
11	366	361	868	844	803	797	867	859	387	317	680	544
12	367	365	844	816	803	792	871	863	580	387	845	680
13	371	366	828	799	802	796	871	865	773	580	982	845
14	377	369	828	806	802	797	874	868	890	773	1160	982
15	375	370	809	781	799	797	880	870	956	890	1260	1160
16	761	369	783	759	810	798	882	877	965	933	1310	1260
17	756	721	761	737	812	806	886	878	933	916	1330	1300
18	721	690	740	722	817	806	891	883	926	287	1340	1320
19	690	646	722	714	817	811	899	888	287	277	1360	1340
20	646	602	714	706	811	795	900	893	292	282	1370	1350
21	602	563	709	703	795	783	902	515	334	292	1390	1370
22	563	531	709	704	786	779	515	397	395	334	1410	1390
23	531	504	712	706	780	775	416	363	548	395	1430	1410
24	505	484	848	711	781	776	385	380	633	459	1450	1430
25	484	474	861	848	781	776	385	379	459	246	1470	1440
26	1400	472	862	853	781	774	387	381	299	293	1480	1470
27	1370	1250	854	845	783	774	389	385	299	296	1490	1470
28	1300	1260	845	834	787	781	407	387	298	297	1500	1490
29	1370	1300	838	830	791	787	453	407	299	296	1510	1490
30	1390	1370	836	827	804	791	531	453	426	298	1510	1500
31	---	---	832	826	---	---	605	531	642	426	---	---
MONTH	1400	265	1370	576	830	774	902	363	965	246	1510	407
YEAR	1510	243										

413547083481400 LU-23 NR HOLLAND OH—Continued

#4 (6.9' BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	714	709	717	710	783	781	626	622	495	488	392	381
2	713	708	721	717	786	781	622	616	491	487	393	390
3	711	705	727	721	784	780	618	613	488	481	398	392
4	711	704	728	723	785	780	618	607	485	478	407	396
5	712	707	729	728	784	778	607	578	479	473	406	401
6	711	702	734	729	782	777	582	567	479	472	411	401
7	707	701	734	733	778	771	567	552	478	469	413	403
8	705	698	735	730	775	765	552	327	479	471	414	404
9	701	690	736	734	769	760	327	318	472	465	405	282
10	694	689	741	735	765	760	320	318	470	463	282	269
11	694	688	743	737	766	761	329	319	468	458	270	267
12	695	691	749	742	764	759	346	329	465	457	282	269
13	691	690	751	745	759	754	374	346	461	453	294	282
14	694	690	754	751	754	747	411	374	463	454	305	294
15	694	689	756	753	749	743	439	411	462	456	314	305
16	694	690	763	755	744	736	461	439	457	451	323	314
17	694	689	766	763	736	728	476	461	469	427	339	322
18	692	688	768	766	728	724	488	476	427	367	341	338
19	692	688	775	768	724	715	496	488	368	360	354	338
20	695	690	776	770	717	708	504	495	361	357	356	345
21	693	689	777	775	711	702	506	501	363	358	345	249
22	702	688	782	777	702	693	508	504	367	361	249	236
23	710	697	781	779	697	685	509	503	371	366	240	235
24	719	710	782	778	688	678	510	505	374	370	252	240
25	719	709	784	777	680	666	509	505	377	373	270	252
26	714	689	783	778	666	646	508	503	380	375	287	270
27	695	692	781	777	652	644	506	501	382	377	302	287
28	701	695	779	774	647	641	505	498	384	379	314	301
29	705	700	779	774	644	638	505	499	---	---	303	296
30	709	702	782	779	639	631	501	493	---	---	322	303
31	710	709	---	---	632	626	498	493	---	---	327	321
MONTH	719	688	784	710	786	626	626	318	495	357	414	235

#4 (6.9' BLS) SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	363	327	1280	885	793	786	757	752	503	442	619	455
2	354	337	885	525	791	785	763	756	587	503	731	619
3	348	328	602	543	789	772	766	762	660	587	764	729
4	349	345	664	602	788	781	775	765	715	660	750	703
5	378	345	724	664	786	781	777	770	760	524	703	679
6	379	372	780	724	781	776	780	774	524	286	741	694
7	388	369	817	780	779	773	781	774	287	264	804	360
8	392	383	838	817	777	768	786	778	271	265	360	304
9	383	249	844	838	773	767	792	784	273	269	316	307
10	371	344	845	830	771	766	794	786	298	272	337	315
11	352	345	830	807	767	762	799	791	311	297	376	336
12	353	350	807	782	767	761	803	796	384	311	462	376
13	356	353	790	766	768	763	803	799	529	384	537	462
14	362	356	790	772	768	762	805	800	661	529	625	537
15	361	355	772	750	768	762	811	802	748	661	722	625
16	743	354	750	722	770	762	816	808	761	695	784	722
17	730	692	724	700	774	764	822	814	695	650	845	784
18	692	663	700	683	772	766	829	818	656	256	931	845
19	663	620	686	678	776	767	829	822	256	248	1020	931
20	620	577	682	668	776	761	832	826	263	250	1080	1020
21	577	541	674	669	766	753	834	493	267	263	1120	1080
22	541	508	674	670	757	747	493	366	280	267	1160	1120
23	508	482	677	671	752	747	375	325	295	280	1180	1160
24	482	463	826	676	753	748	369	341	327	284	1200	1170
25	463	453	822	818	753	745	348	345	284	217	1200	1190
26	1360	452	826	819	750	745	359	346	286	278	1210	1200
27	1310	1170	823	809	751	746	371	359	289	286	1220	1210
28	1250	1210	810	800	749	745	373	370	288	285	1230	1220
29	1310	1250	804	796	751	745	381	371	287	284	1230	1220
30	1340	1280	799	792	755	747	409	381	310	284	1240	1230
31	---	---	799	792	---	---	443	409	455	310	---	---
MONTH	1360	249	1280	525	793	745	834	325	761	217	1240	304
YEAR	1360	217										

413547083481400 LU-23 NR HOLLAND OH—Continued

#1 (25.4’ BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.0	12.7	13.4	13.2	13.6	13.4	13.6	13.3	12.9	12.4	12.2	12.0
2	13.0	12.7	13.4	13.4	13.6	13.4	13.4	13.4	12.7	12.4	12.2	12.0
3	13.0	12.7	13.4	13.4	13.6	13.4	13.4	13.4	12.9	12.6	12.0	12.0
4	13.0	12.7	13.4	13.4	13.6	13.6	13.4	13.4	12.9	12.4	12.2	12.0
5	13.0	12.7	13.4	13.4	13.6	13.6	13.4	13.2	12.9	12.4	12.2	11.8
6	13.0	12.7	13.4	13.4	13.6	13.6	13.4	13.2	12.9	12.4	12.2	11.8
7	13.0	12.7	13.4	13.4	13.6	13.6	13.4	13.1	12.9	12.5	12.3	11.8
8	13.0	12.7	13.4	13.4	13.6	13.6	13.1	12.9	12.7	12.4	12.0	11.8
9	13.0	12.7	13.4	13.4	13.6	13.6	13.1	12.9	12.9	12.4	11.8	11.3
10	13.0	12.9	13.4	13.4	13.6	13.6	13.1	13.1	12.9	12.4	11.8	11.5
11	13.2	12.9	13.4	13.4	13.6	13.6	13.4	13.1	12.9	12.4	12.0	11.7
12	13.2	12.9	13.4	13.4	13.6	13.6	13.1	13.1	12.9	12.4	12.0	11.8
13	13.2	12.9	13.4	13.4	13.6	13.6	13.4	13.1	12.9	12.4	12.0	11.7
14	13.0	12.9	13.4	13.4	13.6	13.4	13.4	13.3	12.9	12.4	11.8	11.8
15	13.1	12.9	13.4	13.4	13.6	13.4	13.4	13.4	12.5	12.4	11.8	11.7
16	13.1	12.9	13.4	13.4	13.6	13.4	13.4	13.4	12.9	12.4	11.8	11.5
17	13.2	12.9	13.4	13.4	13.6	13.4	13.4	13.4	12.4	12.2	12.2	11.5
18	13.2	12.9	13.4	13.3	13.6	13.4	13.4	13.1	12.2	11.6	12.2	11.6
19	13.2	12.9	13.4	13.4	13.6	13.4	13.4	13.1	12.2	12.0	11.8	11.6
20	13.2	12.9	13.4	13.4	13.6	13.4	13.4	12.9	12.2	12.2	11.8	11.5
21	13.2	13.1	13.4	13.4	13.6	13.6	13.1	12.9	12.2	12.2	11.5	11.3
22	13.2	13.1	13.4	13.4	13.6	13.4	13.1	12.9	12.4	12.2	11.6	11.3
23	13.2	13.1	13.6	13.4	13.6	13.4	13.1	12.9	12.4	12.2	11.6	11.5
24	13.2	13.1	13.6	13.4	13.6	13.4	13.1	12.9	12.4	12.2	11.8	11.5
25	13.2	13.1	13.6	13.4	13.6	13.4	13.1	12.9	12.5	12.2	11.8	11.5
26	13.2	13.1	13.4	13.4	13.4	13.4	13.2	12.7	12.2	12.2	11.6	11.4
27	13.4	13.1	13.6	13.4	13.6	13.4	13.1	12.7	12.3	12.0	11.6	11.4
28	13.2	13.1	13.4	13.4	13.6	13.4	13.1	12.7	12.3	12.0	11.4	11.2
29	13.4	13.1	13.4	13.4	13.6	13.4	12.9	12.7	---	---	11.6	11.3
30	13.4	13.1	13.6	13.4	13.6	13.4	12.9	12.7	---	---	11.6	11.4
31	13.4	13.2	---	---	13.6	13.3	12.9	12.7	---	---	11.6	11.2
MONTH	13.4	12.7	13.6	13.2	13.6	13.3	13.6	12.7	12.9	11.6	12.3	11.2

#1 (25.4’ BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.6	9.5	11.6	11.4	11.6	11.4	11.9	11.6	12.1	12.0	12.8	12.5
2	10.7	9.5	11.6	10.7	11.6	11.4	11.9	11.6	12.1	12.0	12.8	12.5
3	11.8	10.7	11.4	11.1	11.4	11.3	11.9	11.6	12.3	12.0	12.8	12.5
4	12.0	11.3	11.4	11.4	11.6	11.3	11.9	11.6	12.3	12.0	12.8	12.5
5	12.1	11.3	11.6	11.4	11.4	11.3	11.9	11.6	12.3	12.0	12.8	12.7
6	11.6	11.2	11.6	11.4	11.6	11.3	11.9	11.6	12.5	12.0	13.0	12.5
7	12.0	11.3	11.6	11.4	11.6	11.4	11.8	11.6	12.5	12.1	13.0	12.7
8	11.6	11.2	11.4	11.4	11.6	11.3	11.9	11.6	12.3	12.0	13.0	12.7
9	11.8	10.9	11.6	11.4	11.4	11.4	11.9	11.6	12.3	12.1	13.0	12.7
10	11.4	10.9	11.6	11.4	11.6	11.4	11.9	11.6	12.3	12.1	13.0	12.7
11	11.6	11.3	11.6	11.4	11.6	11.4	11.9	11.8	12.3	12.1	13.0	12.7
12	11.6	11.3	11.6	11.4	11.6	11.4	11.9	11.8	12.3	12.3	13.0	12.7
13	11.6	11.3	11.6	11.4	11.6	11.4	12.1	11.8	12.5	12.3	13.0	12.8
14	11.4	11.4	11.6	11.4	11.6	11.4	12.1	11.8	12.5	12.3	13.2	12.9
15	11.4	11.3	11.6	11.4	11.6	11.4	12.1	11.8	12.5	12.3	13.2	13.0
16	11.4	11.2	11.6	11.4	11.6	11.4	12.1	11.8	12.5	12.3	13.2	13.0
17	11.4	11.3	11.6	11.4	11.6	11.4	12.1	11.8	12.5	12.3	13.2	12.9
18	11.6	11.3	11.6	11.4	11.7	11.4	12.1	11.8	12.5	12.3	13.2	12.9
19	11.4	11.3	11.6	11.4	11.6	11.4	12.1	11.8	12.5	12.3	13.3	12.9
20	11.6	11.3	11.6	11.4	11.9	11.6	12.1	11.8	12.6	12.3	13.3	12.9
21	11.6	11.3	11.6	11.4	11.9	11.6	12.1	11.8	12.6	12.3	13.2	13.0
22	11.6	11.4	11.6	11.4	11.9	11.6	12.1	11.8	12.6	12.3	13.2	13.0
23	11.6	11.3	11.6	11.4	11.9	11.6	12.3	11.8	12.6	12.3	13.2	13.0
24	11.6	11.1	11.4	11.4	11.9	11.6	12.1	11.8	12.8	12.3	13.2	13.1
25	11.6	11.3	11.6	11.4	11.9	11.6	12.1	11.8	13.5	12.5	13.4	13.2
26	11.4	11.1	11.6	11.4	11.9	11.6	12.1	11.8	12.8	12.5	13.5	13.2
27	11.4	11.3	11.6	11.4	11.9	11.6	12.1	11.8	12.8	12.5	13.5	13.2
28	11.6	11.3	11.6	11.4	11.9	11.6	12.1	11.8	12.8	12.5	13.5	13.2
29	11.6	11.3	11.6	11.4	11.9	11.6	12.1	11.8	12.8	12.5	13.5	13.2
30	11.4	11.4	11.6	11.4	11.9	11.6	12.1	11.8	12.8	12.5	13.5	13.2
31	---	---	11.6	11.4	---	---	12.1	11.8	12.8	12.5	---	---
MONTH	12.1	9.5	11.6	10.7	11.9	11.3	12.3	11.6	13.5	12.0	13.5	12.5
YEAR	13.6	9.5										

413547083481400 LU-23 NR HOLLAND OH—Continued

#2 (16.9' BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.9	14.6	15.2	15.1	14.1	14.1	12.9	12.7	11.6	11.4	10.7	10.5
2	14.9	14.6	15.1	15.1	14.1	14.1	12.9	12.7	11.6	11.3	10.7	10.5
3	15.0	14.6	15.1	15.1	14.1	14.1	12.7	12.7	11.6	11.3	10.7	10.5
4	15.0	14.7	15.1	15.1	14.1	14.1	12.9	12.4	11.6	11.3	10.7	10.5
5	15.0	14.7	15.1	15.1	14.1	13.9	12.5	12.4	11.5	11.3	10.7	10.5
6	15.0	14.7	15.2	14.9	14.1	13.9	12.5	12.5	11.5	11.3	10.7	10.5
7	15.0	14.9	15.2	14.9	13.9	13.9	12.5	12.4	11.4	11.3	10.7	10.5
8	15.0	14.9	15.2	14.9	13.9	13.9	12.4	11.6	11.5	11.3	10.7	10.5
9	15.2	14.9	15.1	15.1	13.9	13.6	12.2	11.8	11.4	11.3	10.5	9.6
10	15.2	14.9	15.1	15.1	13.9	13.6	12.4	12.2	11.6	11.3	10.5	9.8
11	15.2	14.9	15.1	14.9	13.6	13.6	12.4	12.2	11.3	11.3	10.5	10.2
12	15.2	14.9	15.1	15.1	13.6	13.6	12.4	12.2	11.3	11.3	10.5	10.4
13	15.2	14.9	15.1	14.9	13.6	13.6	12.4	12.2	11.3	11.1	10.5	10.4
14	14.9	14.9	15.1	14.9	13.6	13.4	12.4	12.2	11.3	11.1	10.5	10.5
15	15.1	14.9	15.1	14.9	13.6	13.4	12.2	12.2	11.3	11.1	10.5	10.4
16	15.1	14.9	15.1	14.9	13.6	13.4	12.4	12.2	11.3	11.1	10.5	10.3
17	15.1	14.9	15.1	14.9	13.4	13.4	12.2	12.2	11.1	10.1	10.5	10.3
18	15.2	14.9	15.1	14.8	13.4	13.4	12.2	12.0	10.3	9.7	10.5	10.3
19	15.2	14.9	14.9	14.9	13.4	13.4	12.2	12.0	10.7	10.1	10.5	10.3
20	15.2	14.9	14.9	14.9	13.4	13.4	12.2	12.0	10.9	10.5	10.5	10.1
21	15.1	14.9	14.9	14.6	13.4	13.4	12.2	12.0	10.9	10.7	10.1	9.4
22	15.1	14.9	14.9	14.6	13.4	13.4	12.0	11.8	10.9	10.7	10.1	9.6
23	15.1	14.9	14.6	14.6	13.4	13.1	12.0	11.8	10.9	10.7	10.3	10.0
24	15.2	14.9	14.6	14.4	13.4	13.1	12.0	11.8	10.9	10.7	10.3	10.0
25	15.2	14.9	14.6	14.4	13.1	13.1	12.0	11.8	10.9	10.7	10.3	10.0
26	15.1	15.1	14.4	14.4	13.1	13.1	11.8	11.8	10.9	10.7	10.3	10.1
27	15.1	15.1	14.4	14.1	13.1	12.9	11.8	11.8	10.9	10.5	10.3	10.1
28	15.2	14.9	14.4	14.1	13.1	12.9	11.8	11.5	10.7	10.5	10.1	9.9
29	15.2	14.9	14.1	14.1	13.1	12.9	11.8	11.5	---	---	10.3	9.9
30	15.2	14.9	14.1	14.1	12.9	12.9	11.8	11.5	---	---	10.4	10.1
31	15.2	14.9	---	---	12.9	12.9	11.8	11.5	---	---	10.3	10.1
MONTH	15.2	14.6	15.2	14.1	14.1	12.9	12.9	11.5	11.6	9.7	10.7	9.4

#2 (16.9' BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	10.1	6.8	10.5	10.1	11.4	11.1	12.1	11.8	13.5	13.2	15.2	14.9
2	8.9	7.0	10.5	9.9	11.4	11.1	12.1	11.8	13.5	13.2	15.2	14.9
3	10.3	8.9	10.5	10.1	11.4	11.2	12.1	11.8	13.5	13.2	15.2	14.9
4	10.3	10.1	10.5	10.5	11.4	11.2	12.1	11.8	13.7	13.2	15.2	14.9
5	10.3	10.1	10.8	10.5	11.4	11.3	12.1	11.8	14.2	13.4	15.2	14.9
6	10.3	10.1	10.8	10.5	11.4	11.3	12.3	12.0	15.7	14.2	15.2	15.2
7	10.3	10.1	10.8	10.5	11.6	11.4	12.3	12.1	14.5	14.2	15.7	15.2
8	10.3	10.1	10.5	10.5	11.6	11.3	12.3	12.0	14.2	13.7	15.5	15.2
9	10.3	9.5	10.8	10.5	11.4	11.4	12.3	12.0	13.9	13.7	15.5	15.2
10	9.9	9.5	10.8	10.5	11.6	11.4	12.3	12.1	13.9	13.7	15.5	15.2
11	10.3	9.9	10.8	10.5	11.6	11.4	12.5	12.2	13.9	13.7	15.5	15.2
12	10.3	10.1	10.8	10.5	11.6	11.4	12.5	12.2	14.0	13.7	15.5	15.4
13	10.5	10.1	10.8	10.5	11.6	11.4	12.6	12.3	14.0	13.7	15.7	15.4
14	10.3	10.1	11.0	10.7	11.6	11.4	12.6	12.3	14.0	13.9	15.7	15.4
15	10.3	10.1	11.0	10.7	11.6	11.4	12.6	12.3	14.2	13.9	15.7	15.4
16	10.3	9.9	11.0	10.7	11.6	11.4	12.8	12.3	14.2	13.9	15.7	15.4
17	10.3	10.1	11.0	10.7	11.6	11.4	12.8	12.5	14.4	14.2	15.8	15.4
18	10.5	10.1	11.0	10.7	11.7	11.4	12.8	12.5	14.7	14.2	15.8	15.4
19	10.5	10.3	11.0	10.7	11.6	11.4	12.8	12.5	14.5	14.1	15.8	15.4
20	10.5	10.3	11.0	10.7	11.7	11.4	12.8	12.5	14.5	14.1	15.8	15.4
21	10.5	10.3	11.0	10.7	11.6	11.4	13.5	12.5	14.5	14.2	15.8	15.4
22	10.5	10.3	11.2	10.8	11.7	11.4	13.9	13.2	14.5	14.2	15.7	15.4
23	10.6	10.3	11.2	10.9	11.8	11.4	15.2	13.2	14.7	14.2	15.7	15.4
24	10.8	10.3	11.1	10.9	11.8	11.6	13.7	13.2	14.7	14.4	15.7	15.7
25	10.8	10.3	11.2	10.9	11.9	11.6	13.2	13.0	17.7	14.4	16.0	15.7
26	10.5	10.1	11.2	11.0	11.9	11.6	13.2	12.9	16.0	14.9	16.0	15.7
27	10.5	10.1	11.2	11.0	11.9	11.6	13.2	12.9	15.2	14.7	16.0	15.7
28	10.5	10.3	11.4	11.1	11.9	11.6	13.2	13.0	15.0	14.6	16.0	15.7
29	10.7	10.3	11.4	11.2	12.1	11.6	13.3	13.0	14.9	14.7	16.0	15.7
30	10.5	10.5	11.4	11.1	12.1	11.8	13.2	13.0	15.0	14.7	16.0	15.7
31	---	---	11.4	11.2	---	---	13.2	13.2	15.2	14.7	---	---
MONTH	10.8	6.8	11.4	9.9	12.1	11.1	15.2	11.8	17.7	13.2	16.0	14.9
YEAR	17.7	6.8										

413547083481400 LU-23 NR HOLLAND OH—Continued

#3 (10.4’ BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.7	14.4	13.4	13.4	11.1	11.1	9.2	9.0	7.4	7.2	6.3	6.1
2	14.7	14.4	13.4	13.4	11.1	10.9	9.1	8.9	7.4	7.2	6.3	6.1
3	14.7	14.4	13.4	13.4	11.1	10.9	9.1	8.9	7.4	7.2	6.3	6.1
4	14.7	14.4	13.4	13.4	11.1	10.9	9.1	8.9	7.4	7.2	6.3	6.1
5	14.7	14.4	13.4	13.1	10.9	10.7	8.9	8.7	7.4	7.2	6.3	6.1
6	14.7	14.4	13.2	13.1	10.9	10.7	8.9	8.5	7.4	7.0	6.3	6.1
7	14.7	14.4	13.2	12.9	10.7	10.7	8.7	8.5	7.3	7.0	6.3	6.1
8	14.7	14.4	13.2	12.9	10.7	10.5	8.5	7.4	7.2	7.0	6.3	6.0
9	14.7	14.4	12.9	12.9	10.7	10.5	8.3	7.9	7.2	7.0	6.2	5.3
10	14.7	14.4	12.9	12.7	10.5	10.5	8.5	8.3	7.2	7.0	5.8	5.4
11	14.4	14.4	12.9	12.7	10.5	10.5	8.5	8.3	7.2	7.0	6.0	5.8
12	14.4	14.2	12.7	12.4	10.5	10.5	8.5	8.3	7.0	6.8	6.1	5.9
13	14.4	14.2	12.6	12.4	10.5	10.3	8.3	8.3	7.0	6.8	6.1	5.9
14	14.4	14.2	12.4	12.4	10.5	10.2	8.3	8.2	7.0	6.8	6.1	5.9
15	14.4	14.1	12.4	12.4	10.3	10.0	8.3	8.1	7.0	6.7	6.0	5.8
16	14.4	14.1	12.4	12.2	10.3	10.1	8.3	8.1	6.8	6.7	6.0	5.8
17	14.4	14.1	12.4	12.2	10.1	9.9	8.3	8.1	6.8	5.6	6.0	5.6
18	14.4	14.1	12.2	12.2	10.1	9.9	8.1	8.1	5.8	5.3	6.0	5.6
19	14.4	14.1	12.2	12.0	9.9	9.9	8.1	7.9	6.1	5.8	5.8	5.6
20	14.2	14.1	12.2	12.0	9.9	9.7	8.1	7.9	6.3	6.1	6.0	5.3
21	14.4	14.1	12.0	11.8	9.9	9.6	8.1	7.9	6.3	6.1	5.3	4.6
22	14.4	14.1	11.8	11.8	9.6	9.6	7.9	7.7	6.3	6.1	5.3	4.8
23	14.1	14.1	11.8	11.8	9.7	9.6	7.9	7.9	6.5	6.1	5.5	5.3
24	14.1	14.1	11.8	11.5	9.6	9.6	7.9	7.7	6.5	6.3	5.6	5.3
25	14.1	14.1	11.7	11.4	9.7	9.4	7.9	7.7	6.5	6.1	5.7	5.3
26	14.1	14.1	11.6	11.3	9.6	9.4	7.9	7.5	6.5	6.1	5.7	5.3
27	14.1	14.1	11.6	11.3	9.5	9.2	7.7	7.5	6.3	6.1	5.7	5.3
28	14.1	13.9	11.4	11.3	9.4	9.2	7.7	7.5	6.3	6.1	5.7	5.3
29	13.9	13.6	11.4	11.3	9.4	9.2	7.6	7.4	---	---	5.5	5.3
30	13.9	13.6	11.3	11.1	9.3	9.0	7.6	7.3	---	---	5.7	5.3
31	13.7	13.4	---	---	9.2	9.0	7.4	7.3	---	---	5.7	5.5
MONTH	14.7	13.4	13.4	11.1	11.1	9.0	9.2	7.3	7.4	5.3	6.3	4.6

#3 (10.4’ BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	5.5	1.5	6.3	6.0	7.8	7.6	9.5	9.3	11.8	11.6	13.5	13.2
2	4.7	2.4	6.5	6.2	8.0	7.8	9.6	9.3	11.9	11.6	13.5	13.4
3	5.8	4.7	6.5	6.3	8.0	7.8	9.7	9.5	11.9	11.6	13.7	13.4
4	5.8	5.6	6.5	6.3	8.2	7.9	9.7	9.5	12.1	11.6	13.7	13.4
5	6.0	5.7	6.7	6.5	8.1	7.9	9.8	9.5	12.7	11.8	13.7	13.4
6	6.0	5.7	6.7	6.5	8.2	8.0	9.9	9.7	13.9	12.7	13.7	13.4
7	6.0	5.7	6.7	6.5	8.4	8.1	9.9	9.7	13.5	12.7	13.9	13.2
8	6.0	5.8	6.7	6.5	8.4	8.1	9.9	9.7	12.8	12.5	13.7	13.4
9	6.0	5.3	6.7	6.7	8.3	8.3	10.0	9.7	12.6	12.3	13.7	13.4
10	5.7	5.3	6.9	6.7	8.6	8.3	9.9	9.7	12.6	12.3	13.7	13.4
11	6.0	5.6	6.9	6.7	8.5	8.3	10.1	9.9	12.8	12.3	13.7	13.4
12	6.0	5.8	6.9	6.7	8.6	8.3	10.2	9.9	12.8	12.5	13.7	13.4
13	6.2	5.8	6.9	6.7	8.6	8.3	10.4	10.1	12.8	12.5	13.7	13.4
14	6.0	5.8	6.9	6.7	8.6	8.3	10.4	10.1	12.8	12.5	13.7	13.2
15	6.0	5.8	6.9	6.7	8.6	8.5	10.4	10.1	12.8	12.5	13.5	13.2
16	6.0	5.7	6.9	6.7	8.7	8.5	10.4	10.1	12.8	12.5	13.5	13.2
17	6.2	5.8	6.9	6.7	8.8	8.5	10.6	10.3	13.0	12.7	13.5	13.2
18	6.2	6.1	6.9	6.7	8.8	8.5	10.6	10.3	13.7	12.7	13.5	13.2
19	6.2	6.2	6.9	6.7	8.8	8.5	10.8	10.3	13.2	12.9	13.5	13.2
20	6.4	6.1	7.1	6.9	8.8	8.7	10.8	10.5	13.2	12.9	13.5	13.2
21	6.4	6.2	7.1	6.9	9.0	8.7	11.7	10.5	13.2	13.0	13.5	13.2
22	6.4	6.2	7.1	6.9	9.0	8.7	12.3	11.4	13.2	13.0	13.4	13.2
23	6.4	6.1	7.1	6.9	9.1	8.9	13.4	11.4	13.2	13.0	13.2	13.1
24	6.4	6.1	7.2	7.0	9.2	8.9	12.3	11.4	13.2	13.0	13.2	13.0
25	6.4	6.2	7.4	7.2	9.2	8.9	11.6	11.4	15.5	13.0	13.2	12.9
26	6.3	6.2	7.5	7.2	9.3	8.9	11.4	11.2	14.4	13.7	13.3	13.0
27	6.3	6.1	7.5	7.4	9.3	9.1	11.4	11.2	13.7	13.4	13.2	13.0
28	6.4	6.2	7.6	7.4	9.4	9.1	11.6	11.4	13.5	13.2	13.2	12.9
29	6.5	6.3	7.7	7.4	9.4	9.1	11.6	11.4	13.5	13.2	13.2	12.9
30	6.3	6.3	7.8	7.4	9.3	9.1	11.6	11.4	13.5	13.2	13.2	12.9
31	---	---	7.8	7.6	---	---	11.6	11.4	13.5	13.2	---	---
MONTH	6.5	1.5	7.8	6.0	9.4	7.6	13.4	9.3	15.5	11.6	13.9	12.9
YEAR	15.5	1.5										

413547083481400 LU-23 NR HOLLAND OH WELL—Continued

#4 (6.9’ BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.8	16.5	14.9	14.6	12.2	12.2	10.0	9.9	8.3	8.3	7.4	7.2
2	16.8	16.5	14.6	14.6	12.2	12.0	9.9	9.7	8.3	8.3	7.4	7.2
3	16.8	16.5	14.6	14.4	12.2	12.0	9.9	9.7	8.3	8.3	7.4	7.2
4	16.8	16.5	14.6	14.4	12.0	11.8	9.9	9.7	8.3	8.3	7.4	7.2
5	16.6	16.3	14.4	14.4	12.0	11.8	9.7	9.7	8.3	8.1	7.4	7.2
6	16.6	16.3	14.4	14.1	11.8	11.8	9.7	9.5	8.3	8.1	7.4	7.2
7	16.6	16.3	14.1	14.1	11.8	11.5	9.7	9.5	8.3	8.1	7.4	7.2
8	16.6	16.2	14.4	14.1	11.8	11.5	9.5	8.5	8.3	8.1	7.4	7.0
9	16.5	16.2	14.1	14.1	11.6	11.5	9.1	8.7	8.3	7.9	7.0	6.1
10	16.5	16.2	14.1	13.9	11.5	11.3	9.3	9.0	8.1	7.9	6.8	6.5
11	16.5	16.2	14.1	13.9	11.5	11.3	9.3	9.1	8.1	7.9	7.2	6.8
12	16.3	16.0	13.9	13.6	11.3	11.3	9.3	9.0	8.1	7.9	7.2	7.0
13	16.3	16.2	13.8	13.6	11.3	11.3	9.3	9.1	8.1	7.9	7.2	7.0
14	16.3	16.0	13.6	13.6	11.3	11.1	9.2	9.0	8.1	7.9	7.0	7.0
15	16.2	16.0	13.6	13.6	11.3	11.1	9.2	9.0	8.1	7.8	7.0	6.8
16	16.2	16.0	13.6	13.4	11.1	11.1	9.1	9.0	7.9	7.7	7.0	6.8
17	16.2	15.9	13.4	13.4	11.1	10.9	9.1	9.0	7.9	6.7	7.0	6.8
18	16.3	15.9	13.4	13.3	11.1	10.9	9.1	9.0	6.7	6.3	7.0	6.7
19	16.2	15.9	13.4	13.1	10.9	10.7	9.1	8.9	7.0	6.7	6.8	6.7
20	16.0	15.7	13.4	13.1	10.9	10.7	9.1	8.9	7.2	7.0	6.8	6.6
21	15.9	15.7	13.2	13.1	10.9	10.7	9.0	8.8	7.4	7.2	6.6	6.0
22	15.9	15.4	13.1	12.9	10.7	10.5	8.9	8.9	7.4	7.2	6.5	6.1
23	15.7	15.6	12.9	12.9	10.7	10.5	8.9	8.7	7.4	7.2	6.7	6.5
24	15.7	15.4	12.9	12.7	10.5	10.5	8.9	8.7	7.4	7.2	6.7	6.6
25	15.7	15.4	12.9	12.5	10.5	10.5	8.9	8.6	7.6	7.2	6.7	6.6
26	15.4	15.4	12.7	12.4	10.5	10.3	8.7	8.5	7.4	7.2	6.9	6.7
27	15.4	15.4	12.7	12.4	10.5	10.3	8.7	8.5	7.4	7.0	6.9	6.7
28	15.4	15.1	12.5	12.4	10.4	10.1	8.5	8.3	7.4	7.2	6.7	6.5
29	15.2	14.9	12.5	12.2	10.3	10.0	8.5	8.3	---	---	6.9	6.5
30	15.2	14.9	12.2	12.2	10.1	10.0	8.5	8.3	---	---	6.9	6.7
31	14.9	14.9	---	---	10.1	9.9	8.3	8.3	---	---	7.1	6.7
MONTH	16.8	14.9	14.9	12.2	12.2	9.9	10.0	8.3	8.3	6.3	7.4	6.0

#4 (6.9’ BLS) TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	6.9	3.1	8.2	7.9	10.6	10.3	12.6	12.3	15.2	15.2	16.8	16.5
2	6.1	3.9	8.3	7.9	10.6	10.3	12.8	12.5	15.5	15.1	16.8	16.5
3	7.2	6.1	8.4	8.1	10.7	10.5	12.8	12.5	15.5	15.2	16.9	16.8
4	7.4	7.0	8.3	8.1	10.8	10.5	12.8	12.5	15.5	15.2	17.1	16.8
5	7.4	7.2	8.4	8.1	10.7	10.5	13.0	12.7	15.7	15.2	16.9	16.5
6	7.4	7.2	8.6	8.3	10.9	10.7	13.0	12.7	17.1	15.7	16.9	16.5
7	7.4	7.2	8.5	8.3	11.0	10.7	13.2	13.0	16.8	16.3	17.4	16.5
8	7.6	7.4	8.3	8.3	11.2	10.7	13.2	13.0	16.3	15.7	17.1	16.8
9	7.4	6.7	8.6	8.3	11.1	10.9	13.3	13.0	16.0	15.7	16.8	16.5
10	7.2	6.8	8.5	8.3	11.2	10.9	13.5	13.0	16.0	15.7	16.9	16.5
11	7.6	7.2	8.5	8.3	11.4	11.1	13.5	13.2	16.0	15.7	16.9	16.5
12	7.6	7.4	8.7	8.5	11.4	11.2	13.5	13.2	16.0	15.7	16.9	16.5
13	7.6	7.4	8.9	8.5	11.4	11.1	13.7	13.4	16.0	15.7	16.9	16.5
14	7.4	7.4	8.8	8.7	11.4	11.1	13.7	13.4	16.0	15.7	16.9	16.5
15	7.6	7.4	8.8	8.7	11.4	11.1	13.7	13.4	16.3	16.0	16.8	16.5
16	7.6	7.4	9.0	8.7	11.6	11.2	13.7	13.4	16.3	16.0	16.8	16.5
17	7.8	7.4	9.0	8.7	11.6	11.4	13.7	13.4	16.5	16.0	16.8	16.5
18	7.8	7.6	9.1	8.9	11.6	11.4	13.7	13.4	16.9	16.0	16.8	16.5
19	7.8	7.7	9.2	8.9	11.6	11.4	13.9	13.4	16.6	16.2	16.6	16.3
20	7.8	7.6	9.3	8.9	11.7	11.4	14.0	13.7	16.6	16.2	16.6	16.5
21	8.0	7.7	9.3	9.1	11.6	11.4	14.7	13.7	16.6	16.3	16.6	16.3
22	8.0	7.8	9.3	9.1	11.8	11.4	15.2	14.4	16.6	16.3	16.5	16.3
23	8.0	7.9	9.5	9.3	11.9	11.6	16.3	14.7	16.6	16.3	16.6	16.2
24	8.2	7.9	9.9	9.5	11.9	11.6	15.5	14.9	16.8	16.3	16.5	16.2
25	8.2	7.9	9.9	9.7	12.1	11.6	15.0	14.7	18.3	16.5	16.6	16.2
26	7.9	7.9	10.0	9.7	12.1	11.8	15.0	14.7	17.7	17.1	16.6	16.3
27	7.9	7.8	10.0	9.7	12.1	11.8	15.0	14.7	17.1	16.8	16.6	16.3
28	8.2	7.9	10.1	9.9	12.3	12.1	15.0	14.7	16.8	16.5	16.6	16.2
29	8.2	8.0	10.2	9.9	12.3	12.1	15.2	14.9	16.9	16.5	16.5	16.2
30	8.1	7.9	10.4	10.1	12.5	12.3	15.2	14.9	16.9	16.5	16.5	16.2
31	---	---	10.4	10.1	---	---	15.2	14.9	16.9	16.5	---	---
MONTH	8.2	3.1	10.4	7.9	12.5	10.3	16.3	12.3	18.3	15.1	17.4	16.2
YEAR	18.3	3.1										

GROUND-WATER RECORDS

413547083481500. Local number, LU-24.

LOCATION.--Lat 41°35'47" Long 83°48'15", Hydrologic Unit 04100009, along State Route 2 near Holland, OH.
Owner.--USGS/Toledo Express Airport.

AQUIFER.--Sand of Quaternary age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 18.7 ft. Cased with Sch 40 PVC to 8.7 ft; .010 in. screen from 8.7 to 18.7 ft.

INSTRUMENTATION - Data logger--60 minute record. Water-level data only was collected at this well.

DATUM.--Elevation of land-surface datum is 677.21 feet above sea level.
Measuring point: shelter floor 2.12 ft above land-surface datum.

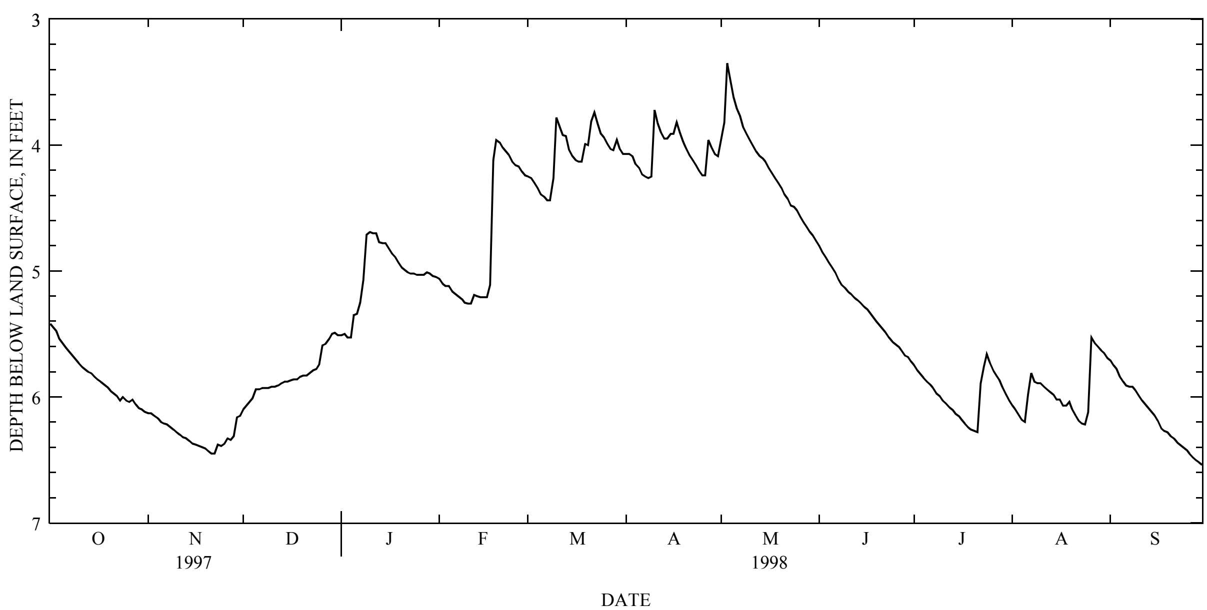
REMARKS.--This station is part of an eight-site network to collect data for the Ohio Department of Transportation concerning road salt application and its effect(s) on shallow ground-water quality. Water-quality data for nearby wells is available in adjacent tables.

PERIOD OF RECORD.--February 1991 to current year.

PERIOD OF DAILY RECORD.--
WATER LEVEL: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER LEVEL: Maximum daily low, 8.10 ft. below land-surface datum, October 24, 1991; maximum daily high, 3.21 ft. below land-surface data, May 2-3, 1998.

EXTREMES FOR CURRENT YEAR.--
WATER LEVEL: Maximum daily low, 6.54 ft. below land-surface datum, September 30, 1998; maximum daily high, 3.21 ft. below land-surface datum, May 2-3, 1998.



413547083481500 LU-24 NR HOLLAND OH—Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	5.42	5.38	5.41	6.13	6.12	6.13	6.10	6.07	6.09	5.51	5.48	5.49
2	5.45	5.42	5.44	6.13	6.10	6.11	6.07	6.04	6.06	5.50	5.49	5.50
3	5.48	5.45	5.46	6.15	6.12	6.14	6.04	6.01	6.02	5.53	5.50	5.51
4	5.54	5.48	5.51	6.17	6.15	6.16	6.01	5.94	5.97	5.53	5.35	5.42
5	5.58	5.54	5.56	6.20	6.17	6.19	5.94	5.94	5.94	5.35	5.34	5.35
6	5.61	5.58	5.59	6.21	6.20	6.21	5.94	5.93	5.93	5.34	5.25	5.29
7	5.64	5.61	5.63	6.22	6.21	6.22	5.93	5.93	5.93	5.25	5.07	5.22
8	5.67	5.64	5.66	6.24	6.22	6.23	5.93	5.93	5.93	5.07	4.71	4.81
9	5.70	5.67	5.68	6.26	6.24	6.25	5.93	5.92	5.92	4.71	4.69	4.69
10	5.73	5.70	5.71	6.28	6.26	6.27	5.92	5.91	5.91	4.69	4.69	4.69
11	5.76	5.73	5.74	6.30	6.28	6.29	5.92	5.91	5.91	4.70	4.69	4.69
12	5.78	5.76	5.77	6.32	6.30	6.31	5.91	5.89	5.90	4.70	4.69	4.70
13	5.80	5.78	5.79	6.33	6.32	6.33	5.89	5.88	5.88	4.77	4.70	4.74
14	5.81	5.80	5.80	6.35	6.33	6.34	5.88	5.88	5.88	4.78	4.74	4.77
15	5.84	5.81	5.83	6.37	6.35	6.36	5.88	5.87	5.87	4.78	4.74	4.76
16	5.86	5.84	5.85	6.38	6.37	6.38	5.87	5.86	5.87	4.82	4.78	4.80
17	5.88	5.86	5.87	6.39	6.38	6.39	5.86	5.86	5.86	4.86	4.82	4.83
18	5.90	5.88	5.89	6.40	6.39	6.40	5.86	5.84	5.85	4.89	4.86	4.88
19	5.92	5.90	5.91	6.41	6.40	6.41	5.84	5.83	5.84	4.93	4.89	4.91
20	5.95	5.92	5.94	6.43	6.41	6.42	5.83	5.83	5.83	4.97	4.93	4.95
21	5.97	5.95	5.96	6.45	6.43	6.44	5.83	5.81	5.82	4.99	4.97	4.98
22	5.99	5.96	5.97	6.45	6.38	6.42	5.81	5.79	5.80	5.01	4.99	5.01
23	6.03	5.96	5.97	6.38	6.38	6.38	5.79	5.78	5.78	5.02	4.99	5.01
24	6.00	5.98	5.99	6.39	6.37	6.38	5.78	5.74	5.76	5.02	5.01	5.01
25	6.03	6.00	6.02	6.37	6.32	6.34	5.74	5.59	5.63	5.03	5.02	5.03
26	6.04	5.99	6.03	6.33	6.30	6.31	5.59	5.58	5.59	5.03	5.03	5.03
27	6.02	5.98	6.00	6.34	6.31	6.33	5.58	5.54	5.56	5.03	5.01	5.02
28	6.06	6.02	6.04	6.31	6.16	6.21	5.54	5.50	5.52	5.01	5.00	5.01
29	6.09	6.06	6.07	6.16	6.15	6.16	5.50	5.48	5.49	5.02	4.98	5.00
30	6.10	6.09	6.09	6.15	6.10	6.12	5.49	5.48	5.48	5.04	5.02	5.03
31	6.12	6.10	6.11	---	---	---	5.51	5.49	5.50	5.05	5.04	5.05
MONTH	6.12	5.38	5.82	6.45	6.10	6.29	6.10	5.48	5.82	5.53	4.69	5.01

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	5.06	5.05	5.05	4.25	4.24	4.24	4.07	3.98	4.01	3.95	3.82	3.91
2	5.10	5.06	5.08	4.26	4.25	4.25	4.07	4.02	4.04	3.82	3.21	3.45
3	5.12	5.10	5.11	4.30	4.26	4.28	4.09	4.07	4.08	3.35	3.21	3.27
4	5.12	5.12	5.12	4.34	4.30	4.32	4.15	4.09	4.12	3.49	3.35	3.43
5	5.16	5.12	5.14	4.39	4.34	4.37	4.18	4.15	4.17	3.62	3.49	3.56
6	5.18	5.16	5.17	4.41	4.39	4.40	4.23	4.18	4.21	3.71	3.62	3.66
7	5.20	5.18	5.19	4.44	4.41	4.43	4.25	4.23	4.24	3.77	3.71	3.74
8	5.22	5.20	5.21	4.44	4.26	4.37	4.26	4.24	4.25	3.86	3.77	3.82
9	5.25	5.22	5.24	4.26	3.67	3.84	4.25	3.63	4.05	3.91	3.86	3.88
10	5.26	5.25	5.26	3.78	3.67	3.73	3.72	3.60	3.66	3.96	3.91	3.93
11	5.26	5.17	5.24	3.85	3.78	3.82	3.83	3.72	3.77	4.00	3.96	3.98
12	5.19	5.16	5.18	3.92	3.85	3.89	3.90	3.83	3.87	4.05	4.00	4.03
13	5.20	5.19	5.19	3.93	3.92	3.93	3.95	3.90	3.92	4.08	4.02	4.05
14	5.21	5.19	5.21	4.04	3.93	4.00	3.95	3.83	3.90	4.10	4.05	4.08
15	5.21	5.21	5.21	4.09	4.04	4.06	3.91	3.85	3.89	4.13	4.10	4.12
16	5.21	5.11	5.20	4.12	4.09	4.11	3.91	3.63	3.71	4.18	4.13	4.15
17	5.11	4.12	4.81	4.13	4.12	4.12	3.82	3.68	3.75	4.22	4.18	4.20
18	4.12	3.85	3.91	4.13	3.99	4.07	3.90	3.82	3.87	4.26	4.22	4.24
19	3.96	3.90	3.94	3.99	3.98	3.98	3.97	3.90	3.93	4.30	4.26	4.28
20	3.98	3.96	3.97	4.00	3.81	3.97	4.03	3.97	4.00	4.34	4.30	4.32
21	4.02	3.98	4.00	3.81	3.61	3.69	4.08	4.03	4.06	4.39	4.34	4.36
22	4.05	4.02	4.04	3.74	3.66	3.71	4.12	4.08	4.10	4.43	4.39	4.41
23	4.08	4.05	4.06	3.83	3.74	3.78	4.16	4.12	4.14	4.48	4.43	4.46
24	4.13	4.08	4.10	3.91	3.83	3.87	4.20	4.16	4.18	4.49	4.37	4.44
25	4.16	4.13	4.15	3.94	3.91	3.92	4.24	4.20	4.23	4.52	4.44	4.48
26	4.17	4.16	4.16	3.99	3.94	3.96	4.24	3.85	4.04	4.57	4.52	4.54
27	4.21	4.15	4.18	4.03	3.99	4.01	3.96	3.87	3.92	4.61	4.57	4.59
28	4.24	4.21	4.22	4.04	3.93	3.99	4.02	3.96	3.99	4.65	4.61	4.63
29	---	---	---	3.96	3.93	3.95	4.07	4.02	4.04	4.69	4.65	4.67
30	---	---	---	4.03	3.96	4.00	4.09	3.95	4.08	4.72	4.69	4.71
31	---	---	---	4.07	4.03	4.05	---	---	---	4.76	4.72	4.73
MONTH	5.26	3.85	4.73	4.44	3.61	4.04	4.26	3.60	4.01	4.76	3.21	4.13

413547083481500 LU-24 NR HOLLAND OH—Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	4.80	4.76	4.78	5.75	5.72	5.74	6.07	6.03	6.05	5.71	5.69	5.70
2	4.85	4.80	4.81	5.79	5.75	5.77	6.10	6.07	6.09	5.75	5.71	5.73
3	4.89	4.85	4.87	5.82	5.79	5.80	6.14	6.10	6.12	5.78	5.75	5.77
4	4.93	4.89	4.91	5.85	5.82	5.83	6.18	6.14	6.16	5.84	5.78	5.81
5	4.97	4.93	4.95	5.88	5.85	5.87	6.20	5.98	6.16	5.88	5.84	5.86
6	5.01	4.97	4.99	5.90	5.88	5.89	5.98	5.65	5.75	5.91	5.88	5.89
7	5.06	5.01	5.04	5.93	5.90	5.92	5.81	5.76	5.78	5.92	5.78	5.84
8	5.11	5.06	5.08	5.97	5.93	5.95	5.88	5.81	5.85	5.92	5.80	5.87
9	5.13	5.11	5.12	5.99	5.97	5.98	5.89	5.88	5.89	5.95	5.92	5.93
10	5.16	5.13	5.14	6.03	5.99	6.01	5.89	5.89	5.89	5.99	5.95	5.98
11	5.18	5.16	5.17	6.05	6.03	6.04	5.92	5.89	5.90	6.03	5.99	6.01
12	5.21	5.18	5.19	6.08	6.05	6.06	5.94	5.92	5.93	6.06	6.03	6.04
13	5.23	5.20	5.21	6.10	6.08	6.09	5.96	5.94	5.95	6.09	6.06	6.07
14	5.25	5.23	5.24	6.13	6.10	6.11	5.98	5.96	5.97	6.12	6.09	6.11
15	5.28	5.25	5.26	6.15	6.13	6.14	6.02	5.98	6.01	6.15	6.12	6.14
16	5.30	5.25	5.28	6.18	6.15	6.17	6.02	6.02	6.02	6.19	6.15	6.17
17	5.33	5.26	5.30	6.21	6.18	6.19	6.07	6.02	6.04	6.25	6.19	6.22
18	5.37	5.33	5.35	6.24	6.21	6.23	6.07	5.87	5.93	6.27	6.25	6.26
19	5.40	5.37	5.38	6.26	6.24	6.25	6.04	5.93	5.99	6.28	6.27	6.28
20	5.43	5.40	5.41	6.27	6.26	6.26	6.10	6.04	6.08	6.31	6.28	6.29
21	5.46	5.43	5.45	6.28	5.89	6.05	6.15	6.10	6.13	6.33	6.31	6.32
22	5.49	5.46	5.48	5.89	5.69	5.74	6.19	6.15	6.17	6.36	6.33	6.34
23	5.53	5.49	5.51	5.76	5.33	5.44	6.21	6.19	6.20	6.38	6.36	6.37
24	5.56	5.53	5.54	5.66	5.52	5.60	6.22	6.10	6.16	6.40	6.38	6.39
25	5.58	5.56	5.57	5.74	5.66	5.70	6.12	5.33	5.63	6.42	6.40	6.41
26	5.60	5.58	5.59	5.79	5.74	5.77	5.53	5.41	5.48	6.45	6.42	6.44
27	5.63	5.59	5.61	5.83	5.79	5.81	5.57	5.53	5.56	6.48	6.45	6.46
28	5.67	5.63	5.65	5.87	5.83	5.85	5.60	5.57	5.59	6.50	6.48	6.49
29	5.68	5.67	5.68	5.93	5.87	5.90	5.63	5.60	5.61	6.52	6.50	6.51
30	5.72	5.67	5.70	5.98	5.93	5.95	5.65	5.63	5.64	6.54	6.52	6.53
31	---	---	---	6.03	5.98	6.00	5.69	5.65	5.67	---	---	---
MONTH	5.72	4.76	5.28	6.28	5.33	5.94	6.22	5.33	5.92	6.54	5.69	6.14
YEAR	6.54	3.21	5.26									

GROUND-WATER RECORDS

403923082325500. Local number, R-16.

LOCATION.--Lat 40°39'23" Long 82°32'55", Hydrologic Unit 05040002, along State Route 97 near Lexington, OH.
Owner.--USGS/Sam McBride.

AQUIFER.--Sand and Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 18.9 ft. Cased with Sch 40 PVC to 8.9 ft; .010 in. screen from 8.9 to 18.9 ft.

INSTRUMENTATION - Data logger--60 minute record. Precipitation data collected with a propane-heated, tipping-bucket rain gauge. Also collected: water level, air temperature, soil temperature, water temperature, and specific conductance. Conductivity/water temperature probe set at 18.6 feet below land surface.

DATUM.--Elevation of land-surface datum is 1168.37 feet above sea level.
Measuring point: shelter shelf 2.36 ft above land-surface datum.

REMARKS.--This station is part of an eight-site network to collect data for the Ohio Department of Transportation concerning road salt application and its effect(s) on shallow ground-water quality. Water-quality data for nearby wells is available in preceding tables. Incomplete data this year due to problems with recorder.

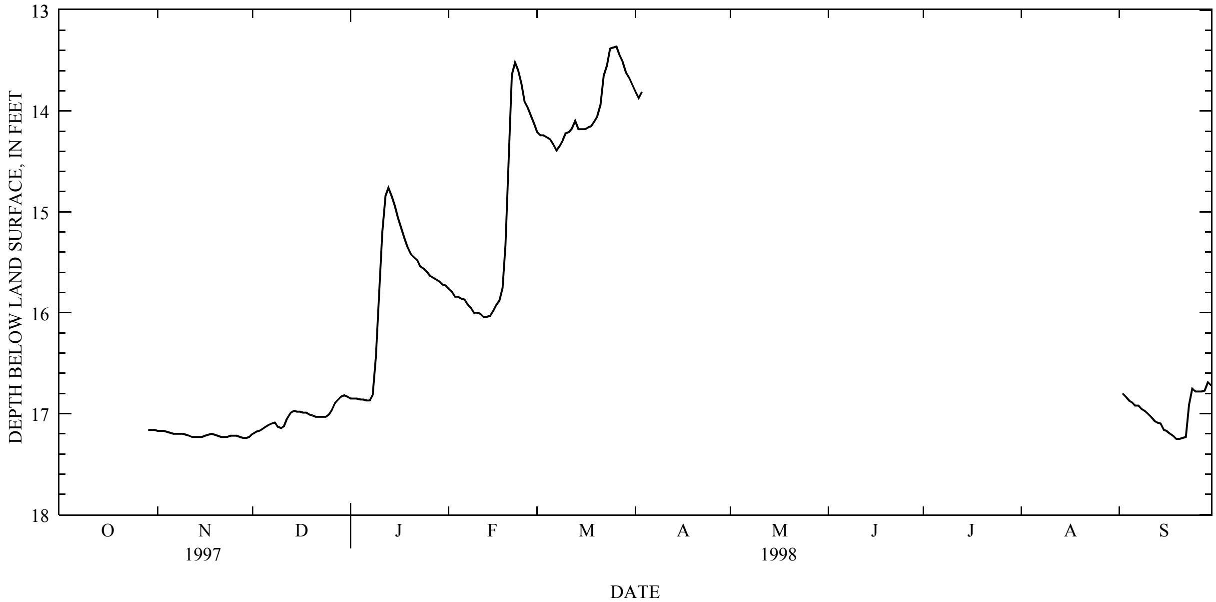
PERIOD OF RECORD.--February 1991 to current year.

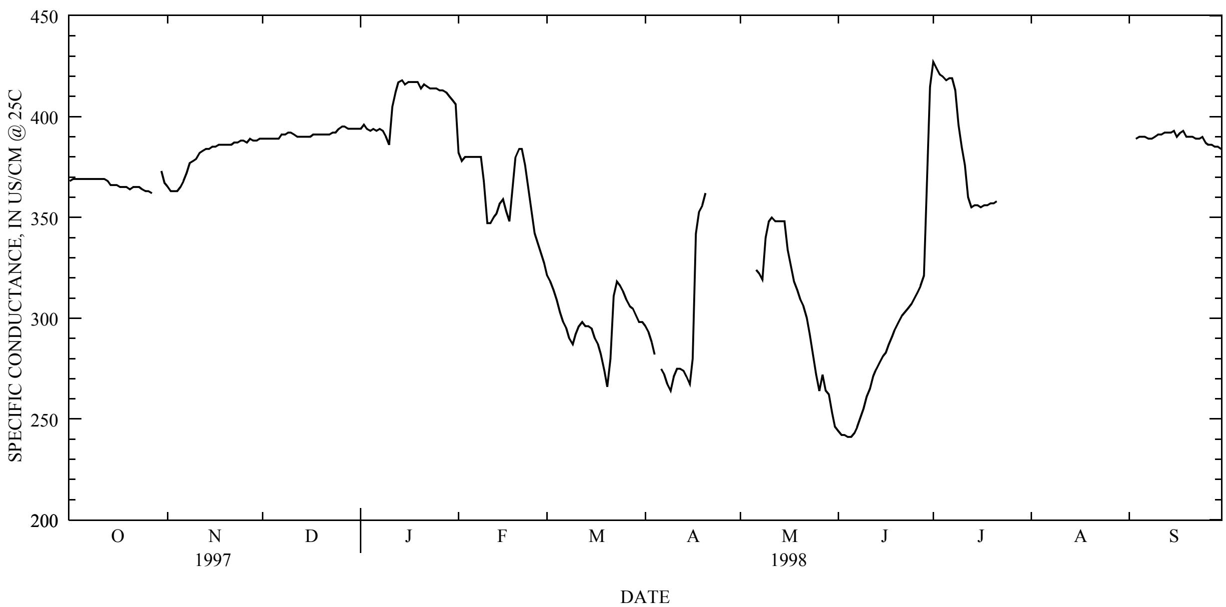
PERIOD OF DAILY RECORD.--
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: February 1991 to current year.
AIR TEMPERATURE: February 1991 to current year.
WATER TEMPERATURE: February 1991 to current year.
SOIL TEMPERATURE: February 1991 to current year.
PRECIPITATION: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER LEVEL: Maximum daily low, 17.62 ft. below land-surface datum, November 30-December 3, 1991, November 26-28, 1994; maximum daily high, 10.56 ft. below land-surface datum, March 27, 1993.
SPECIFIC CONDUCTANCE: Maximum, 774 microsiemens August 9, 1995; minimum, 157 microsiemens March 6, 1991.
AIR TEMPERATURE: Maximum, 36.0°C August 1, 1991; minimum, -26.1°C January 19, 1992.
WATER TEMPERATURE: Maximum, 12.6°C October 11-13, 1995; minimum, 7.7°C April 16-17, 1994,and March 22-April 8, 1996.
SOIL TEMPERATURE: Maximum, 29.3°C August 29, 1993, and June 19, 1994; minimum, -1.6°C February 6, 1996.

EXTREMES FOR CURRENT YEAR.--
WATER LEVEL: Maximum daily low, 17.25 ft below land-surface datum, September 19-20, 1998; maximum daily high, 13.31 ft below land-surface datum, March 26, 1998.
SPECIFIC CONDUCTANCE: Maximum, 427 microsiemens July 1, 1998; minimum, 239 microsiemens June 1-2, 4, 1998.
AIR TEMPERATURE: Maximum, 32.4°C September 6, 1998; minimum, -17.4°C December 31, 1997.
WATER TEMPERATURE: Maximum, 12.1°C September 19-21, 25-30, 1998; minimum, 8.5°C April 16-18, 20, 1998.
SOIL TEMPERATURE: Maximum, 23.8°C June 26, 28, 1998; minimum, 1.1°C January 1-2, 21-22, 1998.

403923082325500 R-16 NR LEXINGTON OH—Continued





403923082325500 R-16 NR LEXINGTON OH—Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	17.17	17.16	17.16	17.20	17.18	17.19	16.85	16.83	16.84
2	---	---	---	17.17	17.17	17.17	17.18	17.17	17.17	16.85	16.85	16.85
3	---	---	---	17.17	17.17	17.17	17.17	17.15	17.16	16.85	16.85	16.85
4	---	---	---	17.18	17.17	17.17	17.15	17.13	17.14	16.86	16.85	16.86
5	---	---	---	17.19	17.18	17.19	17.13	17.11	17.12	16.86	16.86	16.86
6	---	---	---	17.20	17.19	17.19	17.11	17.10	17.10	16.87	16.86	16.87
7	---	---	---	17.20	17.20	17.20	17.10	17.09	17.09	16.87	16.81	16.85
8	---	---	---	17.20	17.20	17.20	17.09	17.09	17.09	16.81	16.43	16.65
9	---	---	---	17.20	17.20	17.20	17.13	17.09	17.11	16.43	15.77	16.12
10	---	---	---	17.21	17.20	17.20	17.14	17.12	17.13	15.77	15.20	15.47
11	---	---	---	17.22	17.21	17.21	17.12	17.04	17.08	15.20	14.84	15.01
12	---	---	---	17.23	17.22	17.22	17.04	16.99	17.02	14.84	14.63	14.74
13	---	---	---	17.23	17.23	17.23	16.99	16.97	16.98	14.76	14.59	14.66
14	---	---	---	17.23	17.23	17.23	16.97	16.97	16.97	14.85	14.76	14.82
15	---	---	---	17.23	17.22	17.22	16.98	16.97	16.97	14.94	14.85	14.88
16	---	---	---	17.22	17.21	17.21	16.98	16.98	16.98	15.06	14.94	15.00
17	---	---	---	17.21	17.20	17.20	16.99	16.98	16.98	15.16	15.06	15.11
18	---	---	---	17.20	17.20	17.20	16.99	16.99	16.99	15.26	15.16	15.22
19	---	---	---	17.21	17.20	17.20	17.01	16.99	17.00	15.35	15.26	15.31
20	---	---	---	17.22	17.21	17.22	17.02	17.01	17.02	15.42	15.35	15.39
21	---	---	---	17.23	17.22	17.22	17.03	17.02	17.03	15.45	15.42	15.44
22	---	---	---	17.23	17.23	17.23	17.03	17.03	17.03	15.48	15.45	15.47
23	---	---	---	17.23	17.22	17.22	17.03	17.03	17.03	15.54	15.48	15.50
24	---	---	---	17.22	17.22	17.22	17.03	17.01	17.02	15.56	15.54	15.55
25	---	---	---	17.22	17.22	17.22	17.01	16.96	16.99	15.59	15.56	15.58
26	---	---	---	17.22	17.22	17.22	16.96	16.90	16.93	15.63	15.59	15.61
27	---	---	---	17.23	17.22	17.23	16.90	16.86	16.88	15.65	15.63	15.64
28	---	---	---	17.24	17.23	17.23	16.86	16.83	16.84	15.67	15.65	15.66
29	17.16	17.16	17.16	17.24	17.23	17.24	16.83	16.82	16.82	15.69	15.67	15.68
30	17.16	17.16	17.16	17.23	17.20	17.22	16.82	16.81	16.81	15.72	15.69	15.70
31	17.16	17.16	17.16	---	---	---	16.83	16.81	16.82	15.73	15.72	15.73
MONTH	17.16	17.16	17.16	17.24	17.16	17.21	17.20	16.81	17.02	16.87	14.59	15.74

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	15.76	15.73	15.74	14.21	14.13	14.18	13.81	13.74	13.77	---	---	---
2	15.79	15.76	15.77	14.24	14.21	14.23	13.87	13.81	13.84	---	---	---
3	15.84	15.79	15.82	14.24	14.22	14.23	13.81	13.46	13.63	---	---	---
4	15.84	15.83	15.84	14.26	14.24	14.25	---	---	---	---	---	---
5	15.86	15.83	15.84	14.28	14.25	14.26	---	---	---	---	---	---
6	15.87	15.86	15.87	14.33	14.26	14.29	---	---	---	---	---	---
7	15.92	15.87	15.90	14.39	14.32	14.36	---	---	---	---	---	---
8	15.95	15.92	15.93	14.35	14.27	14.30	---	---	---	---	---	---
9	16.00	15.94	15.97	14.29	14.06	14.18	---	---	---	---	---	---
10	16.00	15.98	15.99	14.22	14.08	14.19	---	---	---	---	---	---
11	16.01	16.00	16.01	14.21	14.16	14.19	---	---	---	---	---	---
12	16.04	16.01	16.03	14.17	14.10	14.14	---	---	---	---	---	---
13	16.04	16.03	16.03	14.10	14.08	14.08	---	---	---	---	---	---
14	16.03	15.98	16.01	14.18	14.08	14.14	---	---	---	---	---	---
15	15.98	15.92	15.96	14.18	14.17	14.17	---	---	---	---	---	---
16	15.92	15.88	15.89	14.18	14.16	14.18	---	---	---	---	---	---
17	15.88	15.75	15.84	14.16	14.15	14.15	---	---	---	---	---	---
18	15.75	15.33	15.56	14.15	14.07	14.08	---	---	---	---	---	---
19	15.33	14.45	14.95	14.10	14.05	14.06	---	---	---	---	---	---
20	14.45	13.64	13.97	14.05	13.94	13.99	---	---	---	---	---	---
21	13.64	13.40	13.49	13.94	13.65	13.80	---	---	---	---	---	---
22	13.52	13.39	13.43	13.65	13.55	13.62	---	---	---	---	---	---
23	13.60	13.52	13.56	13.55	13.38	13.45	---	---	---	---	---	---
24	13.73	13.60	13.68	13.38	13.34	13.36	---	---	---	---	---	---
25	13.91	13.73	13.83	13.37	13.34	13.35	---	---	---	---	---	---
26	13.97	13.91	13.95	13.36	13.31	13.33	---	---	---	---	---	---
27	14.05	13.97	13.99	13.45	13.33	13.40	---	---	---	---	---	---
28	14.13	14.05	14.09	13.51	13.42	13.45	---	---	---	---	---	---
29	---	---	---	13.62	13.51	13.58	---	---	---	---	---	---
30	---	---	---	13.67	13.62	13.65	---	---	---	---	---	---
31	---	---	---	13.74	13.66	13.70	---	---	---	---	---	---
MONTH	16.04	13.39	15.18	14.39	13.31	13.95	13.87	13.46	13.75	---	---	---

403923082325500 R-16 NR LEXINGTON OH—Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	16.80	16.77	16.79
3	---	---	---	---	---	---	---	---	---	16.83	16.80	16.82
4	---	---	---	---	---	---	---	---	---	16.87	16.83	16.85
5	---	---	---	---	---	---	---	---	---	16.89	16.87	16.88
6	---	---	---	---	---	---	---	---	---	16.92	16.89	16.91
7	---	---	---	---	---	---	---	---	---	16.92	16.92	16.92
8	---	---	---	---	---	---	---	---	---	16.95	16.92	16.93
9	---	---	---	---	---	---	---	---	---	16.97	16.95	16.96
10	---	---	---	---	---	---	---	---	---	17.00	16.97	16.98
11	---	---	---	---	---	---	---	---	---	17.03	17.00	17.02
12	---	---	---	---	---	---	---	---	---	17.07	17.03	17.05
13	---	---	---	---	---	---	---	---	---	17.09	17.07	17.08
14	---	---	---	---	---	---	---	---	---	17.10	17.09	17.09
15	---	---	---	---	---	---	---	---	---	17.16	17.10	17.13
16	---	---	---	---	---	---	---	---	---	17.17	17.16	17.16
17	---	---	---	---	---	---	---	---	---	17.20	17.17	17.19
18	---	---	---	---	---	---	---	---	---	17.22	17.20	17.21
19	---	---	---	---	---	---	---	---	---	17.25	17.22	17.24
20	---	---	---	---	---	---	---	---	---	17.25	17.24	17.25
21	---	---	---	---	---	---	---	---	---	17.24	17.23	17.23
22	---	---	---	---	---	---	---	---	---	17.23	16.91	17.19
23	---	---	---	---	---	---	---	---	---	16.91	16.73	16.77
24	---	---	---	---	---	---	---	---	---	16.75	16.73	16.73
25	---	---	---	---	---	---	---	---	---	16.78	16.75	16.77
26	---	---	---	---	---	---	---	---	---	16.78	16.78	16.78
27	---	---	---	---	---	---	---	---	---	16.78	16.77	16.78
28	---	---	---	---	---	---	---	---	---	16.77	16.64	16.67
29	---	---	---	---	---	---	---	---	---	16.69	16.64	16.66
30	---	---	---	---	---	---	---	---	---	16.72	16.69	16.71
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	---	---	---	17.25	16.64	16.96
YEAR	17.25	13.31	15.99									

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	368	366	365	363	389	386	394	391	382	375	321	314
2	369	366	363	361	389	386	396	391	378	374	318	313
3	369	366	363	360	389	386	394	392	380	376	314	309
4	369	366	363	361	389	386	393	393	380	378	309	303
5	369	366	365	362	389	387	394	393	380	378	303	296
6	369	366	368	364	389	389	393	393	380	377	298	293
7	369	366	372	367	391	386	394	393	380	378	295	290
8	369	366	377	372	391	386	393	390	380	368	290	287
9	369	366	378	375	392	389	390	385	368	345	287	285
10	369	366	379	377	392	387	386	382	347	344	292	287
11	369	365	382	378	391	386	405	376	347	345	296	292
12	369	365	383	380	390	388	412	405	350	345	298	295
13	368	364	384	381	390	387	417	412	352	348	296	295
14	366	364	384	381	390	387	418	413	357	352	296	293
15	366	363	385	382	390	387	416	413	359	351	295	290
16	366	363	385	382	390	387	417	412	353	347	290	285
17	365	363	386	382	391	387	417	414	348	347	287	282
18	365	362	386	383	391	387	417	414	365	348	282	274
19	365	362	386	383	391	388	417	412	380	365	274	266
20	364	362	386	383	391	388	414	411	384	380	266	259
21	365	362	386	384	391	389	416	411	384	375	280	259
22	365	362	387	384	391	389	415	410	376	364	311	280
23	365	361	387	384	392	389	414	410	365	353	318	309
24	364	361	388	385	392	390	414	409	353	342	316	311
25	363	360	388	385	394	390	414	411	342	337	313	309
26	363	360	387	385	395	390	413	410	337	332	309	306
27	362	360	389	385	395	392	413	409	332	327	306	303
28	---	---	388	386	394	391	412	407	327	321	305	301
29	---	---	388	386	394	390	410	406	---	---	301	296
30	373	367	389	386	394	391	408	404	---	---	298	295
31	367	365	---	---	394	391	406	382	---	---	298	295
MONTH	373	360	389	360	395	386	418	376	384	321	321	259

403923082325500 R-16 NR LEXINGTON OH—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	296	292	---	---	244	239	427	415	---	---	---	---
2	293	288	---	---	242	239	424	420	---	---	---	---
3	288	282	---	---	242	240	421	416	---	---	389	387
4	282	279	---	---	241	239	420	417	---	---	390	386
5	---	---	---	---	241	240	418	414	---	---	390	388
6	275	272	324	319	243	241	419	415	---	---	390	387
7	272	267	322	319	246	243	419	411	---	---	389	389
8	267	264	319	318	251	245	413	396	---	---	389	387
9	264	262	340	319	255	250	396	384	---	---	390	387
10	271	264	348	340	261	255	385	376	---	---	391	388
11	275	271	350	347	265	260	376	359	---	---	391	389
12	275	272	348	347	271	265	360	351	---	---	392	389
13	274	269	348	345	275	270	355	349	---	---	392	389
14	271	266	348	345	278	274	356	352	---	---	392	389
15	267	266	348	334	281	278	356	352	---	---	393	389
16	280	266	334	324	283	280	355	351	---	---	390	390
17	342	280	326	316	287	282	356	352	---	---	392	390
18	353	342	318	311	291	285	356	352	---	---	393	390
19	356	353	314	308	295	290	357	353	---	---	390	388
20	362	356	309	305	298	292	357	353	---	---	390	387
21	---	---	306	300	301	296	358	354	---	---	390	387
22	---	---	300	292	303	298	---	---	---	---	389	388
23	---	---	292	282	305	302	---	---	---	---	389	387
24	---	---	282	272	307	304	---	---	---	---	390	385
25	---	---	272	264	310	306	---	---	---	---	387	384
26	---	---	264	258	313	308	---	---	---	---	386	384
27	---	---	272	251	316	311	---	---	---	---	386	383
28	---	---	264	259	321	314	---	---	---	---	385	383
29	---	---	262	251	372	321	---	---	---	---	385	382
30	---	---	253	244	415	372	---	---	---	---	384	382
31	---	---	246	242	---	---	---	---	---	---	---	---
MONTH	362	262	350	242	415	239	427	349	---	---	393	382
YEAR	427	239										

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.9	1.0	15.4	5.9	3.3	.1	2.4	-15.1	7.4	-3.7	7.6	-.5
2	17.4	-1.0	8.7	4.0	5.4	-5.4	8.7	2.2	9.8	-1.9	4.3	-1.7
3	25.2	7.0	5.1	.4	10.4	-.7	12.9	7.1	4.0	-3.5	2.3	-1.9
4	27.2	11.1	3.7	-.4	7.2	-.7	15.0	7.5	.4	-2.6	2.4	-1.2
5	27.2	12.6	6.4	-1.4	-.7	-6.4	16.6	9.2	-1.1	-2.3	2.4	-1.9
6	27.4	11.4	11.1	-.4	-2.7	-7.1	16.5	12.7	6.4	-3.9	6.5	-3.5
7	27.1	9.8	7.7	.5	.0	-2.7	14.7	4.0	9.2	-5.5	11.5	-3.8
8	25.4	10.2	7.6	5.3	-1.0	-2.0	9.6	2.7	8.1	-5.0	13.1	4.6
9	25.8	10.5	7.9	3.4	1.0	-1.6	8.2	.6	11.1	-7.9	13.0	-4.3
10	20.6	5.5	6.4	2.8	2.0	-1.0	3.0	-3.3	11.6	-4.4	-4.3	-7.8
11	20.5	1.8	3.6	-.2	-.3	-1.6	1.3	-7.7	11.2	3.9	-6.4	-9.8
12	25.0	.9	-.2	-7.8	-1.1	-3.3	8.3	-2.0	5.8	.1	-2.9	-10.5
13	25.8	11.8	1.7	-8.5	-1.1	-4.3	8.3	-9.6	1.1	-.7	1.8	-11.2
14	15.3	1.3	1.3	-.7	-.7	-4.7	.4	-13.5	3.3	-3.6	3.1	-3.8
15	12.2	-.4	.4	-4.0	5.5	-7.5	1.9	-1.9	7.9	-5.0	1.1	-4.8
16	10.3	-1.1	-.7	-6.2	9.4	-2.8	-1.7	-2.6	8.8	.6	5.4	-5.9
17	14.3	1.3	.7	-8.2	7.1	-7.1	-.3	-2.3	9.1	5.0	6.8	-1.1
18	15.8	1.9	2.8	-10.3	7.1	-8.5	-1.8	-10.5	8.5	3.6	12.1	6.8
19	16.6	-1.2	8.9	-2.8	11.0	-2.2	-2.1	-12.3	4.1	2.9	12.8	5.7
20	12.3	-1.6	10.3	-4.1	2.5	-4.2	-1.3	-9.4	3.5	2.3	6.2	.7
21	12.5	-4.0	10.6	1.0	.2	-2.3	-.5	-9.4	5.0	-1.5	.8	-1.8
22	5.3	-3.4	4.6	1.7	7.3	-1.4	2.6	-2.7	8.6	-3.9	3.5	-2.4
23	7.8	-6.2	3.2	-3.2	5.4	-.2	5.8	-1.5	4.8	1.4	5.3	-4.1
24	10.4	-2.3	-.2	-8.0	8.2	-.2	-.6	-1.7	3.8	.5	7.7	-4.7
25	10.9	.9	11.5	-7.9	8.2	1.0	-.7	-3.0	9.9	-.5	12.9	-5.4
26	10.6	2.7	10.5	2.5	1.0	-.8	4.9	-3.6	15.1	.0	23.0	8.6
27	10.2	-.7	9.0	-5.3	1.2	-5.9	8.0	-3.0	16.5	1.2	25.9	11.0
28	---	---	13.2	4.8	-.5	-9.2	9.6	-5.6	13.1	.4	21.3	11.0
29	---	---	11.9	8.8	.7	-5.7	5.0	-4.2	---	---	25.2	9.9
30	15.5	-3.0	12.1	3.3	-1.8	-5.7	.3	-1.7	---	---	25.6	18.5
31	16.5	4.9	---	---	-5.6	-17.4	.5	-5.5	---	---	25.2	11.8
MONTH	27.4	-6.2	15.4	-10.3	11.0	-17.4	16.6	-15.1	16.5	-7.9	25.9	-11.2

403923082325500 R-16 NR LEXINGTON OH—Continued

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	15.9	7.5	---	---	21.3	10.9	25.9	14.5	---	---	---	---
2	11.3	2.3	---	---	27.8	11.0	26.9	13.6	---	---	---	---
3	12.1	-2.1	---	---	18.7	8.1	28.6	13.4	---	---	24.6	6.6
4	6.8	-2.7	---	---	18.8	6.8	25.3	17.2	---	---	25.2	11.2
5	---	---	---	---	12.1	7.8	24.6	13.5	---	---	27.3	8.6
6	13.9	-3.9	23.6	7.2	15.5	4.2	26.2	12.7	---	---	32.4	13.0
7	16.8	-2.3	20.0	11.4	16.8	4.5	27.0	14.8	---	---	24.1	11.2
8	21.2	8.8	18.2	14.6	20.4	1.4	28.2	21.3	---	---	17.1	7.5
9	12.9	7.5	21.6	12.0	14.6	10.4	26.9	15.5	---	---	18.0	5.3
10	10.7	-1.5	20.5	9.7	25.1	13.3	24.1	11.8	---	---	21.8	3.6
11	13.9	-4.1	16.7	12.0	21.1	12.6	23.5	8.1	---	---	26.9	6.6
12	18.5	-1.9	20.9	9.7	28.5	16.4	26.1	8.4	---	---	29.7	8.5
13	20.1	5.0	24.7	10.7	22.4	14.4	28.5	10.5	---	---	31.5	8.9
14	17.9	10.4	28.7	10.5	22.3	15.6	27.4	14.7	---	---	30.4	11.4
15	16.3	5.5	29.5	11.8	22.3	15.9	28.4	19.2	---	---	27.8	17.7
16	20.6	12.4	28.0	12.3	21.6	17.2	28.4	19.4	---	---	21.7	16.4
17	13.7	3.8	26.0	8.7	26.4	17.0	26.5	14.4	---	---	24.1	12.0
18	14.6	-2.0	28.6	7.7	29.5	14.8	27.1	13.6	---	---	27.4	9.1
19	9.3	5.4	29.6	8.3	27.3	19.2	28.1	15.2	---	---	27.5	15.2
20	15.6	4.9	29.3	17.4	29.4	14.0	29.6	19.3	---	---	28.9	16.7
21	---	---	22.0	8.7	27.4	15.0	31.5	18.8	---	---	25.6	17.2
22	---	---	19.8	6.0	30.4	19.6	---	---	---	---	20.4	8.7
23	---	---	21.3	9.8	26.7	18.8	---	---	---	---	16.5	4.6
24	---	---	21.6	9.8	30.7	17.2	---	---	---	---	20.5	1.6
25	---	---	18.4	13.5	32.1	20.6	---	---	---	---	27.4	13.3
26	---	---	23.0	8.4	31.3	19.6	---	---	---	---	30.9	19.2
27	---	---	25.4	7.3	30.8	18.7	---	---	---	---	28.3	18.3
28	---	---	27.2	8.3	30.5	19.4	---	---	---	---	22.2	7.7
29	---	---	30.9	14.2	25.3	19.8	---	---	---	---	25.6	4.2
30	---	---	27.9	13.8	24.8	17.0	---	---	---	---	24.5	9.7
31	---	---	26.8	16.1	---	---	---	---	---	---	---	---
MONTH	21.2	-4.1	30.9	6.0	32.1	1.4	31.5	8.1	---	---	32.4	1.6
YEAR	32.4	-17.4										

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11.3	11.1	11.6	11.6	11.8	11.6	11.4	11.1	10.5	10.2	9.4	9.1
2	11.4	11.1	11.8	11.6	11.8	11.5	11.4	10.9	10.5	10.3	9.4	9.0
3	11.4	11.1	11.8	11.6	11.8	11.6	11.4	11.1	10.5	10.3	9.3	9.0
4	11.4	11.1	11.8	11.6	11.8	11.6	11.1	11.1	10.5	10.3	9.3	9.0
5	11.4	11.1	11.8	11.6	11.8	11.5	11.2	11.1	10.5	10.3	9.3	9.0
6	11.4	11.1	11.8	11.6	11.6	11.5	11.2	11.1	10.5	10.3	9.3	9.0
7	11.4	11.1	11.8	11.6	11.8	11.3	11.1	11.1	10.3	10.1	9.3	9.0
8	11.4	11.1	11.8	11.6	11.8	11.3	11.1	11.1	10.3	10.0	9.3	9.1
9	11.4	11.2	11.8	11.6	11.6	11.3	11.1	10.9	10.3	10.0	9.3	9.0
10	11.4	11.2	11.8	11.8	11.8	11.3	11.1	10.9	10.3	10.0	9.2	9.0
11	11.6	11.2	11.8	11.6	11.8	11.3	11.1	10.7	10.3	10.1	9.2	9.0
12	11.6	11.2	11.8	11.5	11.6	11.3	10.9	10.7	10.3	10.1	9.2	8.9
13	11.6	11.2	11.8	11.5	11.6	11.3	10.9	10.7	10.3	10.1	9.1	8.8
14	11.6	11.4	11.8	11.6	11.6	11.3	10.9	10.6	10.3	9.8	9.1	8.8
15	11.6	11.3	11.8	11.5	11.6	11.3	10.9	10.7	10.1	9.8	9.1	8.8
16	11.6	11.3	11.8	11.5	11.6	11.3	10.9	10.5	10.1	9.8	9.1	8.8
17	11.6	11.3	11.8	11.5	11.6	11.3	10.7	10.5	10.1	10.1	9.1	8.8
18	11.6	11.4	11.8	11.5	11.6	11.3	10.7	10.4	10.1	9.9	9.1	9.1
19	11.6	11.3	11.8	11.6	11.6	11.3	10.7	10.4	9.9	9.9	9.1	9.1
20	11.6	11.3	11.8	11.5	11.6	11.3	10.7	10.4	9.9	9.4	9.1	8.9
21	11.6	11.3	11.8	11.6	11.6	11.3	10.7	10.3	9.7	9.4	9.1	8.8
22	11.6	11.3	11.8	11.6	11.6	11.3	10.7	10.3	9.6	9.4	9.1	8.8
23	11.6	11.3	11.8	11.6	11.6	11.3	10.7	10.3	9.4	9.2	9.1	8.8
24	11.6	11.3	11.8	11.5	11.6	11.3	10.7	10.3	9.4	9.2	9.1	8.8
25	11.6	11.3	11.8	11.5	11.6	11.1	10.5	10.3	9.4	9.2	8.9	8.8
26	11.6	11.3	11.8	11.6	11.6	11.1	10.5	10.3	9.4	9.2	8.9	8.7
27	11.6	11.3	11.8	11.5	11.4	11.1	10.5	10.3	9.3	9.3	8.9	8.7
28	---	---	11.8	11.6	11.3	11.1	10.5	10.3	9.4	9.0	8.9	8.7
29	---	---	11.8	11.6	11.4	11.1	10.5	10.3	---	---	8.9	8.7
30	11.6	11.3	11.8	11.6	11.3	11.1	10.5	10.3	---	---	8.9	8.7
31	11.6	11.6	---	---	11.3	11.1	10.5	10.2	---	---	8.9	8.7
MONTH	11.6	11.1	11.8	11.5	11.8	11.1	11.4	10.2	10.5	9.0	9.4	8.7

403923082325500 R-16 NR LEXINGTON OH—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	8.9	8.7	---	---	9.5	9.3	10.4	10.1	---	---	---	---
2	8.9	8.7	---	---	9.5	9.3	10.4	10.1	---	---	---	---
3	8.9	8.6	---	---	9.5	9.3	10.6	10.3	---	---	11.6	11.4
4	8.9	8.6	---	---	9.5	9.3	10.6	10.3	---	---	11.9	11.4
5	---	---	---	---	9.5	9.5	10.8	10.5	---	---	11.6	11.4
6	8.9	8.6	9.1	8.9	9.5	9.4	10.8	10.5	---	---	11.9	11.6
7	8.9	8.6	9.1	8.9	9.5	9.5	10.8	10.5	---	---	11.6	11.6
8	8.9	8.7	8.9	8.9	9.7	9.4	10.8	10.5	---	---	11.8	11.6
9	8.9	8.7	9.1	8.9	9.7	9.5	11.0	10.6	---	---	11.8	11.6
10	8.9	8.6	9.1	8.9	9.7	9.5	11.0	10.7	---	---	11.9	11.6
11	8.9	8.6	9.1	8.9	9.7	9.5	11.0	10.7	---	---	11.9	11.6
12	8.9	8.6	9.1	8.9	9.7	9.5	11.0	10.7	---	---	11.9	11.6
13	8.9	8.7	9.3	8.9	9.7	9.5	11.0	10.7	---	---	11.9	11.6
14	8.9	8.7	9.3	9.1	9.7	9.5	11.0	10.7	---	---	11.9	11.6
15	8.9	8.7	9.3	9.1	9.7	9.5	11.0	10.7	---	---	11.9	11.6
16	8.9	8.5	9.3	9.1	9.7	9.5	11.0	10.7	---	---	11.8	11.8
17	8.9	8.5	9.3	9.1	9.9	9.5	11.0	10.7	---	---	11.9	11.6
18	8.9	8.5	9.3	9.1	9.9	9.7	11.0	10.7	---	---	11.9	11.6
19	8.7	8.7	9.3	9.1	9.9	9.7	11.0	10.7	---	---	12.1	11.8
20	8.7	8.5	9.3	9.1	9.9	9.7	11.0	10.7	---	---	12.1	11.8
21	---	---	9.3	9.1	9.9	9.7	11.0	10.7	---	---	12.1	11.8
22	---	---	9.3	9.1	9.9	9.7	---	---	---	---	11.8	11.8
23	---	---	9.3	9.1	9.9	9.7	---	---	---	---	11.8	11.8
24	---	---	9.3	9.1	10.1	9.9	---	---	---	---	12.0	11.6
25	---	---	9.3	9.1	10.1	9.9	---	---	---	---	12.1	11.8
26	---	---	9.3	9.1	10.1	9.9	---	---	---	---	12.1	11.8
27	---	---	9.5	9.3	10.1	9.9	---	---	---	---	12.1	11.8
28	---	---	9.5	9.3	10.2	9.9	---	---	---	---	12.1	11.8
29	---	---	9.5	9.3	10.1	9.9	---	---	---	---	12.1	11.8
30	---	---	9.5	9.3	10.1	9.9	---	---	---	---	12.1	11.8
31	---	---	9.5	9.3	---	---	---	---	---	---	---	---
MONTH	8.9	8.5	9.5	8.9	10.2	9.3	11.0	10.1	---	---	12.1	11.4
YEAR	12.1	8.5										

TEMPERATURE, SOIL (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	15.9	14.3	10.7	9.5	7.9	5.9	1.2	1.1	2.6	1.5	6.8	5.9
2	15.0	12.5	10.7	9.2	5.9	4.9	2.0	1.1	4.1	2.2	6.1	5.0
3	16.9	14.3	9.2	7.9	6.4	4.9	4.7	2.0	3.5	2.4	5.0	4.2
4	18.1	15.9	7.9	7.3	6.5	5.5	6.2	4.7	2.7	2.0	4.3	3.7
5	19.1	17.0	7.7	7.0	5.5	4.2	7.3	5.9	2.0	1.6	4.3	3.3
6	19.9	17.5	8.1	6.7	4.2	3.8	8.3	7.3	2.3	1.3	5.1	3.4
7	19.3	17.2	7.9	7.3	3.9	3.8	9.3	8.3	2.9	1.4	6.2	3.4
8	19.3	17.4	8.1	7.8	3.9	3.8	8.4	7.2	3.6	1.7	6.9	5.3
9	18.9	17.1	8.3	7.9	3.8	3.7	7.5	5.7	3.9	1.8	7.5	5.9
10	18.7	16.9	7.9	7.6	3.7	3.3	5.7	4.5	4.6	2.6	5.9	3.8
11	17.0	14.6	7.7	6.8	3.5	3.2	4.5	3.2	4.9	4.3	3.8	2.6
12	16.9	13.7	6.8	4.9	3.2	2.8	4.2	3.4	4.9	3.7	2.6	1.8
13	18.0	15.9	4.9	3.9	2.8	2.2	4.4	2.9	3.8	3.3	1.8	1.5
14	17.6	14.7	4.8	4.6	2.2	1.9	2.9	2.0	3.8	3.1	1.8	1.4
15	14.7	12.4	4.6	4.1	2.5	1.7	2.4	2.0	4.1	2.3	2.2	1.4
16	12.8	11.4	4.1	3.4	3.3	2.0	2.3	2.1	4.1	3.1	3.8	1.5
17	12.4	10.9	3.4	2.7	3.1	2.1	2.1	2.0	5.0	4.0	3.5	2.4
18	13.1	11.1	2.9	2.3	2.6	1.8	2.0	1.6	5.7	5.0	5.8	3.5
19	12.8	10.4	4.5	2.8	4.1	2.6	1.6	1.3	5.4	4.9	7.2	5.8
20	12.5	11.1	5.0	3.3	3.6	2.7	1.3	1.3	5.0	4.7	6.8	5.3
21	11.3	9.3	5.7	4.7	3.1	2.6	1.3	1.1	4.8	4.3	5.3	3.8
22	10.5	8.8	5.7	5.6	3.5	2.6	1.4	1.1	5.4	3.4	4.0	3.3
23	9.3	7.6	5.6	4.6	3.6	3.5	2.2	1.4	4.9	4.3	4.4	2.8
24	9.7	8.4	4.6	3.1	3.9	3.3	2.0	1.7	4.5	4.0	5.6	3.4
25	10.5	9.7	4.8	2.6	4.4	3.9	1.7	1.5	6.5	4.1	5.6	3.2
26	9.8	9.3	5.9	4.8	4.0	3.2	2.6	1.4	6.3	4.6	9.2	5.4
27	9.9	7.6	5.7	4.4	3.2	2.7	3.5	1.9	7.8	5.6	11.6	8.8
28	---	---	7.3	5.3	2.7	1.9	3.7	1.9	7.3	5.8	11.3	10.2
29	---	---	8.2	7.3	1.9	1.6	3.0	2.3	---	---	13.3	10.2
30	9.4	7.1	8.6	7.9	1.7	1.5	2.8	2.3	---	---	14.1	12.1
31	10.2	8.7	---	---	1.5	1.2	2.5	2.0	---	---	14.1	12.4
MONTH	19.9	7.1	10.7	2.3	7.9	1.2	9.3	1.1	7.8	1.3	14.1	1.4

403923082325500 R-16 NR LEXINGTON OH—Continued

TEMPERATURE, SOIL (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.6	11.8	---	---	19.6	17.9	22.2	20.8	---	---	---	---
2	11.8	10.4	---	---	19.2	17.5	22.1	20.3	---	---	---	---
3	10.7	8.8	---	---	18.5	16.8	22.3	20.2	---	---	19.1	17.7
4	9.8	8.0	---	---	17.7	15.6	21.7	20.9	---	---	19.3	18.0
5	---	---	---	---	16.9	15.1	22.2	20.7	---	---	19.2	17.6
6	9.6	6.6	16.4	13.7	15.4	14.0	21.9	20.0	---	---	20.2	18.1
7	9.1	7.0	15.8	14.8	15.7	14.2	21.6	20.3	---	---	20.3	19.4
8	11.5	8.8	16.0	15.1	16.1	13.3	22.8	21.3	---	---	19.4	17.3
9	11.0	10.4	16.4	15.0	15.7	14.9	22.8	21.6	---	---	17.3	16.2
10	10.7	9.1	16.1	14.9	17.8	15.0	22.1	20.6	---	---	16.8	15.2
11	10.3	7.5	15.6	14.8	17.5	16.3	21.0	19.1	---	---	17.4	15.4
12	11.3	7.9	16.0	14.6	20.1	17.3	20.8	18.6	---	---	18.0	16.1
13	11.2	9.0	17.1	14.6	19.4	18.5	21.1	18.7	---	---	18.5	16.4
14	11.4	10.5	18.4	15.3	19.1	18.1	21.3	19.6	---	---	19.0	17.2
15	11.8	10.3	19.1	16.2	18.9	18.2	22.2	20.6	---	---	19.8	18.6
16	13.5	11.5	19.8	17.5	19.0	18.4	22.6	21.2	---	---	19.7	19.2
17	13.4	11.5	18.7	16.6	20.1	18.4	22.2	20.9	---	---	19.5	18.8
18	11.9	9.7	18.7	15.9	21.1	18.7	21.9	20.2	---	---	19.2	17.6
19	11.5	10.0	19.1	16.1	21.3	20.2	22.1	20.4	---	---	19.9	18.5
20	11.5	9.4	20.0	17.8	21.4	19.5	22.7	21.0	---	---	20.6	19.3
21	---	---	19.5	17.8	20.9	19.7	23.6	22.1	---	---	20.7	19.9
22	---	---	18.2	16.1	22.3	20.2	---	---	---	---	20.3	18.4
23	---	---	18.5	16.3	21.6	20.7	---	---	---	---	18.4	16.4
24	---	---	17.8	16.2	22.5	20.6	---	---	---	---	16.4	14.8
25	---	---	17.7	17.0	23.3	21.6	---	---	---	---	18.0	16.1
26	---	---	18.3	16.0	23.8	22.2	---	---	---	---	19.8	18.0
27	---	---	18.7	15.9	23.6	22.0	---	---	---	---	20.0	18.9
28	---	---	18.5	16.2	23.8	21.9	---	---	---	---	19.7	18.0
29	---	---	19.8	17.1	23.1	22.2	---	---	---	---	18.0	16.2
30	---	---	20.4	18.1	22.8	21.8	---	---	---	---	18.2	16.9
31	---	---	20.1	19.4	---	---	---	---	---	---	---	---
MONTH	13.6	6.6	20.4	13.7	23.8	13.3	23.6	18.6	---	---	20.7	14.8
YEAR	23.8	1.1										

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.01	.07	.00	.00	.00	.01	.20	---	.00	.00	---	---
2	.00	.02	.00	.00	.00	.00	.00	---	.00	.00	---	---
3	.00	.08	.49	.01	.00	.12	.00	---	.07	.00	---	.00
4	.00	.02	.01	.09	.00	.20	.00	---	.00	.10	---	.01
5	.00	.00	.00	.22	.00	.05	.00	---	.34	.00	---	.00
6	.00	.00	.00	.07	.07	.00	.00	.00	.00	.00	---	.00
7	.00	.17	.00	1.49	.00	.00	.11	.38	.00	.24	---	.06
8	.00	.00	.00	.41	.00	.31	.59	.94	.00	.10	---	.11
9	.07	.00	.08	.33	.00	.41	.49	.00	.21	.00	---	.00
10	.00	.02	.71	.00	.00	.00	.05	.00	.56	.00	---	.00
11	.00	.01	.00	.00	.32	.00	.00	.00	.38	.00	---	.00
12	.00	.00	.00	.00	.28	.00	.00	.00	1.41	.00	---	.00
13	.01	.34	.00	.02	.00	.00	.00	.00	.16	.00	---	.00
14	.18	.15	.00	.00	.00	.02	.41	.00	.04	.00	---	.00
15	.01	.09	.00	.10	.00	.00	.02	.00	.09	.00	---	.00
16	.00	.06	.00	.00	.30	.00	1.76	.00	.46	.08	---	.00
17	.00	.00	.00	.01	.78	.12	.00	.00	.00	.01	---	.00
18	.00	.00	.01	.00	.74	.06	.00	.00	.00	.00	---	.00
19	.00	.00	.00	.02	.01	.00	.54	.00	.22	1.55	---	.15
20	.00	.00	.00	.00	.04	.53	.00	.00	.00	.00	---	.08
21	.00	.16	.00	.00	.00	.51	---	.00	.01	.37	---	.46
22	.00	.09	.45	.07	.01	.00	---	.00	.69	.41	---	.00
23	.00	.00	.01	.25	.00	.00	---	.00	.02	---	---	.00
24	.20	.00	.39	.00	.00	.00	---	.20	.00	---	---	.09
25	.04	.00	.18	.01	.00	.00	---	.02	.00	---	---	.00
26	.72	.00	.02	.00	.00	.00	---	.00	.31	---	---	.00
27	.00	.00	.00	.00	.04	.00	---	.00	5.54	---	---	.00
28	---	.31	.00	.00	.44	.36	---	.00	3.04	---	---	.00
29	---	.22	.00	.02	---	.00	---	.00	.82	---	---	.00
30	.00	.24	.00	.00	---	.00	---	.00	.09	---	---	.00
31	.00	---	.00	.00	---	.00	---	.32	---	---	---	---
TOTAL	1.24	2.05	2.35	3.12	3.03	2.70	4.17	1.86	14.46	2.86	---	0.96

WTR YR 1998 TOTAL 38.80

403923082325500 R-16 NR LEXINGTON OH—Continued

DEICING SALT LBS/LANE-MILE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	500	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	1750	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	250	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	1000	---	---	---	---	---	---	---	---	---	---
13	---	---	---	250	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	500	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	250	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	250	250	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	750	---	---	---	---	---	---	---	---	---
31	---	---	750	---	---	---	---	---	---	---	---	---
TOTAL	---	1000	3750	1250	---	500	---	---	---	---	---	---

WTR YR 1998 TOTAL 6500

GROUND-WATER RECORDS

411138081172500. Local number, PO-116.

LOCATION.--Lat 41°11'38" Long 81°17'25", Hydrologic Unit 04110002, along State Route 14 near Ravenna, OH.
Owner.--USGS/City of Akron, OH.

AQUIFER.--Sand and Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 17.5 ft. Cased with Sch 40 PVC to 5.2 ft; .010 in. screen from 5.2 to 17.5 ft.

INSTRUMENTATION - Data logger--60 minute record. Precipitation data collected with a propane-heated, tipping-bucket rain gauge. Also collected: water level, air temperature, soil temperature, water temperature and specific conductance. Conductivity/water temperature probe set at 10.8 feet below land surface from February, 1991, through July, 1992, when removed; probe reinstalled August, 1994, through current year at depth of 13.4 feet below land surface.

DATUM.--Elevation of land-surface datum is 1068.39 feet above sea level.
Measuring point: shelter shelf 2.20 ft above land-surface datum.

REMARKS.--This station is part of an eight-site network to collect data for the Ohio Department of Transportation concerning road salt application and its effect(s) on shallow ground-water quality. Water-quality data for nearby wells is available in preceding tables.

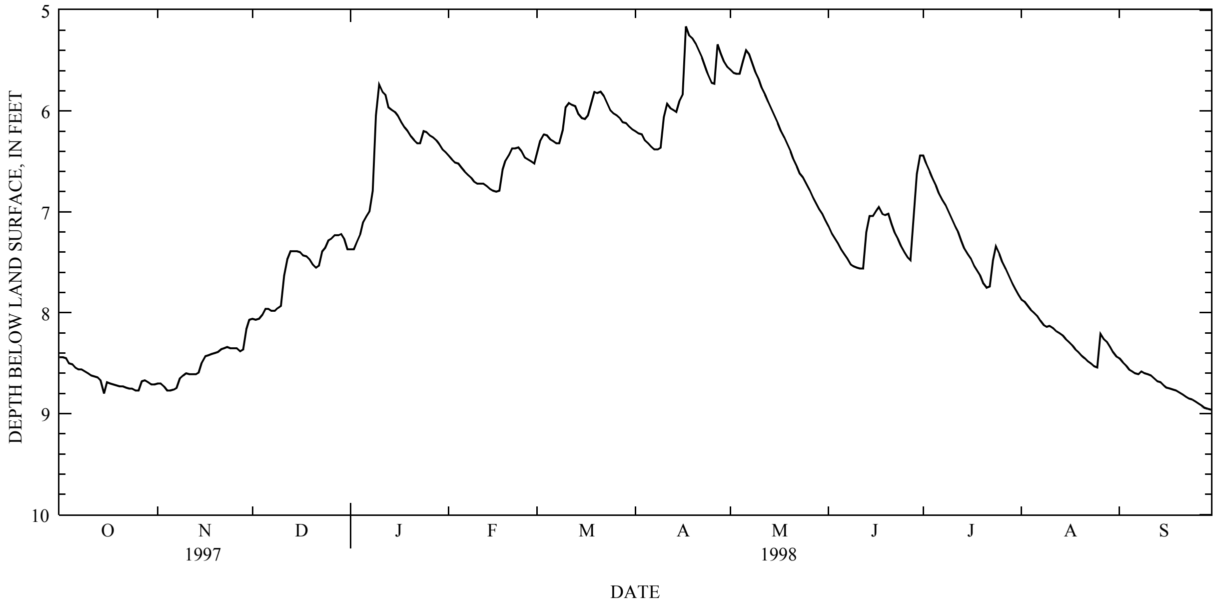
PERIOD OF RECORD.--February 1991 to current year.

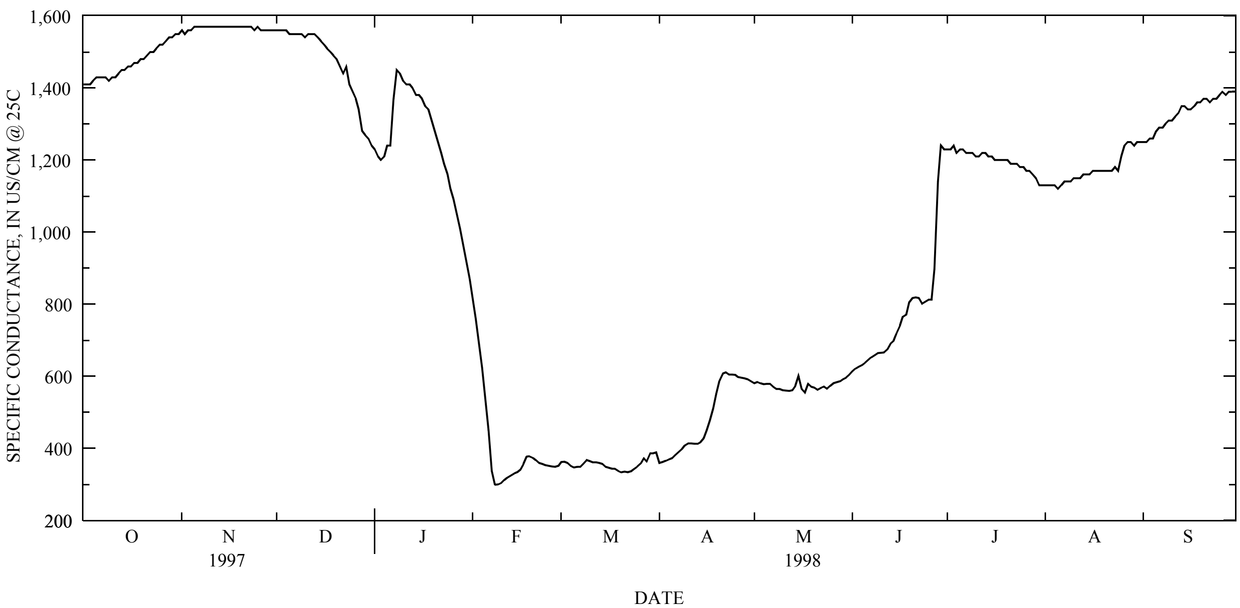
PERIOD OF DAILY RECORD.--
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: February 1991 to July 1992; September, 1994 to current year.
AIR TEMPERATURE: February 1991 to current year.
SOIL TEMPERATURE: July 1992 to current year.
PRECIPITATION: February 1991 to current year.(Incomplete data this year due to malfunctioning of raingage).
WATER TEMPERATURE: February 1991 to July 1992; September, 1994, to current year.

EXTREMES FOR PERIOD OF DAILY RECORD:
WATER LEVEL: Maximum daily low, 9.45 ft. below land-surface datum, October 9-10, 1991; maximum daily high, 4.35 ft. below land-surface datum, April 13, 1994.
SPECIFIC CONDUCTANCE: Maximum, 2540 microsiemens December 19-20, 22-28, 1991; minimum, 242 microsiemens April 10, 1992.
AIR TEMPERATURE: Maximum, 36.0°C August 2, 1991; minimum, -32.2°C January 19, 1994.
WATER TEMPERATURE: Maximum, 14.8°C October 1, 1991; minimum, 6.1°C March 23-28, 1996.
SOIL TEMPERATURE: Maximum, 28.5°C August 11, 1992; minimum, -0.4°C February 10-14, 1994.

EXTREMES FOR CURRENT YEAR:
WATER LEVEL: Maximum daily low, 8.96 ft. below land-surface datum, September 30, 1998; maximum daily high, 5.11 ft. below land-surface datum, April 17, 1998.
SPECIFIC CONDUCTANCE: Maximum, 1570 microsiemens November 5-23, 25, 1998; minimum, 296 microsiemens February 8-9, 1998.
AIR TEMPERATURE: Maximum, 34.3°C June 25, 1998; minimum, -17.3°C January 1, 1998.
WATER TEMPERATURE: Maximum, 13.2°C September 15-30, 1998; minimum, 7.0°C March 26-27, 29-30, 1998.
SOIL TEMPERATURE: Maximum, 22.3°C June 26, 1998; minimum, 0.5°C January 21-23, February 9, 1998.

411138081172500 PO-116 NR RAVENNA OH—Continued





411138081172500 PO-116 NR RAVENNA OH—Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	8.44	8.42	8.42	8.70	8.68	8.69	8.06	8.05	8.06	7.37	7.32	7.34
2	8.44	8.44	8.44	8.70	8.68	8.69	8.07	8.06	8.06	7.37	7.30	7.35
3	8.45	8.44	8.44	8.73	8.70	8.72	8.06	8.02	8.04	7.30	7.22	7.25
4	8.50	8.45	8.47	8.77	8.73	8.75	8.02	7.96	7.98	7.22	7.10	7.15
5	8.51	8.50	8.51	8.77	8.76	8.77	7.96	7.96	7.96	7.10	7.04	7.07
6	8.54	8.51	8.53	8.76	8.74	8.75	7.96	7.95	7.95	7.04	6.99	7.02
7	8.56	8.54	8.54	8.74	8.65	8.71	7.98	7.95	7.97	6.99	6.79	6.95
8	8.56	8.56	8.56	8.65	8.62	8.63	7.98	7.95	7.97	6.79	6.04	6.31
9	8.58	8.56	8.57	8.62	8.60	8.61	7.95	7.93	7.94	6.04	5.72	5.85
10	8.60	8.58	8.59	8.60	8.59	8.60	7.93	7.63	7.80	5.74	5.71	5.72
11	8.62	8.60	8.61	8.61	8.60	8.61	7.63	7.47	7.54	5.81	5.74	5.77
12	8.63	8.62	8.63	8.61	8.61	8.61	7.47	7.39	7.43	5.84	5.81	5.83
13	8.64	8.63	8.64	8.61	8.59	8.60	7.39	7.37	7.37	5.96	5.84	5.91
14	8.67	8.64	8.66	8.59	8.49	8.54	7.39	7.37	7.38	5.99	5.96	5.97
15	8.80	8.67	8.69	8.49	8.43	8.45	7.39	7.38	7.39	6.01	5.97	5.99
16	8.69	8.69	8.69	8.43	8.42	8.42	7.40	7.39	7.39	6.05	6.01	6.03
17	8.70	8.69	8.69	8.42	8.41	8.41	7.43	7.39	7.41	6.11	6.05	6.07
18	8.71	8.70	8.71	8.41	8.40	8.40	7.44	7.43	7.44	6.16	6.11	6.13
19	8.72	8.71	8.71	8.40	8.39	8.39	7.47	7.44	7.46	6.20	6.16	6.18
20	8.73	8.72	8.72	8.39	8.36	8.38	7.52	7.47	7.49	6.25	6.20	6.23
21	8.73	8.72	8.73	8.36	8.35	8.36	7.55	7.52	7.54	6.29	6.25	6.27
22	8.74	8.73	8.74	8.35	8.34	8.35	7.53	7.39	7.49	6.32	6.29	6.31
23	8.75	8.74	8.75	8.34	8.33	8.33	7.39	7.35	7.37	6.32	6.20	6.26
24	8.75	8.75	8.75	8.35	8.33	8.34	7.35	7.28	7.32	6.20	6.17	6.18
25	8.77	8.75	8.76	8.35	8.32	8.33	7.28	7.26	7.27	6.21	6.17	6.19
26	8.77	8.68	8.74	8.35	8.31	8.32	7.26	7.23	7.25	6.24	6.21	6.23
27	8.68	8.66	8.67	8.38	8.35	8.37	7.23	7.21	7.22	6.26	6.24	6.25
28	8.67	8.67	8.67	8.36	8.16	8.26	7.23	7.22	7.22	6.29	6.26	6.28
29	8.69	8.67	8.68	8.16	8.07	8.10	7.22	7.19	7.21	6.33	6.29	6.30
30	8.71	8.69	8.70	8.07	8.04	8.05	7.27	7.19	7.22	6.38	6.33	6.36
31	8.71	8.70	8.70	---	---	---	7.37	7.27	7.33	6.41	6.38	6.40
MONTH	8.80	8.42	8.64	8.77	8.04	8.48	8.07	7.19	7.56	7.37	5.71	6.36

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	6.44	6.41	6.43	6.41	6.29	6.33	6.20	6.14	6.17	5.59	5.56	5.57
2	6.48	6.44	6.46	6.29	6.23	6.26	6.22	6.16	6.19	5.62	5.57	5.60
3	6.51	6.48	6.50	6.23	6.23	6.23	6.23	6.22	6.23	5.63	5.57	5.60
4	6.52	6.50	6.51	6.24	6.23	6.24	6.29	6.23	6.26	5.63	5.43	5.48
5	6.56	6.52	6.53	6.28	6.24	6.26	6.32	6.29	6.30	5.51	5.40	5.46
6	6.60	6.56	6.58	6.30	6.28	6.29	6.35	6.32	6.33	5.40	5.36	5.37
7	6.63	6.60	6.61	6.32	6.30	6.31	6.38	6.35	6.37	5.44	5.38	5.41
8	6.66	6.63	6.65	6.32	6.19	6.27	6.38	6.36	6.37	5.53	5.44	5.48
9	6.70	6.66	6.68	6.19	5.96	6.09	6.36	6.06	6.23	5.62	5.53	5.58
10	6.72	6.70	6.71	5.96	5.92	5.93	6.06	5.90	5.94	5.69	5.62	5.66
11	6.72	6.69	6.71	5.92	5.92	5.92	5.93	5.90	5.91	5.77	5.69	5.73
12	6.72	6.70	6.71	5.94	5.92	5.93	5.97	5.93	5.95	5.84	5.77	5.81
13	6.74	6.72	6.73	5.95	5.92	5.94	5.99	5.97	5.99	5.91	5.84	5.88
14	6.77	6.74	6.76	6.03	5.91	5.97	6.01	5.89	5.98	5.98	5.91	5.95
15	6.79	6.77	6.78	6.07	6.03	6.06	5.89	5.83	5.85	6.05	5.98	6.02
16	6.80	6.79	6.80	6.08	6.04	6.07	5.83	5.15	5.48	6.12	6.05	6.08
17	6.79	6.58	6.70	6.04	5.94	6.00	5.16	5.11	5.13	6.20	6.12	6.16
18	6.58	6.49	6.53	5.94	5.81	5.87	5.25	5.16	5.21	6.26	6.20	6.23
19	6.49	6.43	6.46	5.81	5.79	5.80	5.28	5.23	5.26	6.33	6.26	6.29
20	6.43	6.37	6.39	5.82	5.81	5.82	5.33	5.23	5.28	6.40	6.33	6.36
21	6.37	6.37	6.37	5.81	5.80	5.80	5.40	5.32	5.36	6.48	6.40	6.44
22	6.37	6.36	6.37	5.85	5.81	5.83	5.47	5.40	5.44	6.55	6.48	6.51
23	6.36	6.35	6.35	5.92	5.85	5.88	5.56	5.47	5.51	6.62	6.55	6.58
24	6.40	6.35	6.38	5.99	5.92	5.96	5.64	5.55	5.59	6.66	6.62	6.64
25	6.46	6.40	6.44	6.02	5.99	6.01	5.72	5.64	5.68	6.72	6.66	6.69
26	6.48	6.46	6.47	6.04	6.02	6.03	5.73	5.31	5.56	6.78	6.72	6.75
27	6.50	6.46	6.47	6.07	6.04	6.06	5.34	5.28	5.30	6.85	6.78	6.81
28	6.52	6.41	6.49	6.11	6.07	6.09	5.43	5.34	5.39	6.91	6.85	6.88
29	---	---	---	6.12	6.11	6.11	5.51	5.43	5.48	6.97	6.91	6.93
30	---	---	---	6.15	6.12	6.13	5.56	5.51	5.54	7.02	6.97	7.00
31	---	---	---	6.18	6.15	6.17	---	---	---	7.08	7.02	7.04
MONTH	6.80	6.35	6.56	6.41	5.79	6.05	6.38	5.11	5.78	7.08	5.36	6.13

411138081172500 PO-116 NR RAVENNA OH—Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	7.14	7.08	7.11	6.44	6.38	6.40	7.87	7.82	7.85	8.45	8.43	8.44
2	7.21	7.14	7.16	6.53	6.44	6.48	7.89	7.87	7.88	8.49	8.45	8.46
3	7.26	7.21	7.23	6.60	6.53	6.56	7.93	7.89	7.91	8.52	8.49	8.50
4	7.31	7.26	7.29	6.67	6.60	6.63	7.97	7.93	7.95	8.56	8.52	8.54
5	7.37	7.31	7.34	6.74	6.67	6.70	8.00	7.97	7.98	8.58	8.56	8.57
6	7.42	7.37	7.39	6.82	6.74	6.78	8.03	8.00	8.01	8.60	8.58	8.59
7	7.46	7.42	7.44	6.88	6.82	6.85	8.08	8.03	8.05	8.61	8.56	8.60
8	7.52	7.46	7.49	6.93	6.88	6.90	8.12	8.08	8.10	8.58	8.56	8.57
9	7.54	7.52	7.53	7.00	6.93	6.97	8.14	8.12	8.13	8.60	8.58	8.59
10	7.55	7.54	7.54	7.07	7.00	7.04	8.13	8.10	8.11	8.61	8.60	8.61
11	7.56	7.55	7.56	7.14	7.07	7.10	8.15	8.11	8.13	8.62	8.61	8.61
12	7.56	7.20	7.32	7.20	7.14	7.17	8.18	8.15	8.17	8.65	8.62	8.63
13	7.20	7.04	7.09	7.29	7.20	7.25	8.20	8.18	8.19	8.68	8.65	8.66
14	7.04	7.04	7.04	7.36	7.29	7.32	8.22	8.20	8.21	8.69	8.68	8.69
15	7.04	6.98	7.01	7.42	7.36	7.39	8.26	8.22	8.24	8.72	8.69	8.70
16	6.99	6.93	6.97	7.46	7.42	7.44	8.29	8.26	8.27	8.74	8.72	8.73
17	6.95	6.92	6.93	7.53	7.46	7.49	8.32	8.29	8.30	8.75	8.74	8.74
18	7.02	6.95	6.98	7.58	7.53	7.55	8.36	8.32	8.33	8.76	8.75	8.75
19	7.03	6.93	6.97	7.63	7.58	7.60	8.39	8.36	8.37	8.77	8.76	8.77
20	7.02	6.94	6.98	7.71	7.63	7.67	8.42	8.39	8.40	8.79	8.77	8.78
21	7.12	7.02	7.06	7.75	7.71	7.73	8.45	8.42	8.43	8.81	8.79	8.80
22	7.21	7.12	7.16	7.74	7.47	7.51	8.48	8.45	8.46	8.83	8.81	8.82
23	7.27	7.21	7.24	7.48	7.31	7.34	8.50	8.48	8.49	8.85	8.83	8.84
24	7.34	7.27	7.30	7.34	7.30	7.31	8.53	8.50	8.52	8.86	8.85	8.86
25	7.40	7.33	7.37	7.42	7.34	7.38	8.54	8.17	8.40	8.88	8.86	8.87
26	7.45	7.40	7.42	7.50	7.42	7.45	8.21	8.16	8.18	8.90	8.88	8.89
27	7.48	6.97	7.36	7.56	7.50	7.52	8.26	8.21	8.24	8.92	8.90	8.90
28	6.97	6.62	6.78	7.63	7.56	7.59	8.29	8.26	8.28	8.94	8.92	8.93
29	6.62	6.44	6.52	7.70	7.63	7.66	8.34	8.29	8.31	8.95	8.94	8.94
30	6.44	6.39	6.42	7.76	7.70	7.73	8.39	8.34	8.36	8.96	8.95	8.96
31	---	---	---	7.82	7.76	7.79	8.43	8.39	8.41	---	---	---
MONTH	7.56	6.39	7.17	7.82	6.38	7.24	8.54	7.82	8.21	8.96	8.43	8.71
YEAR	8.96	5.11	7.24									

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	1410	1400	1560	1550	1560	1550	1230	1210	819	760	362	351
2	1410	1400	1550	1550	1560	1550	1210	1200	760	694	363	359
3	1410	1400	1560	1550	1560	1550	1200	1200	694	623	359	351
4	1420	1400	1560	1550	1560	1550	1210	1200	623	540	351	346
5	1430	1400	1570	1550	1550	1550	1240	1210	540	451	347	345
6	1430	1400	1570	1560	1550	1550	1240	1230	451	338	348	346
7	1430	1410	1570	1570	1550	1540	1370	1230	338	297	349	346
8	1430	1410	1570	1570	1550	1540	1450	1370	299	296	356	347
9	1420	1410	1570	1560	1550	1540	1440	1420	300	296	367	355
10	1430	1410	1570	1570	1540	1540	1420	1410	304	300	365	360
11	1430	1420	1570	1570	1550	1540	1410	1400	312	304	361	358
12	1440	1420	1570	1570	1550	1540	1410	1400	319	312	361	358
13	1450	1430	1570	1570	1550	1530	1400	1380	325	319	359	356
14	1450	1430	1570	1570	1540	1520	1380	1370	330	324	356	349
15	1460	1440	1570	1560	1530	1520	1380	1370	334	328	349	345
16	1460	1450	1570	1560	1520	1510	1370	1350	340	334	346	343
17	1470	1460	1570	1560	1510	1500	1350	1340	356	340	343	341
18	1470	1460	1570	1560	1500	1490	1340	1310	377	356	343	337
19	1480	1460	1570	1560	1490	1470	1310	1280	378	374	337	334
20	1480	1470	1570	1560	1480	1460	1280	1250	374	367	334	329
21	1490	1480	1570	1560	1460	1440	1250	1220	367	359	335	333
22	1500	1480	1570	1570	1440	1420	1220	1190	359	354	334	329
23	1500	1490	1570	1560	1460	1410	1190	1160	356	353	336	330
24	1510	1500	1560	1560	1410	1390	1160	1120	353	349	343	336
25	1520	1510	1570	1560	1390	1370	1120	1090	351	347	350	343
26	1520	1520	1560	1560	1370	1340	1090	1050	350	346	358	349
27	1530	1520	1560	1550	1340	1280	1050	1010	349	346	373	356
28	1540	1530	1560	1550	1280	1270	1010	966	351	347	364	359
29	1540	1530	1560	1550	1270	1260	966	920	---	---	386	360
30	1550	1540	1560	1560	1260	1240	920	871	---	---	386	360
31	1550	1540	---	---	1240	1220	871	819	---	---	389	359
MONTH	1550	1400	1570	1550	1560	1220	1450	819	819	296	389	329

411138081172500 PO-116 NR RAVENNA OH—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	359	356	581	580	614	601	1230	1220	1130	1110	1250	1240
2	362	357	584	578	622	613	1230	1220	1130	1110	1250	1240
3	366	362	581	575	627	617	1240	1220	1130	1110	1260	1250
4	369	366	578	573	631	624	1220	1210	1130	1110	1260	1250
5	373	368	579	570	638	631	1230	1210	1120	1120	1280	1250
6	380	371	579	568	646	638	1230	1210	1130	1110	1290	1270
7	389	379	571	565	653	646	1220	1210	1140	1120	1290	1270
8	397	389	565	561	659	651	1220	1200	1140	1120	1300	1290
9	408	396	565	558	664	656	1220	1200	1140	1130	1310	1300
10	414	408	561	556	665	660	1210	1200	1150	1130	1310	1300
11	414	409	560	556	666	660	1210	1200	1150	1140	1320	1300
12	412	406	559	555	674	662	1220	1200	1150	1140	1330	1310
13	412	406	561	553	690	664	1220	1200	1160	1140	1350	1320
14	417	409	574	549	698	686	1210	1190	1160	1140	1350	1320
15	428	415	601	545	721	696	1210	1190	1160	1150	1340	1320
16	450	428	565	544	741	720	1200	1190	1170	1150	1340	1330
17	478	450	555	545	766	738	1200	1180	1170	1150	1350	1330
18	510	478	579	546	772	759	1200	1180	1170	1160	1360	1340
19	552	510	571	548	806	763	1200	1180	1170	1160	1360	1340
20	589	552	568	549	817	806	1200	1180	1170	1160	1370	1340
21	607	587	563	555	819	809	1190	1180	1170	1160	1370	1350
22	611	603	568	561	817	800	1190	1180	1170	1160	1360	1350
23	605	600	572	565	802	794	1190	1180	1180	1160	1370	1360
24	605	599	566	562	807	793	1180	1170	1170	1170	1370	1360
25	604	595	574	566	813	795	1180	1160	1210	1170	1380	1370
26	598	595	581	573	813	799	1170	1150	1240	1210	1390	1370
27	596	591	583	574	898	800	1170	1150	1250	1230	1380	1370
28	594	587	586	574	1140	898	1160	1150	1250	1230	1390	1370
29	591	584	592	579	1240	1140	1150	1120	1240	1230	1390	1380
30	586	581	597	584	1230	1220	1130	1120	1250	1230	1390	1380
31	---	---	604	595	---	---	1130	1120	1250	1230	---	---
MONTH	611	356	604	544	1240	601	1240	1120	1250	1110	1390	1240
YEAR	1570	296										

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	13.2	1.3	13.0	5.1	2.8	.8	2.2	-17.3	9.9	-6.8	9.4	-.7
2	15.7	-.4	10.5	4.5	4.1	-5.3	9.5	.4	11.0	-1.9	8.2	-1.0
3	23.1	6.7	7.0	.1	10.5	-5.3	12.7	7.4	3.1	-2.2	3.7	-1.4
4	26.3	11.4	4.3	.1	9.0	-.3	13.2	9.3	1.4	-2.4	1.9	-2.7
5	26.9	15.0	10.1	-.6	.2	-3.1	17.0	6.7	2.3	-2.7	3.7	-4.9
6	28.2	12.8	10.1	-1.6	-2.1	-5.8	14.8	11.5	8.8	-8.3	6.8	-7.0
7	28.8	10.6	6.6	4.0	.7	-2.1	14.7	6.0	9.4	-6.0	11.1	-5.0
8	27.7	12.6	6.6	4.8	.1	-1.0	7.3	2.9	8.6	-6.3	10.1	2.6
9	27.1	11.4	11.0	4.5	1.9	-2.8	7.7	1.0	12.4	-8.3	12.2	-3.0
10	20.3	5.0	6.4	3.2	2.5	.1	4.7	-1.9	14.0	-4.6	-3.0	-7.6
11	19.5	1.7	3.8	.4	.1	-1.6	1.0	-7.4	12.7	.4	-6.7	-9.9
12	24.5	1.7	2.9	-7.2	-.9	-2.7	6.8	-8.4	7.0	.5	-3.5	-9.7
13	27.4	8.3	4.1	-8.7	-.9	-2.5	9.1	-8.5	1.6	-.5	.6	-12.3
14	16.8	1.3	1.0	.0	.6	-4.1	-2.1	-12.3	1.1	-4.9	1.8	-2.2
15	12.0	-.7	2.1	-3.0	6.1	-5.4	2.1	-3.9	7.8	-6.8	-.3	-6.5
16	11.8	-1.0	-1.5	-4.4	10.4	-1.8	-.8	-2.4	8.3	-2.2	4.4	-8.8
17	15.9	.5	1.2	-6.9	5.6	-6.7	.5	-2.3	7.1	3.5	7.4	-3.2
18	15.0	-.6	3.3	-10.7	7.1	-8.8	-.6	-8.5	9.2	5.5	13.1	3.4
19	14.9	-1.4	7.5	.5	11.4	-2.1	.8	-12.0	5.5	2.5	12.7	6.2
20	13.4	-.5	9.7	-2.9	3.2	-3.8	-1.2	-12.8	4.7	2.5	6.6	2.2
21	11.5	-1.4	10.4	.9	1.9	-3.4	-1.5	-13.6	4.0	1.6	2.8	-1.6
22	4.9	.9	5.1	3.4	5.9	-2.3	1.3	-3.1	8.2	-3.0	2.5	-4.5
23	10.0	-.8	5.4	-2.6	5.6	-.7	4.5	-.6	7.8	1.0	6.0	-5.4
24	11.1	-.3	-.1	-9.2	5.7	-.2	.0	-1.9	6.8	-.7	6.8	-5.2
25	10.8	6.0	9.9	-9.7	7.8	1.8	-.3	-3.7	7.4	-2.5	13.3	-6.2
26	10.6	4.4	9.9	5.2	1.8	-.3	5.1	-1.9	10.6	-2.8	23.6	8.8
27	12.2	-.3	9.4	-1.3	2.7	-2.2	9.0	-2.1	15.0	.6	26.5	13.0
28	9.3	-.1	11.0	3.4	.9	-4.5	8.8	-4.2	8.7	.6	26.2	10.7
29	13.9	-.5	9.1	6.7	1.9	-5.1	6.5	-4.3	---	---	24.5	10.6
30	16.6	-2.4	10.9	2.8	-1.1	-5.2	.5	-.7	---	---	26.8	12.4
31	19.3	.5	---	---	-4.8	-11.5	1.7	-5.5	---	---	27.5	9.8
MONTH	28.8	-2.4	13.0	-10.7	11.4	-11.5	17.0	-17.3	15.0	-8.3	27.5	-12.3

411138081172500 PO-116 NR RAVENNA OH—Continued

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	21.5	7.1	18.1	13.8	22.3	8.7	25.9	13.2	27.4	8.7	26.2	10.4
2	9.9	3.4	17.5	13.2	26.8	9.8	28.1	10.1	29.2	8.7	22.8	9.4
3	10.4	-1.2	20.5	12.2	18.9	6.4	29.7	10.9	30.1	10.7	25.3	7.6
4	6.5	3.1	20.2	9.2	20.7	5.4	22.4	16.2	30.0	14.6	26.2	8.8
5	9.8	-2.3	22.5	8.6	15.1	6.3	26.4	11.8	25.3	18.5	28.9	8.2
6	13.6	-5.5	25.8	7.5	15.9	1.5	28.3	10.8	31.7	18.3	32.8	11.7
7	17.1	-4.7	23.3	10.2	18.6	6.3	27.6	14.5	32.9	17.5	23.6	11.3
8	22.2	7.2	17.9	14.6	21.7	2.6	27.3	18.7	32.1	17.4	17.3	8.6
9	16.5	5.6	23.3	12.5	16.7	6.0	28.2	15.2	30.9	19.3	18.2	7.2
10	12.2	-.5	21.8	10.6	23.8	11.6	24.9	11.8	26.2	18.8	22.4	4.6
11	14.6	-4.1	17.0	12.1	23.2	12.2	25.6	8.6	27.3	17.8	27.0	7.0
12	20.0	-2.0	19.3	13.0	30.6	16.9	28.9	8.5	27.8	14.5	29.9	9.6
13	23.6	1.5	25.0	9.7	23.5	16.1	30.8	10.1	29.3	11.7	31.3	13.1
14	15.9	11.2	29.1	10.6	22.4	13.2	29.7	13.2	30.2	14.8	30.9	12.7
15	16.3	9.9	31.8	12.3	25.5	12.5	31.7	17.5	29.8	14.5	28.4	18.3
16	20.8	10.4	29.6	12.4	23.3	12.6	30.6	17.1	30.9	16.1	23.1	17.0
17	16.1	5.3	27.0	8.6	26.4	15.0	26.2	14.3	30.9	16.6	25.9	11.2
18	15.8	-1.2	30.3	8.5	28.5	12.7	28.5	10.5	25.4	11.7	27.7	7.6
19	10.3	5.0	31.2	11.3	28.5	16.4	30.5	12.4	24.5	8.2	29.5	14.1
20	17.5	3.8	30.1	15.6	29.5	15.2	32.0	17.6	29.5	6.1	30.1	15.7
21	19.0	.6	20.8	7.5	30.9	14.8	32.9	17.5	30.7	12.6	26.4	15.8
22	20.8	7.7	20.5	4.4	32.1	18.9	30.5	18.7	29.3	15.6	18.8	8.9
23	19.0	3.7	22.2	7.5	27.4	19.5	27.3	16.5	32.2	14.6	18.7	2.4
24	22.4	.4	19.5	5.5	32.4	16.2	24.7	14.6	24.9	19.6	20.8	1.9
25	18.6	.9	19.0	11.0	34.3	19.3	26.4	11.3	21.8	18.2	25.2	13.7
26	10.1	4.3	25.3	9.3	31.5	20.0	27.8	11.3	27.7	15.0	31.7	16.2
27	13.1	.4	27.9	6.5	25.5	18.9	28.8	11.1	28.8	12.8	28.7	17.2
28	16.8	-1.8	28.2	7.8	30.1	17.7	29.2	15.2	29.5	13.0	22.8	6.0
29	17.5	1.7	31.5	18.2	26.7	18.5	28.6	14.5	28.1	18.5	25.3	3.2
30	18.1	13.2	30.4	13.9	24.7	16.1	28.1	11.8	29.7	14.2	24.5	12.1
31	---	---	28.4	13.6	---	---	26.9	12.6	26.8	11.7	---	---
MONTH	23.6	-5.5	31.8	4.4	34.3	1.5	32.9	8.5	32.9	6.1	32.8	1.9
YEAR	34.3	-17.3										

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.2	12.0	12.2	12.0	11.1	11.1	10.0	9.6	9.0	8.8	7.7	7.5
2	12.5	12.2	12.2	12.2	11.1	11.1	9.8	9.6	8.8	8.6	7.5	7.3
3	12.5	12.2	12.2	12.0	11.1	10.9	9.6	9.4	8.8	8.6	7.5	7.5
4	12.5	12.2	12.2	12.2	11.1	10.9	9.6	9.4	8.6	8.6	7.5	7.5
5	12.5	12.2	12.2	12.0	11.1	10.8	9.6	9.2	8.6	8.4	7.5	7.3
6	12.5	12.2	12.2	12.0	10.9	10.8	9.4	9.2	8.4	8.0	7.5	7.3
7	12.5	12.2	12.0	12.0	10.9	10.6	9.4	9.2	8.3	8.0	7.5	7.3
8	12.5	12.2	12.0	12.0	10.9	10.6	9.4	9.0	8.3	8.0	7.5	7.3
9	12.5	12.2	12.2	12.0	10.8	10.6	9.4	9.0	8.3	8.0	7.5	7.3
10	12.5	12.2	12.0	12.0	10.6	10.6	9.6	9.4	8.1	7.9	7.5	7.3
11	12.5	12.2	12.0	12.0	10.6	10.6	9.8	9.6	8.1	7.9	7.5	7.3
12	12.5	12.2	12.0	11.9	10.6	10.4	9.8	9.6	8.0	7.8	7.5	7.3
13	12.5	12.2	12.0	11.9	10.6	10.4	9.8	9.6	8.0	7.8	7.4	7.3
14	12.5	12.2	12.0	12.0	10.6	10.4	9.8	9.6	8.0	7.8	7.3	7.3
15	12.5	12.2	12.0	11.9	10.6	10.4	9.8	9.6	8.1	7.8	7.5	7.3
16	12.4	12.2	12.0	11.7	10.7	10.4	9.6	9.6	8.1	7.8	7.3	7.1
17	12.5	12.2	11.9	11.7	10.6	10.4	9.6	9.4	7.9	7.8	7.3	7.1
18	12.5	12.2	11.9	11.7	10.6	10.4	9.4	9.4	7.9	7.7	7.3	7.1
19	12.5	12.2	11.8	11.7	10.7	10.4	9.4	9.4	7.8	7.7	7.3	7.1
20	12.5	12.2	11.8	11.5	10.4	10.4	9.4	9.4	7.7	7.7	7.3	7.1
21	12.5	12.2	11.7	11.5	10.4	10.4	9.4	9.4	7.7	7.5	7.1	7.1
22	12.4	12.2	11.5	11.5	10.4	10.4	9.4	9.2	7.7	7.5	7.1	7.1
23	12.5	12.2	11.5	11.3	10.4	9.4	9.4	9.2	7.7	7.5	7.3	7.1
24	12.4	12.2	11.5	11.5	10.4	10.2	9.2	9.2	7.7	7.5	7.3	7.1
25	12.2	12.2	11.5	11.3	10.2	10.2	9.2	9.2	7.7	7.5	7.3	7.1
26	12.2	12.2	11.3	11.3	10.2	10.0	9.2	9.0	7.7	7.5	7.3	7.0
27	12.4	12.2	11.6	11.3	10.0	9.8	9.2	9.0	7.7	7.5	7.3	7.0
28	12.5	12.2	11.3	11.3	9.8	9.8	9.2	9.0	7.7	7.5	7.3	7.2
29	12.4	12.2	11.3	11.1	9.8	9.8	9.0	9.0	---	---	7.3	7.0
30	12.4	12.2	11.1	11.1	9.8	9.8	9.0	9.0	---	---	7.3	7.0
31	12.2	12.2	---	---	10.0	9.8	9.0	8.8	---	---	7.3	7.1
MONTH	12.5	12.0	12.2	11.1	11.1	9.4	10.0	8.8	9.0	7.5	7.7	7.0

411138081172500 PO-116 NR RAVENNA OH—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	7.3	7.1	8.1	8.1	9.1	8.8	10.3	10.1	11.8	11.3	12.7	12.4
2	7.3	7.1	8.1	7.9	9.1	8.8	10.3	10.0	11.8	11.5	12.7	12.4
3	7.3	7.1	8.3	7.9	9.1	8.8	10.3	10.0	11.8	11.5	12.8	12.4
4	7.3	7.1	8.3	8.1	9.3	8.8	10.3	10.1	11.8	11.5	12.8	12.4
5	7.3	7.1	8.3	7.9	9.3	9.0	10.5	10.1	11.8	11.8	12.8	12.4
6	7.3	7.1	8.3	7.9	9.3	9.0	10.5	10.2	12.0	11.8	12.8	12.5
7	7.3	7.1	8.3	8.1	9.3	9.0	10.5	10.3	12.0	11.8	12.9	12.7
8	7.4	7.1	8.3	8.3	9.3	9.0	10.7	10.5	12.1	11.8	12.9	12.7
9	7.5	7.1	8.3	8.1	9.3	9.1	10.7	10.5	12.1	11.8	12.9	12.7
10	7.5	7.3	8.3	8.1	9.4	9.2	10.7	10.5	12.0	12.0	13.0	12.6
11	7.5	7.3	8.3	8.1	9.5	9.2	10.7	10.4	12.1	11.8	13.0	12.7
12	7.5	7.3	8.3	8.1	9.5	9.3	10.8	10.4	12.2	11.8	13.0	12.7
13	7.5	7.3	8.3	8.1	9.6	9.2	10.9	10.7	12.3	12.0	13.0	12.7
14	7.7	7.5	8.3	8.1	9.6	9.4	10.9	10.7	12.3	12.0	13.0	12.7
15	7.7	7.3	8.4	8.1	9.7	9.4	10.9	10.7	12.3	12.0	13.2	12.9
16	7.7	7.5	8.5	8.3	9.7	9.4	11.0	10.7	12.3	12.0	13.2	12.9
17	7.7	7.5	8.5	8.2	9.7	9.4	11.1	10.9	12.3	12.0	13.2	12.9
18	7.7	7.5	8.5	8.3	9.7	9.4	11.1	10.9	12.3	12.0	13.2	12.9
19	7.7	7.5	8.5	8.3	9.7	9.6	11.2	10.9	12.3	12.0	13.2	12.9
20	7.7	7.5	8.7	8.3	9.7	9.4	11.4	10.9	12.3	12.0	13.2	12.9
21	7.7	7.5	8.7	8.4	9.7	9.4	11.4	11.1	12.3	12.0	13.2	12.9
22	7.7	7.5	8.7	8.4	9.9	9.6	11.4	11.1	12.3	12.2	13.2	12.9
23	7.9	7.7	8.7	8.4	9.9	9.7	11.4	11.2	12.3	12.0	13.2	12.9
24	7.9	7.7	8.9	8.6	9.9	9.6	11.4	11.1	12.5	12.2	13.2	12.9
25	8.1	7.7	8.9	8.6	9.9	9.7	11.6	11.3	12.5	12.2	13.2	12.9
26	8.1	7.8	8.9	8.6	9.9	9.7	11.6	11.3	12.5	12.2	13.2	12.9
27	8.1	7.8	8.9	8.6	10.3	9.9	11.6	11.3	12.5	12.2	13.2	13.2
28	8.1	7.8	8.9	8.6	10.3	9.9	11.6	11.3	12.5	12.2	13.2	12.9
29	8.1	7.8	8.9	8.7	10.3	9.9	11.6	11.3	12.5	12.5	13.2	12.9
30	8.1	7.9	8.9	8.6	10.3	10.1	11.6	11.3	12.7	12.4	13.2	12.9
31	---	---	9.1	8.9	---	---	11.6	11.3	12.7	12.4	---	---
MONTH	8.1	7.1	9.1	7.9	10.3	8.8	11.6	10.0	12.7	11.3	13.2	12.4
YEAR	13.2	7.0										

TEMPERATURE, SOIL (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	14.1	12.9	8.2	7.3	5.7	4.5	1.3	1.0	1.4	.7	4.9	4.1
2	12.9	11.1	8.2	7.7	4.5	3.7	1.7	.9	2.2	.9	4.3	3.7
3	13.6	11.6	7.7	7.1	4.4	3.0	3.9	1.7	1.9	1.3	3.8	3.0
4	14.7	12.8	7.1	6.4	4.6	4.2	5.0	3.9	1.5	1.1	3.2	2.8
5	15.8	14.3	7.1	6.2	4.2	3.2	6.0	4.7	1.4	1.0	2.8	2.4
6	16.3	14.6	6.4	5.6	3.2	2.2	6.9	6.0	1.3	.6	2.4	1.4
7	16.1	14.4	6.6	6.1	2.6	2.2	7.9	6.7	1.5	.6	3.3	1.3
8	16.6	15.2	6.8	6.5	2.6	2.5	7.7	6.5	1.4	.6	4.3	2.7
9	16.2	14.7	7.4	6.7	2.6	2.4	6.5	5.3	1.5	.5	5.4	4.3
10	16.2	14.8	7.2	6.8	2.7	2.6	5.3	4.1	2.3	.6	4.6	3.0
11	14.8	12.8	6.8	6.1	2.6	2.5	4.1	2.8	2.8	1.6	3.0	2.5
12	13.8	11.7	6.1	4.9	2.6	2.1	2.8	2.0	2.9	2.3	2.5	2.2
13	14.7	12.4	4.9	3.5	2.1	1.7	3.1	2.2	2.3	1.9	2.2	1.6
14	14.6	12.8	4.1	3.8	1.7	1.5	2.2	1.2	2.0	1.6	1.7	1.7
15	12.8	10.8	4.0	3.8	1.8	1.3	1.3	1.1	1.9	.9	1.7	1.7
16	10.9	9.7	3.8	3.6	2.5	1.5	1.4	1.3	2.0	.9	1.7	1.3
17	11.0	9.4	3.7	2.8	2.1	1.4	1.6	1.4	3.0	2.0	2.0	1.0
18	10.5	8.8	2.8	2.0	1.6	1.0	1.6	1.4	3.9	3.0	4.1	2.0
19	9.9	8.3	3.4	2.4	3.0	1.5	1.5	1.0	3.8	3.5	5.3	4.1
20	9.9	8.6	3.8	2.7	2.4	1.6	1.3	1.0	3.6	3.4	5.1	4.5
21	9.5	8.3	4.4	3.6	2.1	1.6	1.0	.5	3.5	3.2	4.5	3.5
22	8.8	7.8	4.6	4.4	2.0	1.3	.5	.5	3.7	2.5	3.5	2.6
23	8.1	6.9	4.8	4.2	2.4	2.0	1.1	.5	3.8	2.9	3.3	1.7
24	8.1	7.3	4.2	2.8	2.6	2.2	1.2	1.1	3.8	2.9	4.0	2.1
25	8.7	8.1	3.1	1.9	3.3	2.6	1.1	.8	4.0	3.3	4.2	1.8
26	8.6	8.2	4.3	3.1	3.1	2.4	1.7	1.0	3.9	2.7	7.5	4.2
27	8.7	7.5	4.5	3.6	2.5	2.2	2.1	1.0	4.6	3.5	9.8	7.4
28	7.7	6.9	5.0	4.0	2.3	1.6	2.1	1.1	4.4	3.6	10.2	8.3
29	7.8	6.3	5.6	5.0	1.6	1.1	1.9	1.1	---	---	11.7	9.0
30	7.9	6.1	6.0	5.6	1.3	1.1	1.9	1.5	---	---	12.3	10.0
31	8.1	6.5	---	---	1.3	1.1	1.7	1.2	---	---	12.6	10.5
MONTH	16.6	6.1	8.2	1.9	5.7	1.0	7.9	.5	4.6	.5	12.6	1.0

411138081172500 PO-116 NR RAVENNA OH—Continued

TEMPERATURE, SOIL (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.2	11.2	11.9	10.9	17.5	15.2	20.7	18.9	19.0	17.1	18.5	17.0
2	11.2	9.1	12.2	11.3	17.7	15.3	20.0	18.0	18.8	16.6	18.6	17.6
3	9.1	7.6	13.0	11.5	16.9	15.0	19.9	17.7	18.8	16.9	17.6	16.0
4	8.1	7.3	13.3	12.0	16.2	13.7	19.6	18.6	19.2	17.5	17.4	15.6
5	8.2	6.0	13.5	11.7	15.4	13.8	19.6	17.8	19.2	18.5	17.4	15.5
6	8.1	5.3	14.7	11.7	14.2	12.3	19.5	17.4	20.0	18.5	18.4	16.1
7	8.0	5.3	14.2	12.6	14.3	12.5	19.1	17.9	20.7	18.9	18.1	17.2
8	9.6	7.4	14.0	13.5	15.0	11.8	20.2	18.8	21.0	19.1	17.2	15.8
9	10.0	8.8	15.2	13.2	13.9	12.6	20.5	18.6	21.0	19.8	16.0	14.9
10	10.0	8.3	14.9	13.1	14.9	12.9	20.2	18.3	20.6	20.0	15.3	13.7
11	9.2	6.4	14.4	13.6	15.4	13.8	19.1	17.1	20.9	19.4	15.8	13.8
12	9.7	6.4	14.1	13.3	18.4	15.3	19.0	16.5	20.7	19.3	16.6	14.7
13	10.1	7.1	15.2	12.8	17.9	16.8	19.3	16.8	20.0	18.3	17.2	15.7
14	9.8	9.1	16.3	13.3	17.4	16.6	19.3	17.4	20.0	18.4	17.6	15.9
15	10.5	9.2	17.3	14.2	17.2	15.9	20.2	18.3	20.1	18.4	18.1	17.1
16	11.3	9.9	17.2	15.0	17.1	16.0	20.7	18.7	20.6	18.7	18.0	17.6
17	11.4	10.1	16.9	14.2	18.1	16.4	20.6	19.2	20.8	19.1	17.8	16.8
18	10.6	8.2	17.0	14.0	18.7	16.3	19.9	17.8	20.5	19.3	17.2	15.5
19	10.1	8.8	17.6	14.5	19.0	17.4	20.0	17.8	19.3	17.3	17.8	16.2
20	10.7	8.2	18.3	15.7	19.3	17.3	20.9	19.2	18.3	16.2	18.2	16.8
21	10.6	8.0	17.3	15.6	19.9	17.4	21.1	19.4	19.3	17.0	18.5	17.7
22	11.7	9.3	16.3	13.7	20.9	18.7	21.0	19.8	20.3	18.5	18.0	16.8
23	11.6	9.6	16.5	13.9	20.2	19.3	21.3	20.2	20.4	18.3	16.8	14.6
24	11.3	8.6	15.2	13.3	21.0	18.6	20.6	19.3	20.0	19.3	14.8	13.1
25	11.3	8.7	14.9	13.7	21.8	19.5	19.8	18.4	19.5	18.9	15.9	14.6
26	10.9	9.4	16.2	13.5	22.3	20.5	19.6	17.8	19.7	18.3	17.6	15.5
27	10.5	8.1	16.3	13.3	21.7	20.2	19.7	17.7	19.4	17.9	18.0	16.9
28	10.7	7.6	16.5	13.6	21.2	19.7	20.2	18.4	19.3	17.7	17.7	16.0
29	10.0	8.3	18.0	15.3	20.9	20.1	20.7	19.3	19.8	18.9	16.0	14.0
30	11.2	9.8	18.4	15.9	20.7	19.8	19.8	18.3	19.7	18.3	16.3	14.9
31	---	---	17.9	16.8	---	---	19.7	17.9	19.3	18.1	---	---
MONTH	12.2	5.3	18.4	10.9	22.3	11.8	21.3	16.5	21.0	16.2	18.6	13.1
YEAR	22.3	.5										

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
2	.00	.00	.00	.04	.00	.00	.00	.00	.00	.00	.00	.02
3	.00	.00	.00	.03	.00	.00	.00	.00	.00	.00	.00	.00
4	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.00
5	.01	.00	.03	.01	.00	.00	.00	.01	.00	.00	.00	.00
6	.00	.00	.00	.01	.00	.00	.00	.01	.00	.00	.00	.00
7	.00	.00	.01	.54	.00	.00	.00	.00	.00	.01	.00	.08
8	.00	.00	.01	.01	.00	.00	.00	.00	.00	.00	.00	.00
9	.01	.00	.01	.00	.00	.00	.00	.00	.00	.00	.02	.01
10	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.15	.00
11	.00	.00	.01	.00	.00	.00	.00	.00	.04	.00	.00	.00
12	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00	.00	.00
13	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
14	.01	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
15	.00	.00	.04	.00	.00	.00	.00	.00	.00	.01	.00	.00
16	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.01
17	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00
18	.00	.00	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00
19	.00	.00	.00	.00	.00	.00	.00	.00	.01	.01	.00	.00
20	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00
21	.00	.00	.00	.00	.00	.00	.00	.00	.00	.06	.00	.01
22	.00	.00	.33	.00	.00	.00	.00	.00	.00	.02	.00	.00
23	.00	.00	.02	.00	.00	.00	.01	.00	.00	.04	.00	.00
24	.00	.00	.01	.00	.07	.00	.00	.00	.00	.00	.04	.00
25	.00	.00	.01	.00	.00	.00	.00	.00	.00	.00	.59	.00
26	.00	.00	.01	.00	.00	.00	.00	.00	.01	.00	.00	.00
27	.00	.00	.00	.00	.00	.00	.00	.00	.04	.00	.00	.00
28	.00	.00	.00	.00	.00	.00	.00	.00	.01	.00	.00	.00
29	.00	.00	.00	.00	---	.00	.00	.03	.00	.00	.01	.00
30	.00	.00	.00	.00	---	.00	.00	.00	.02	.00	.00	.00
31	.00	---	.01	.00	---	.00	---	.00	---	.00	.00	---
TOTAL	0.03	0.00	0.51	0.65	0.07	0.01	0.01	0.05	0.21	0.15	0.82	0.13

WTR YR 1998 TOTAL 2.64

411138081172500 PO-116 NR RAVENNA OH—Continued

DEICING SALT LBS/LANE-MILE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	900	---	---	---	---	---	---
4	---	---	---	---	---	290	---	---	---	---	---	---
5	---	---	750	---	986	---	---	---	---	---	---	---
6	---	---	289	---	---	---	---	---	---	---	---	---
7	---	---	1400	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	2280	---	---	---	---	---	---
11	---	---	300	---	---	2440	---	---	---	---	---	---
12	---	---	600	---	---	1300	---	---	---	---	---	---
13	---	---	---	---	---	320	---	---	---	---	---	---
14	---	1100	---	---	---	1280	---	---	---	---	---	---
15	---	---	---	---	---	900	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	900	---	---	---	---	---	---	---	---
19	---	---	---	1400	---	---	---	---	---	---	---	---
20	---	---	---	1875	---	---	---	---	---	---	---	---
21	---	---	---	---	---	500	---	---	---	---	---	---
22	---	---	---	300	---	---	---	---	---	---	---	---
23	---	---	---	700	---	---	---	---	---	---	---	---
24	---	400	---	600	---	---	---	---	---	---	---	---
25	---	300	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	353	---	---	---	---	---	---	---	---	---
28	---	---	297	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	900	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	1800	4889	5775	986	10210	---	---	---	---	---	---

WTR YR 1998 TOTAL 23660

GROUND-WATER RECORDS

393541083001100. Local number, PK-48.

LOCATION.--Lat 39°35'41" Long 83°00'11", Hydrologic Unit 05060002, along State Route 104 near Circleville, OH.
Owner.--USGS/Stacy and Clesson Thomas.

AQUIFER.--Sand and Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 28 ft. Cased with Sch 40 PVC to 8 ft; .010 in. screen from 8 to 28 ft.

INSTRUMENTATION - Data logger--60 minute record. Precipitation data collected with a propane-heated, tipping-bucket rain gauge. Also collected: water level, air temperature, soil temperature, water temperature, and specific conductance. Conductivity/water temperature probe set at 16.0 feet below land surface.

DATUM.--Elevation of land-surface datum is 678.50 feet above sea level.
Measuring point: shelter shelf 3.36 ft above land-surface datum.

REMARKS.--

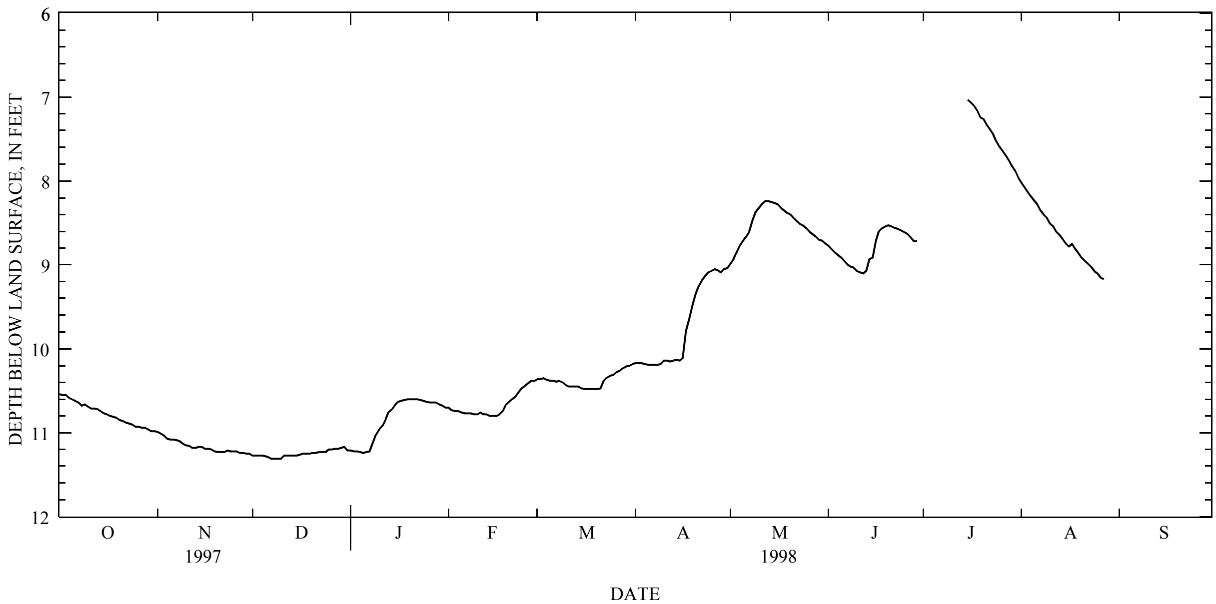
PERIOD OF RECORD.--February 1991 to current year.

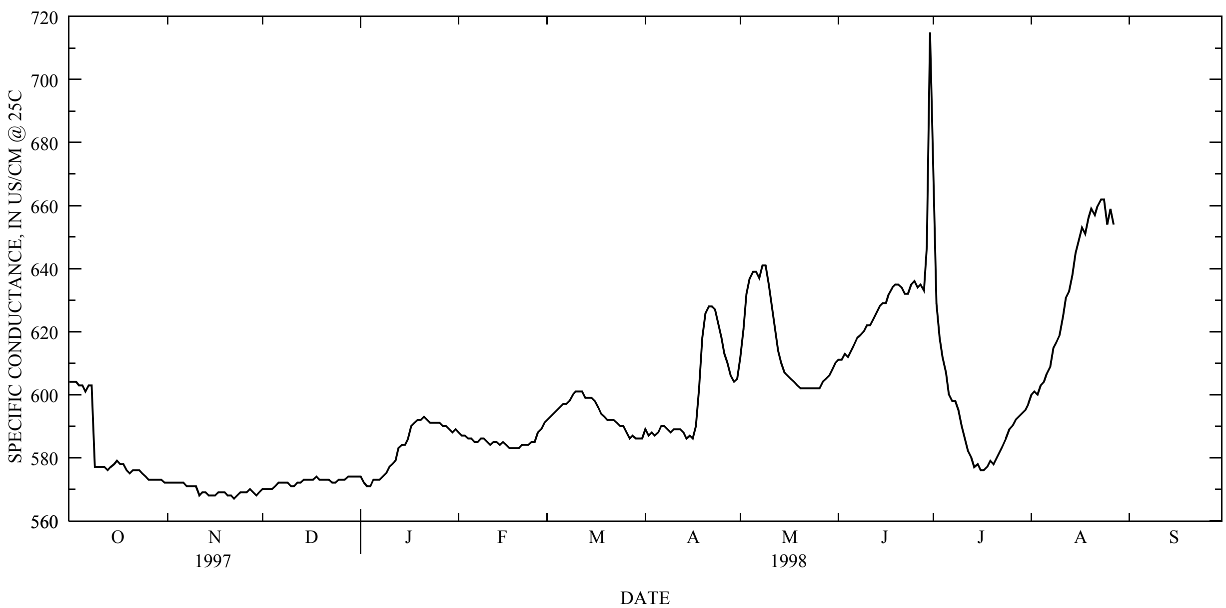
PERIOD OF DAILY RECORD.--
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: February 1991 to current year.
AIR TEMPERATURE: February 1991 to current year.
WATER TEMPERATURE: February 1991 to current year.
SOIL TEMPERATURE: February 1991 to current year.
PRECIPITATION: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER LEVEL: Maximum daily low, 13.11 ft. below land-surface datum, June 18, 1992; maximum daily high, 6.50 ft. below land-surface datum, June 20, 1996.
SPECIFIC CONDUCTANCE: Maximum, 933 microsiemens April 15, 1994; minimum, 565 microsiemens November 17-19, 24-25, 1997.
AIR TEMPERATURE: Maximum, 37.5°C July 15,1995; minimum, -34.1°C January 19, 1994.
WATER TEMPERATURE: Maximum, 15.0°C October 20-21 1991; minimum, 10.6°C April 29, 1993.
SOIL TEMPERATURE: Maximum, 32.5°C September 16, 1991; minimum, -2.2°C February 12, 1994.

EXTREMES FOR CURRENT YEAR.--
WATER LEVEL: Maximum daily low, 11.31 ft. below land-surface datum, December 7-10, 1997; maximum daily high, 7.01 ft. below land-surface datum, July 15, 1998.
SPECIFIC CONDUCTANCE: Maximum, 715 microsiemens June 30, 1998; minimum, 565 microsiemens November 17-19, 24-25, 1997.
AIR TEMPERATURE: Maximum, 34.5°C August 7, 1998; minimum, -11.4°C March 13, 1998.
WATER TEMPERATURE: Maximum, 13.3°C several days in November, December, 1997, and January, 1998; minimum, 11.5°C May 2-6, 10, 1998.
SOIL TEMPERATURE: Maximum, 24.7°C June 28, 1998; minimum, 2.0°C January 22, February 9-10, 1998.

393541083001100 PK-48 NR CIRCLEVLE OH—Continued





393541083001100 PK-48 NR CIRCLEVLE OH—Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	10.54	10.51	10.52	10.99	10.98	10.98	11.27	11.25	11.26	11.21	11.21	11.21
2	10.55	10.53	10.54	11.01	10.99	11.00	11.27	11.27	11.27	11.22	11.21	11.21
3	10.55	10.53	10.54	11.03	11.01	11.02	11.27	11.26	11.27	11.22	11.21	11.22
4	10.58	10.55	10.56	11.07	11.03	11.05	11.27	11.26	11.27	11.23	11.22	11.23
5	10.60	10.58	10.59	11.08	11.07	11.08	11.28	11.27	11.28	11.24	11.23	11.23
6	10.62	10.60	10.61	11.08	11.08	11.08	11.29	11.28	11.29	11.23	11.22	11.23
7	10.64	10.62	10.63	11.09	11.08	11.09	11.31	11.29	11.30	11.22	11.12	11.19
8	10.68	10.63	10.64	11.10	11.09	11.10	11.31	11.31	11.31	11.12	11.02	11.06
9	10.66	10.64	10.65	11.13	11.10	11.12	11.31	11.31	11.31	11.02	10.96	10.99
10	10.69	10.66	10.68	11.15	11.13	11.14	11.31	11.27	11.28	10.96	10.92	10.94
11	10.71	10.69	10.70	11.16	11.15	11.15	11.27	11.27	11.27	10.92	10.84	10.88
12	10.71	10.71	10.71	11.18	11.16	11.17	11.27	11.27	11.27	10.84	10.76	10.80
13	10.72	10.71	10.71	11.18	11.17	11.18	11.27	11.25	11.26	10.76	10.72	10.74
14	10.74	10.72	10.73	11.17	11.16	11.16	11.27	11.26	11.26	10.72	10.67	10.70
15	10.77	10.74	10.75	11.17	11.17	11.17	11.27	11.26	11.27	10.67	10.63	10.65
16	10.78	10.77	10.78	11.19	11.17	11.18	11.26	11.24	11.25	10.63	10.62	10.62
17	10.80	10.78	10.79	11.19	11.19	11.19	11.25	11.24	11.24	10.62	10.61	10.61
18	10.81	10.80	10.81	11.20	11.19	11.20	11.25	11.25	11.25	10.61	10.60	10.60
19	10.82	10.81	10.81	11.22	11.20	11.21	11.25	11.24	11.25	10.60	10.60	10.60
20	10.85	10.82	10.83	11.23	11.22	11.23	11.24	11.24	11.24	10.60	10.60	10.60
21	10.86	10.85	10.85	11.23	11.23	11.23	11.24	11.23	11.24	10.60	10.60	10.60
22	10.88	10.86	10.87	11.23	11.20	11.21	11.23	11.22	11.22	10.60	10.59	10.60
23	10.89	10.88	10.89	11.21	11.19	11.19	11.23	11.22	11.23	10.61	10.59	10.60
24	10.90	10.89	10.90	11.22	11.21	11.22	11.23	11.20	11.21	10.62	10.60	10.61
25	10.93	10.90	10.92	11.22	11.21	11.21	11.20	11.20	11.20	10.63	10.62	10.63
26	10.93	10.91	10.93	11.22	11.19	11.20	11.20	11.19	11.19	10.64	10.63	10.64
27	10.94	10.91	10.92	11.24	11.22	11.23	11.19	11.18	11.18	10.64	10.63	10.64
28	10.94	10.94	10.94	11.24	11.23	11.23	11.19	11.18	11.18	10.64	10.64	10.64
29	10.96	10.94	10.95	11.25	11.24	11.24	11.18	11.16	11.17	10.66	10.64	10.64
30	10.98	10.96	10.97	11.25	11.24	11.24	11.17	11.16	11.16	10.68	10.66	10.67
31	10.98	10.98	10.98	---	---	---	11.21	11.17	11.19	10.70	10.68	10.69
MONTH	10.98	10.51	10.76	11.25	10.98	11.16	11.31	11.16	11.24	11.24	10.59	10.82

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	10.70	10.70	10.70	10.36	10.36	10.36	10.17	10.15	10.16	8.98	8.93	8.96
2	10.73	10.70	10.72	10.36	10.35	10.35	10.17	10.16	10.16	8.93	8.85	8.90
3	10.74	10.73	10.74	10.35	10.35	10.35	10.17	10.15	10.16	8.85	8.77	8.81
4	10.74	10.73	10.73	10.37	10.35	10.36	10.18	10.15	10.17	8.77	8.71	8.73
5	10.76	10.74	10.74	10.38	10.36	10.38	10.19	10.18	10.18	8.71	8.66	8.69
6	10.77	10.76	10.76	10.38	10.38	10.38	10.19	10.18	10.19	8.66	8.60	8.64
7	10.77	10.77	10.77	10.39	10.38	10.38	10.19	10.18	10.19	8.60	8.47	8.56
8	10.77	10.77	10.77	10.38	10.35	10.36	10.19	10.18	10.18	8.47	8.37	8.41
9	10.78	10.77	10.77	10.40	10.34	10.36	10.18	10.13	10.14	8.37	8.32	8.35
10	10.78	10.76	10.77	10.43	10.40	10.42	10.14	10.13	10.13	8.32	8.28	8.30
11	10.76	10.73	10.74	10.45	10.43	10.44	10.14	10.14	10.14	8.28	8.24	8.26
12	10.78	10.74	10.76	10.45	10.45	10.45	10.15	10.14	10.14	8.24	8.24	8.24
13	10.78	10.78	10.78	10.45	10.41	10.44	10.14	10.12	10.13	8.24	8.23	8.24
14	10.80	10.78	10.79	10.45	10.41	10.43	10.13	10.12	10.12	8.25	8.24	8.24
15	10.80	10.80	10.80	10.47	10.45	10.47	10.14	10.11	10.13	8.26	8.24	8.25
16	10.80	10.78	10.79	10.48	10.47	10.48	10.11	9.79	9.91	8.28	8.25	8.26
17	10.78	10.74	10.76	10.48	10.47	10.48	9.79	9.65	9.72	8.32	8.28	8.31
18	10.74	10.67	10.72	10.48	10.47	10.47	9.65	9.49	9.57	8.35	8.32	8.34
19	10.67	10.63	10.65	10.48	10.47	10.47	9.49	9.35	9.41	8.38	8.35	8.36
20	10.63	10.60	10.61	10.48	10.46	10.47	9.35	9.25	9.30	8.40	8.37	8.39
21	10.60	10.57	10.58	10.47	10.38	10.44	9.25	9.18	9.21	8.44	8.40	8.42
22	10.57	10.52	10.55	10.38	10.34	10.35	9.18	9.13	9.15	8.48	8.44	8.46
23	10.52	10.47	10.49	10.34	10.32	10.33	9.13	9.09	9.11	8.51	8.48	8.49
24	10.47	10.44	10.46	10.32	10.31	10.32	9.09	9.07	9.08	8.53	8.51	8.51
25	10.44	10.41	10.43	10.31	10.28	10.30	9.07	9.05	9.06	8.56	8.53	8.54
26	10.41	10.38	10.39	10.28	10.26	10.27	9.05	9.04	9.04	8.60	8.56	8.58
27	10.38	10.38	10.38	10.26	10.23	10.25	9.06	9.05	9.05	8.63	8.60	8.61
28	10.38	10.36	10.38	10.23	10.21	10.22	9.09	9.05	9.06	8.66	8.63	8.65
29	---	---	---	10.21	10.20	10.21	9.05	9.04	9.04	8.70	8.66	8.68
30	---	---	---	10.20	10.18	10.19	9.04	8.98	9.02	8.71	8.69	8.71
31	---	---	---	10.18	10.17	10.17	---	---	---	8.74	8.71	8.72
MONTH	10.80	10.36	10.66	10.48	10.17	10.37	10.19	8.98	9.70	8.98	8.23	8.50

393541083001100 PK-48 NR CIRCLEVLE OH—Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	8.77	8.74	8.76	---	---	---	8.02	7.96	7.99	---	---	---
2	8.81	8.77	8.78	---	---	---	8.07	8.02	8.04	---	---	---
3	8.85	8.81	8.83	---	---	---	8.13	8.07	8.10	---	---	---
4	8.88	8.85	8.86	---	---	---	8.18	8.13	8.15	---	---	---
5	8.91	8.88	8.89	---	---	---	8.23	8.18	8.20	---	---	---
6	8.95	8.91	8.93	---	---	---	8.28	8.23	8.26	---	---	---
7	8.99	8.95	8.97	---	---	---	8.35	8.28	8.32	---	---	---
8	9.02	8.99	9.01	---	---	---	8.40	8.35	8.38	---	---	---
9	9.03	9.02	9.03	---	---	---	8.44	8.40	8.43	---	---	---
10	9.07	9.03	9.05	---	---	---	8.50	8.44	8.47	---	---	---
11	9.09	9.07	9.07	---	---	---	8.54	8.50	8.52	---	---	---
12	9.10	9.07	9.08	---	---	---	8.60	8.54	8.57	---	---	---
13	9.07	8.93	8.95	---	---	---	8.64	8.60	8.62	---	---	---
14	8.93	8.90	8.92	---	---	---	8.69	8.64	8.66	---	---	---
15	8.91	8.71	8.83	7.03	7.01	7.02	8.74	8.69	8.71	---	---	---
16	8.71	8.60	8.65	7.06	7.03	7.04	8.78	8.71	8.75	---	---	---
17	8.60	8.56	8.58	7.10	7.05	7.08	8.75	8.69	8.72	---	---	---
18	8.56	8.53	8.55	7.16	7.10	7.13	8.81	8.75	8.78	---	---	---
19	8.54	8.51	8.53	7.24	7.16	7.20	8.86	8.81	8.84	---	---	---
20	8.53	8.52	8.52	7.26	7.20	7.23	8.91	8.86	8.88	---	---	---
21	8.54	8.52	8.53	7.33	7.26	7.29	8.95	8.91	8.93	---	---	---
22	8.56	8.54	8.55	7.38	7.33	7.36	8.98	8.95	8.97	---	---	---
23	8.57	8.55	8.56	7.44	7.38	7.40	9.02	8.98	9.01	---	---	---
24	8.59	8.57	8.58	7.52	7.44	7.48	9.07	9.02	9.05	---	---	---
25	8.61	8.59	8.60	7.59	7.52	7.55	9.10	9.07	9.09	---	---	---
26	8.63	8.61	8.62	7.64	7.59	7.61	9.15	9.10	9.12	---	---	---
27	8.67	8.63	8.65	7.69	7.64	7.66	9.17	9.15	9.16	---	---	---
28	8.72	8.67	8.69	7.75	7.69	7.72	---	---	---	---	---	---
29	8.72	7.50	7.73	7.82	7.75	7.78	---	---	---	---	---	---
30	---	---	---	7.88	7.82	7.84	---	---	---	---	---	---
31	---	---	---	7.96	7.88	7.92	---	---	---	---	---	---
MONTH	9.10	7.50	8.73	7.96	7.01	7.43	9.17	7.96	8.62	---	---	---
YEAR	11.31	7.01	9.93									

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	604	602	572	570	570	569	574	571	588	584	592	588
2	604	602	572	571	570	568	572	569	587	583	593	590
3	604	601	572	568	570	568	571	570	587	585	594	590
4	603	602	572	569	570	569	571	570	586	582	595	591
5	603	601	572	567	571	570	573	569	586	582	596	592
6	601	600	572	567	572	568	573	569	585	582	597	593
7	603	600	571	567	572	571	573	570	585	580	597	593
8	603	568	571	567	572	570	574	570	586	579	598	595
9	577	575	571	567	572	568	575	574	586	580	600	595
10	577	575	571	567	571	570	577	572	585	581	601	594
11	577	575	568	567	571	571	578	574	584	583	601	594
12	577	575	569	567	572	571	579	575	585	584	601	595
13	576	575	569	566	572	570	583	578	585	581	599	595
14	577	575	568	567	573	568	584	579	584	580	599	595
15	578	574	568	567	573	569	584	580	585	581	599	595
16	579	574	568	568	573	569	586	581	584	580	598	593
17	578	574	569	565	573	569	590	583	583	582	596	592
18	578	573	569	565	574	570	591	584	583	582	594	593
19	576	572	569	565	573	570	592	588	583	582	593	591
20	575	573	568	566	573	571	592	589	583	583	592	588
21	576	573	568	567	573	572	593	588	584	583	592	588
22	576	573	567	567	573	571	592	588	584	581	592	588
23	576	572	568	567	572	572	591	588	584	583	591	587
24	575	573	569	565	572	572	591	588	585	581	590	586
25	574	572	569	565	573	571	591	587	585	581	590	587
26	573	572	569	567	573	569	591	587	588	582	588	585
27	573	572	570	568	573	570	590	586	589	585	586	585
28	573	570	569	567	574	570	590	585	591	586	587	585
29	573	570	568	567	574	570	589	585	---	---	586	585
30	573	570	569	568	574	570	588	585	---	---	586	585
31	572	570	---	---	574	570	589	585	---	---	586	585
MONTH	604	568	572	565	574	568	593	569	591	579	601	585

393541083001100 PK-48 NR CIRCLEVLE OH—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	589	585	612	605	611	606	666	629	600	592	---	---
2	587	586	621	612	611	607	629	618	601	594	---	---
3	588	584	632	619	613	608	618	612	600	596	---	---
4	587	584	637	629	612	610	612	607	603	598	---	---
5	588	584	639	635	614	612	607	598	604	601	---	---
6	590	585	639	634	616	614	600	594	607	603	---	---
7	590	583	637	636	618	616	598	594	609	605	---	---
8	589	585	641	636	619	617	598	594	615	607	---	---
9	588	585	641	635	620	618	595	588	617	615	---	---
10	589	587	635	628	622	620	590	584	619	616	---	---
11	589	583	628	620	622	621	586	579	625	619	---	---
12	589	585	620	614	624	622	582	575	631	622	---	---
13	588	585	614	610	626	623	580	574	633	630	---	---
14	586	585	610	606	628	625	577	574	638	632	---	---
15	587	585	607	605	629	626	578	573	645	635	---	---
16	586	584	606	604	629	627	576	575	649	642	---	---
17	590	585	605	602	632	629	576	574	653	645	---	---
18	602	589	604	601	634	631	577	574	651	646	---	---
19	618	602	603	601	635	631	579	576	656	650	---	---
20	626	618	602	600	635	630	578	576	659	649	---	---
21	628	625	602	601	634	631	580	578	657	649	---	---
22	628	626	602	601	632	630	582	579	660	650	---	---
23	627	622	602	601	632	631	584	581	662	649	---	---
24	623	618	602	601	635	631	586	583	662	650	---	---
25	618	613	602	601	636	632	589	585	654	649	---	---
26	613	610	602	601	634	632	590	586	659	650	---	---
27	610	605	604	602	635	632	592	587	654	650	---	---
28	606	603	605	603	633	631	593	590	---	---	---	---
29	604	603	606	602	647	631	594	590	---	---	---	---
30	605	603	608	604	715	647	595	590	---	---	---	---
31	---	---	610	605	---	---	597	591	---	---	---	---
MONTH	628	583	641	600	715	606	666	573	662	592	---	---
YEAR	715	565										

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.7	1.0	13.7	5.1	4.2	.7	3.3	-10.7	9.0	-7.2	9.9	-.1
2	20.3	-1.3	10.1	4.0	5.1	-1.2	9.3	2.8	11.9	-1.9	6.7	-1.9
3	26.3	6.8	4.5	.3	11.9	.6	13.0	8.8	3.5	-3.0	2.9	-2.1
4	29.7	11.3	4.1	-.1	7.7	-.9	16.4	3.7	-.7	-2.2	2.9	-1.6
5	29.0	10.8	11.4	1.5	-.9	-5.9	16.2	5.4	-1.0	-2.2	3.2	-3.5
6	28.2	10.1	10.3	1.2	-3.5	-7.3	14.5	10.8	.4	-5.6	10.0	-3.0
7	29.3	10.6	8.8	.3	-.8	-3.5	14.5	7.6	5.9	-7.6	13.8	-1.4
8	27.8	9.6	7.0	4.5	1.3	-2.4	13.4	5.8	3.8	-7.7	16.2	6.3
9	27.1	11.7	8.3	3.4	2.2	-1.6	7.7	1.6	9.3	-6.8	14.4	-3.4
10	24.1	8.2	7.6	3.1	6.1	1.6	5.2	-3.6	11.0	-3.1	-3.4	-6.6
11	21.1	2.7	6.9	.6	1.6	-.9	.4	-7.4	10.3	4.7	-4.2	-9.9
12	27.8	1.4	3.2	-7.9	-.5	-1.4	7.8	-1.0	4.7	.6	-2.4	-10.4
13	28.3	13.6	3.5	-6.7	3.2	-2.8	8.5	-7.7	3.8	-.7	3.1	-11.4
14	16.9	2.1	1.7	.0	-.3	-8.7	3.0	-11.2	6.6	-2.6	4.7	-4.4
15	14.6	-.5	1.4	-3.3	6.4	-9.0	3.4	-.8	9.8	-6.3	2.7	-9.3
16	14.1	-.6	-.3	-6.2	9.8	-7.1	.6	-1.8	7.0	1.3	7.1	-3.5
17	15.0	3.7	1.0	-8.5	8.2	-7.0	.8	-1.8	10.8	5.8	8.3	-.1
18	15.9	4.1	4.8	-9.6	7.6	-8.9	-1.0	-6.6	7.8	3.1	11.6	6.9
19	18.3	.0	10.2	-5.5	12.8	-1.2	-.3	-9.5	5.2	2.8	17.1	7.1
20	15.8	-.5	12.4	-3.9	8.7	-3.7	-2.2	-8.8	4.7	3.0	9.4	1.7
21	14.3	-3.8	6.8	2.4	4.4	-.9	1.2	-8.2	6.6	.9	1.7	-1.2
22	8.1	-6.7	5.5	2.8	9.5	.0	5.7	-.8	10.0	2.1	3.6	-1.4
23	11.8	-8.2	5.0	-4.4	5.4	1.7	6.1	-.8	4.8	1.5	6.5	-3.9
24	8.8	-2.8	.3	-7.1	8.0	1.7	.5	-1.4	6.2	-2.7	7.8	-3.2
25	14.7	7.0	12.2	-6.7	7.2	1.5	.3	-3.3	10.2	-2.2	10.6	-4.1
26	13.9	6.8	11.5	.6	1.5	-.2	7.3	-5.7	15.8	-2.3	23.0	6.2
27	7.8	2.0	7.7	-4.5	1.7	-4.0	6.4	-2.3	17.6	4.1	24.9	9.8
28	9.0	-2.8	17.3	5.3	1.2	-8.6	11.2	-4.2	13.1	2.1	22.5	9.8
29	13.9	-2.1	15.2	8.3	.9	-7.0	8.1	-1.8	---	---	25.8	9.8
30	16.9	-1.6	11.6	4.2	-1.7	-4.8	1.2	-1.0	---	---	26.3	14.4
31	17.4	1.4	---	---	-3.9	-9.0	3.1	-6.9	---	---	27.4	14.4
MONTH	29.7	-8.2	17.3	-9.6	12.8	-9.0	16.4	-11.2	17.6	-7.7	27.4	-11.4

393541083001100 PK-48 NR CIRCLEVLE OH—Continued

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	16.5	7.8	15.1	11.9	24.1	12.9	26.9	14.2	25.7	10.5	---	---
2	13.1	3.2	14.3	10.8	28.5	14.3	27.1	14.0	29.0	10.1	---	---
3	13.5	-1.3	20.3	8.4	21.8	9.2	28.5	12.6	30.9	13.1	---	---
4	8.1	.5	19.0	7.0	19.2	10.5	26.9	17.3	30.7	13.4	---	---
5	---	---	20.9	8.2	15.6	9.2	25.5	16.6	29.5	15.9	---	---
6	15.1	-1.6	23.7	9.3	16.3	7.5	28.2	13.6	33.3	16.7	---	---
7	18.4	-.2	17.0	14.1	19.7	4.8	28.6	16.0	34.5	18.7	---	---
8	21.6	9.7	20.7	13.8	22.1	5.7	28.9	20.7	33.0	16.7	---	---
9	13.3	5.7	21.5	13.5	15.4	12.8	28.5	18.6	28.8	19.3	---	---
10	13.0	.6	22.1	13.8	27.4	15.1	27.4	14.7	24.2	18.4	---	---
11	14.6	-2.2	18.7	10.7	20.4	17.6	23.9	10.1	28.9	15.9	---	---
12	19.0	-1.1	22.2	7.1	28.2	16.9	26.5	10.1	26.6	14.7	---	---
13	21.7	3.4	26.0	11.2	24.3	16.3	29.2	11.3	28.0	13.9	---	---
14	17.6	8.4	29.4	12.4	23.5	13.5	25.9	19.0	27.3	15.2	---	---
15	18.1	3.6	29.9	13.0	23.3	15.4	27.9	19.8	29.1	16.2	---	---
16	21.7	12.2	27.6	15.4	23.9	16.2	27.8	20.2	30.6	16.8	---	---
17	15.0	3.4	27.1	10.2	27.1	16.5	28.2	15.4	30.5	18.8	---	---
18	12.4	.8	28.5	8.3	29.9	15.4	29.7	17.6	28.9	17.5	---	---
19	8.1	6.0	29.2	9.9	28.4	18.4	30.5	18.4	24.1	10.4	---	---
20	15.9	2.1	27.9	16.1	29.8	13.6	29.0	18.1	28.0	7.8	---	---
21	17.8	3.0	23.7	11.9	27.9	17.6	31.8	21.0	30.4	10.2	---	---
22	16.1	6.9	20.8	9.9	30.4	18.2	30.5	19.0	30.3	14.7	---	---
23	18.5	6.0	20.8	11.4	25.8	17.9	26.6	19.0	30.6	14.3	---	---
24	21.2	3.0	24.5	13.7	31.0	18.2	25.1	13.8	31.2	17.1	---	---
25	20.9	6.0	21.3	14.5	33.6	20.0	26.5	13.3	32.6	16.8	---	---
26	19.5	7.2	21.0	10.3	33.3	22.4	26.5	11.9	27.6	16.2	---	---
27	13.5	3.2	25.0	11.7	32.9	23.1	27.8	11.9	---	---	---	---
28	18.6	-.5	27.4	12.9	32.0	19.5	28.3	14.3	---	---	---	---
29	17.1	6.2	29.6	15.0	26.4	17.9	30.3	16.2	---	---	---	---
30	16.1	12.6	29.5	17.2	26.3	17.7	25.9	18.1	---	---	---	---
31	---	---	27.0	19.1	---	---	25.4	14.3	---	---	---	---
MONTH	21.7	-2.2	29.9	7.0	33.6	4.8	31.8	10.1	34.5	7.8	---	---
YEAR	34.5	-11.4										

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.6	12.6	12.9	12.8	13.1	13.1	13.3	13.0	12.8	12.6	12.4	12.1
2	12.7	12.6	12.8	12.8	13.1	13.0	13.3	13.1	12.8	12.6	12.3	12.1
3	12.7	12.6	13.1	12.8	13.1	13.0	13.1	13.1	12.6	12.6	12.4	12.1
4	12.7	12.6	13.1	12.8	13.1	13.0	13.1	13.1	12.8	12.6	12.4	12.1
5	12.7	12.6	13.1	12.8	13.1	13.0	13.1	12.9	12.8	12.6	12.3	12.1
6	12.7	12.6	13.1	12.8	13.3	13.0	13.1	12.8	12.8	12.6	12.4	12.1
7	12.7	12.6	13.1	12.8	13.1	13.0	13.1	12.8	12.8	12.6	12.4	12.1
8	12.7	12.6	13.1	12.8	13.1	13.0	13.1	12.8	12.8	12.3	12.2	11.9
9	12.7	12.6	13.1	12.8	13.3	13.0	12.8	12.8	12.8	12.3	12.2	11.9
10	12.7	12.6	13.1	12.8	13.1	13.1	13.1	12.8	12.6	12.3	12.3	11.9
11	12.7	12.6	13.1	13.1	13.1	13.0	13.0	12.8	12.4	12.4	12.3	11.9
12	12.7	12.6	13.1	13.0	13.1	13.0	13.0	12.8	12.4	12.4	12.3	11.9
13	12.7	12.6	13.3	13.0	13.1	13.0	13.1	12.8	12.6	12.3	12.3	11.9
14	12.6	12.6	13.1	13.1	13.3	13.0	13.0	12.8	12.6	12.3	12.1	11.9
15	12.8	12.6	13.1	13.0	13.3	13.0	13.1	12.8	12.6	12.3	12.1	11.9
16	12.9	12.6	13.1	13.0	13.3	13.0	13.0	12.8	12.6	12.4	12.1	11.9
17	12.9	12.6	13.3	13.0	13.3	13.0	13.0	12.6	12.4	12.4	12.1	11.9
18	12.9	12.6	13.3	13.0	13.3	13.0	13.0	12.6	12.4	12.4	11.9	11.9
19	12.9	12.6	13.3	13.0	13.1	13.0	12.8	12.5	12.4	12.4	12.0	11.9
20	12.9	12.8	13.1	13.0	13.1	13.0	12.8	12.6	12.4	12.4	12.1	11.9
21	12.9	12.8	13.1	13.1	13.1	13.0	12.8	12.6	12.4	12.4	12.1	11.9
22	13.0	12.8	13.1	13.1	13.1	13.0	12.8	12.6	12.4	12.4	12.1	11.9
23	13.0	12.8	13.1	13.0	13.1	13.1	12.8	12.6	12.4	12.4	12.1	11.9
24	12.8	12.8	13.3	13.0	13.1	13.1	12.8	12.6	12.6	12.3	12.1	11.9
25	12.9	12.8	13.3	13.0	13.1	13.1	12.8	12.6	12.6	12.3	12.1	11.9
26	12.9	12.8	13.1	13.1	13.3	13.0	12.8	12.6	12.6	12.1	12.0	11.9
27	12.8	12.8	13.1	13.0	13.3	13.0	12.8	12.6	12.4	12.1	12.0	11.9
28	12.9	12.8	13.1	13.1	13.3	13.0	12.8	12.6	12.4	12.1	12.0	11.9
29	12.9	12.8	13.1	13.1	13.3	13.0	12.8	12.6	---	---	12.0	11.9
30	12.9	12.8	13.1	13.1	13.3	13.0	12.8	12.6	---	---	12.0	11.9
31	12.9	12.8	---	---	13.3	13.0	12.8	12.6	---	---	12.0	11.9
MONTH	13.0	12.6	13.3	12.8	13.3	13.0	13.3	12.5	12.8	12.1	12.4	11.9

393541083001100 PK-48 NR CIRCLEVLE OH—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	12.0	11.7	11.7	11.7	12.0	11.7	12.4	12.2	12.7	12.4	---	---
2	11.9	11.9	11.7	11.5	12.0	11.7	12.4	12.2	12.7	12.4	---	---
3	12.1	11.9	11.8	11.5	12.0	11.7	12.4	12.1	12.7	12.6	---	---
4	12.1	11.9	11.8	11.5	12.0	11.9	12.2	12.2	12.7	12.6	---	---
5	---	---	11.8	11.5	11.9	11.9	12.4	12.2	12.7	12.6	---	---
6	12.0	11.7	11.9	11.5	11.9	11.9	12.5	12.2	12.7	12.6	---	---
7	12.1	11.7	11.7	11.7	12.0	11.9	12.5	12.2	12.7	12.6	---	---
8	11.9	11.7	11.7	11.7	12.0	11.9	12.4	12.2	12.7	12.6	---	---
9	11.9	11.7	11.8	11.7	11.9	11.9	12.4	12.2	12.7	12.6	---	---
10	11.7	11.7	11.8	11.5	12.0	11.9	12.4	12.2	12.7	12.6	---	---
11	12.1	11.7	11.7	11.7	12.0	11.9	12.4	12.1	12.7	12.6	---	---
12	11.9	11.7	11.8	11.7	12.0	11.9	12.4	12.2	12.7	12.6	---	---
13	11.9	11.7	11.8	11.7	12.0	11.9	12.5	12.1	12.7	12.6	---	---
14	11.7	11.7	11.8	11.7	12.0	11.9	12.4	12.2	12.7	12.6	---	---
15	11.7	11.7	11.8	11.7	12.0	11.9	12.4	12.2	12.7	12.6	---	---
16	11.8	11.7	11.8	11.7	12.0	11.9	12.5	12.4	12.7	12.6	---	---
17	11.7	11.7	11.8	11.7	12.0	11.9	12.4	12.4	12.9	12.6	---	---
18	11.9	11.7	11.8	11.7	12.0	11.9	12.5	12.4	12.9	12.6	---	---
19	11.7	11.7	11.8	11.7	12.0	11.9	12.5	12.4	12.9	12.6	---	---
20	11.7	11.7	11.8	11.7	12.0	11.9	12.5	12.4	12.9	12.6	---	---
21	11.9	11.7	11.8	11.7	12.0	11.9	12.5	12.4	12.9	12.6	---	---
22	11.7	11.7	11.8	11.7	12.0	11.9	12.5	12.4	12.9	12.6	---	---
23	11.7	11.7	11.8	11.7	12.0	11.9	12.4	12.4	12.9	12.6	---	---
24	11.9	11.7	11.8	11.7	12.0	11.9	12.4	12.4	12.9	12.6	---	---
25	11.8	11.7	11.8	11.7	12.0	11.9	12.4	12.4	12.9	12.7	---	---
26	11.7	11.7	11.8	11.7	12.0	12.0	12.5	12.4	12.9	12.9	---	---
27	11.7	11.7	11.8	11.7	12.0	12.0	12.5	12.4	---	---	---	---
28	11.9	11.7	11.8	11.7	12.0	12.0	12.5	12.4	---	---	---	---
29	11.7	11.7	12.0	11.7	12.2	11.9	12.5	12.4	---	---	---	---
30	11.7	11.7	12.0	11.7	12.4	12.2	12.6	12.4	---	---	---	---
31	---	---	12.0	11.7	---	---	12.6	12.4	---	---	---	---
MONTH	12.1	11.7	12.0	11.5	12.4	11.7	12.6	12.1	12.9	12.4	---	---
YEAR	13.3	11.5										

TEMPERATURE, SOIL (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.7	15.7	10.9	10.1	8.9	7.3	2.5	2.2	3.3	2.6	7.0	6.2
2	15.7	14.1	11.0	10.3	7.3	6.7	3.4	2.2	4.0	2.8	6.8	6.0
3	15.8	14.4	10.3	9.6	7.1	6.6	5.1	3.4	3.8	3.2	6.0	5.3
4	16.8	15.4	9.6	9.1	7.6	7.0	5.9	5.1	3.4	2.1	5.5	5.1
5	17.4	16.4	9.5	9.1	7.0	5.8	6.2	5.3	2.3	2.1	5.2	4.7
6	17.4	16.4	9.4	8.9	5.8	4.6	7.3	6.1	2.6	2.2	5.6	4.5
7	17.6	16.6	9.4	8.6	4.6	4.4	8.6	7.3	2.6	2.1	6.3	5.1
8	17.7	16.8	9.1	8.8	4.7	4.5	8.6	7.9	2.4	2.2	7.3	5.5
9	18.0	16.9	9.4	9.1	4.8	4.2	8.5	7.4	2.2	2.0	8.0	6.9
10	18.0	17.5	9.3	9.0	5.5	4.2	7.4	6.5	2.6	2.0	6.9	4.2
11	17.5	15.8	9.1	8.7	5.4	5.0	6.5	5.2	3.4	2.5	4.2	3.2
12	16.1	14.7	8.7	7.4	5.0	4.8	5.5	4.9	3.9	3.4	3.2	2.6
13	17.5	16.0	7.4	5.8	4.8	4.5	5.8	4.7	3.9	3.6	2.6	2.2
14	16.4	15.6	6.5	5.8	4.5	3.9	4.7	3.5	4.0	3.6	2.7	2.2
15	15.6	14.0	6.6	6.3	3.9	3.3	3.8	3.3	3.7	3.0	2.6	2.3
16	14.1	13.0	6.3	5.9	3.5	3.0	3.9	3.6	4.0	2.9	2.9	2.3
17	13.5	13.0	5.9	5.0	3.4	2.9	3.9	3.6	5.1	4.0	3.6	2.5
18	13.5	12.9	5.0	4.2	3.2	2.7	3.8	3.5	5.5	5.0	5.4	3.5
19	13.3	12.4	5.2	4.2	4.1	2.9	3.5	2.7	5.5	5.0	7.3	5.4
20	13.1	12.4	5.7	4.8	4.0	3.5	2.7	2.3	5.6	5.2	7.1	6.5
21	12.8	11.4	5.8	5.2	4.1	3.8	2.3	2.1	5.7	5.3	6.9	4.8
22	12.1	10.4	6.5	5.8	4.5	3.2	2.9	2.0	6.1	5.4	4.8	4.5
23	10.5	9.2	6.7	6.2	5.0	4.5	3.6	2.1	6.0	4.9	4.8	4.3
24	10.1	9.1	6.2	5.2	5.0	4.4	3.5	3.3	5.3	4.6	5.2	4.4
25	11.3	9.7	5.7	4.5	5.6	5.0	3.4	3.1	5.4	4.7	5.6	4.2
26	11.2	10.1	6.7	5.7	5.5	5.0	3.2	2.7	5.9	4.6	8.0	5.5
27	11.5	10.5	6.5	5.7	5.0	4.3	3.6	2.9	7.3	5.1	10.2	8.0
28	10.5	9.9	7.8	6.1	4.3	3.6	3.7	3.1	7.4	6.1	10.9	9.5
29	10.0	9.2	8.6	7.6	3.6	3.2	3.6	3.0	---	---	12.0	10.4
30	10.1	9.0	8.9	8.0	3.2	3.1	3.6	3.3	---	---	12.8	11.5
31	10.4	9.5	---	---	3.1	2.5	3.7	3.3	---	---	13.1	12.1
MONTH	18.0	9.0	11.0	4.2	8.9	2.5	8.6	2.0	7.4	2.0	13.1	2.2

393541083001100 PK-48 NR CIRCLEVLE OH—Continued

TEMPERATURE, SOIL (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	13.0	12.2	13.1	12.1	20.2	19.4	23.1	22.3	22.1	20.8	---	---
2	12.2	11.2	13.1	11.8	19.9	18.9	22.8	21.9	21.7	20.3	---	---
3	11.2	8.5	13.6	11.2	19.9	18.6	22.4	21.5	21.9	20.7	---	---
4	10.3	8.5	13.7	12.6	18.6	17.8	22.4	21.1	22.1	20.8	---	---
5	---	---	14.3	13.1	17.9	14.7	22.5	22.1	22.6	21.6	---	---
6	9.3	8.2	14.9	13.6	16.7	16.2	22.4	21.6	23.2	21.9	---	---
7	9.5	7.2	14.8	12.3	16.4	15.6	22.6	21.8	23.7	22.6	---	---
8	11.4	8.6	15.6	13.7	16.5	15.5	23.3	22.5	23.8	22.7	---	---
9	11.5	10.8	16.0	15.3	16.5	15.9	23.3	22.7	23.8	22.6	---	---
10	11.1	10.4	16.4	15.6	18.3	16.5	23.1	22.6	23.6	22.8	---	---
11	10.7	9.3	16.3	15.6	18.3	17.0	22.9	21.4	23.4	22.4	---	---
12	10.5	9.1	15.9	14.8	20.0	17.2	21.8	20.7	23.2	22.2	---	---
13	11.0	9.6	16.4	15.2	19.9	17.6	21.8	20.6	22.6	21.6	---	---
14	11.9	10.4	17.2	15.9	19.7	18.2	22.3	21.6	22.6	21.6	---	---
15	11.8	9.8	17.8	16.5	19.7	18.2	22.8	22.1	23.0	21.8	---	---
16	13.4	10.1	18.4	17.4	20.0	19.2	23.2	22.5	23.0	22.1	---	---
17	13.4	12.4	18.2	17.1	20.6	19.7	23.1	22.4	23.6	22.5	---	---
18	12.4	11.1	17.9	16.7	21.3	20.1	23.1	22.1	23.7	23.0	---	---
19	11.4	9.9	18.2	16.8	21.8	21.1	23.6	22.4	23.5	21.9	---	---
20	11.6	10.4	18.8	16.9	21.7	20.7	23.7	22.6	21.9	20.5	---	---
21	11.8	10.6	18.7	16.1	21.7	21.1	24.6	23.3	21.6	20.3	---	---
22	12.3	11.3	18.1	17.0	22.2	20.6	24.6	23.8	22.3	20.8	---	---
23	12.5	11.4	17.4	14.4	22.1	20.6	24.5	23.3	22.8	21.6	---	---
24	12.7	11.4	17.6	15.9	22.8	21.5	24.1	22.9	23.1	22.0	---	---
25	13.1	12.1	18.3	17.0	23.5	22.4	22.9	22.0	23.2	22.3	---	---
26	13.1	11.0	18.2	17.5	24.0	23.0	22.5	21.4	23.1	22.2	---	---
27	12.4	11.9	18.1	17.1	24.3	23.5	22.3	21.1	---	---	---	---
28	12.3	11.1	18.8	17.5	24.7	22.9	22.7	21.4	---	---	---	---
29	12.3	10.6	19.4	16.3	23.6	20.6	23.1	21.8	---	---	---	---
30	12.7	11.0	20.0	16.2	23.2	21.9	23.1	21.9	---	---	---	---
31	---	---	20.3	19.5	---	---	22.8	22.1	---	---	---	---
MONTH	13.4	7.2	20.3	11.2	24.7	14.7	24.6	20.6	23.8	20.3	---	---
YEAR	24.7	2.0										

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.06	.00	.00	.00	.00	.56	.31	.00	.00	.00	---
2	.00	.01	.00	.00	.00	.00	.00	.43	.02	.00	.00	---
3	.00	.02	.20	.00	.00	.01	.03	.36	.07	.01	.00	---
4	.00	.01	.00	.00	.04	.04	.07	.08	.00	.00	.00	---
5	.00	.00	.01	.28	.18	.02	.00	.00	.04	.24	.00	---
6	.00	.00	.00	.25	.10	.00	.00	.00	.00	.03	.00	---
7	.00	.27	.00	1.02	.00	.00	.06	.98	.00	.02	.00	---
8	.00	.24	.00	.39	.00	.26	.57	.00	.00	.00	.00	---
9	.00	.00	.09	.04	.00	.31	.92	.00	.43	.16	.22	---
10	.01	.01	.68	.00	.00	.00	.02	.00	.00	.00	.39	---
11	.00	.00	.01	.00	.18	.00	.00	.00	.74	.00	.01	---
12	.00	.00	.00	.02	.01	.00	.00	.00	1.19	.00	.00	---
13	.05	.75	.00	.01	.00	.00	.00	.00	.28	.00	.00	---
14	.21	.10	.00	.00	.00	.00	.03	.00	.24	.01	.00	---
15	.00	.09	.00	.03	.00	.00	.88	.00	1.30	.03	.00	---
16	.00	.00	.00	.00	.25	.00	1.73	.00	.39	.01	1.43	---
17	.00	.00	.00	.03	.25	.30	.02	.00	.00	.00	.00	---
18	.00	.01	.00	.00	.64	.17	.01	.00	.00	.00	.00	---
19	.00	.00	.00	.00	.05	.00	.50	.00	.01	.62	.00	---
20	.00	.00	.00	.00	.03	.29	.00	.23	.00	.25	.00	---
21	.00	.73	.00	.00	.00	.68	.01	.08	.04	.00	.00	---
22	.00	.20	.44	.25	.00	.00	.01	.00	.19	.00	.00	---
23	.00	.00	.00	.14	.01	.09	.00	.40	.07	.26	.00	---
24	.34	.00	.36	.00	.02	.01	.00	.35	.00	.00	.01	---
25	.06	.00	.06	.00	.01	.00	.03	.01	.00	.00	.90	---
26	1.61	.00	.00	.00	.00	.00	.51	.00	.00	.00	.02	---
27	.00	.00	.00	.00	.02	.00	.00	.00	.00	.00	.00	---
28	.00	.01	.00	.00	.26	.00	.01	.00	.07	.00	---	---
29	.00	.03	.00	.00	---	.00	.24	.03	.38	.00	---	---
30	.00	.46	.00	.00	---	.00	.77	.19	.02	.13	---	---
31	.00	---	.00	.00	---	.00	---	.10	---	.00	---	---
TOTAL	2.28	3.00	1.85	2.46	2.05	2.18	6.98	3.55	5.48	1.77	2.98	---

WTR YR 1998 TOTAL 34.58

393541083001100 PK-48 NR CIRCLEVLE OH—Continued

DEICING SALT LBS/LANE-MILE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	1000	---	---	---	---	---	---	---	---	---
6	---	---	1000	---	---	---	---	---	---	---	---	---
7	---	---	400	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	400	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	200	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	400	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	100	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	400	---	---	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	1200	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	800	4000	300	---	---	---	---	---	---	---	---

WTR YR 1998 TOTAL 5100

GROUND-WATER RECORDS

400949083480100. Local number, CH-42.

LOCATION.--Lat 40°09'49" Long 83°48'01", Hydrologic Unit 05080001, along State Route 29 near Urbana, OH.
Owner.--USGS/Jack Sommers.

AQUIFER.--Sand and Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 28.7 ft. Cased with Sch 40 PVC to 13.7 ft; .020 in. screen from 13.7 to 28.7 ft.

INSTRUMENTATION - Data logger--60 minute record. Precipitation data was collected with a propane-heated, tipping-bucket rain gauge. Also collected: water level, air temperature, soil temperature, water temperature, and specific conductance. Conductivity/water temperature probe set at 23.7 feet below land surface.

DATUM.--Elevation of land-surface datum is 1029.89 feet above sea level.
Measuring point: shelter shelf 2.32 ft above land-surface datum.

REMARKS.--This station is part of an eight-site network to collect data for the Ohio Department of Transportation concerning road salt application and its effect(s) on shallow ground-water quality. Water-quality data for nearby wells is available in preceding tables. Incomplete data this year due to problems with recorder.

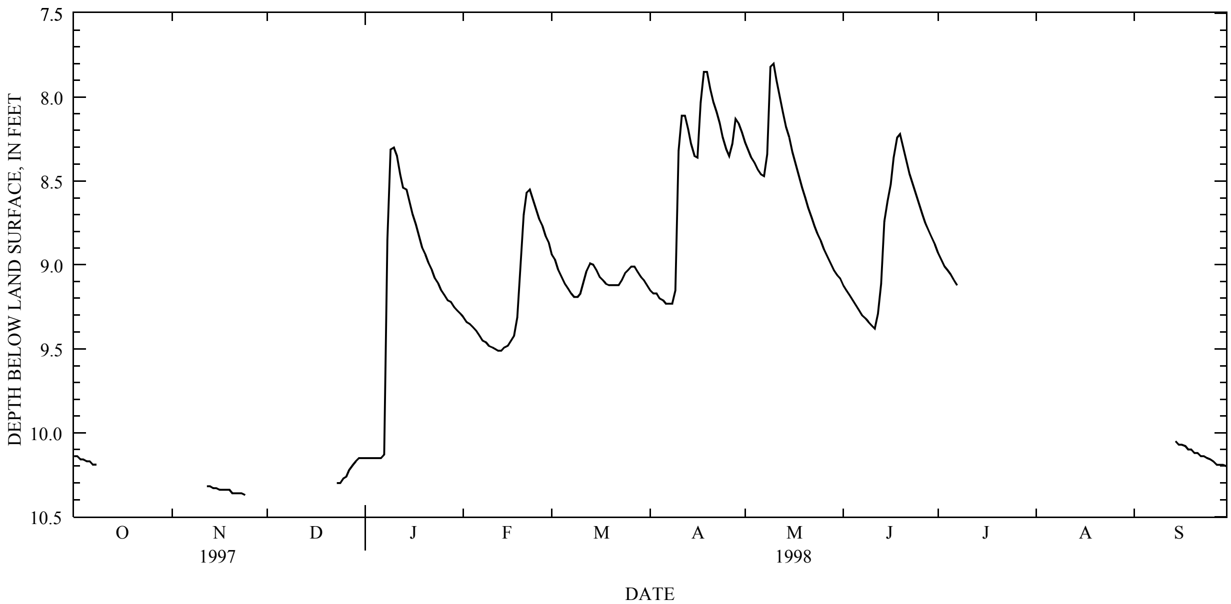
PERIOD OF RECORD.--February 1991 to current year.

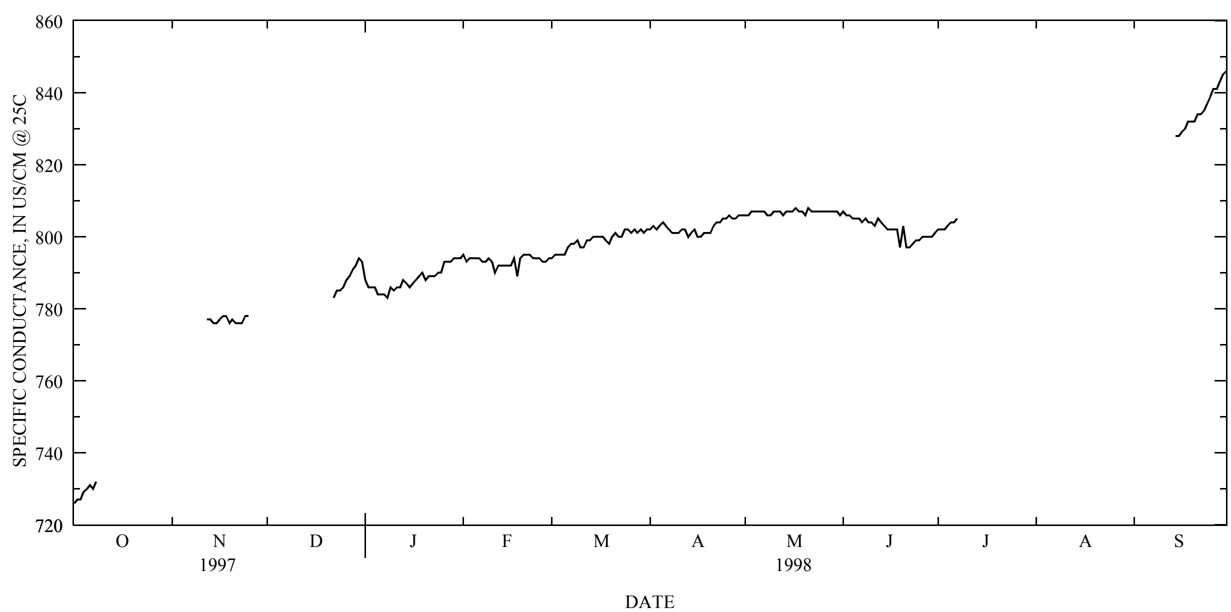
PERIOD OF DAILY RECORD.--
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: February 1991 to current year.
AIR TEMPERATURE: February 1991 to current year.
WATER TEMPERATURE: February 1991 to current year.
SOIL TEMPERATURE: February 1991 to current year.
PRECIPITATION: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER LEVEL: Maximum daily low, 10.62 ft. below land-surface datum, December 19, 1991; maximum daily high, 4.64 ft. below land-surface datum, May 11, 1996.
SPECIFIC CONDUCTANCE: Maximum, 919 microsiemens December 11-12, 1993; minimum, 712 microsiemens August 23-24, 1997.
AIR TEMPERATURE: Maximum, 37.6°C June 18, 1994; minimum, -33.6°C January 19, 1994.
WATER TEMPERATURE: Maximum, 13.2°C many days October, November 1992; minimum, 10.2°C many days in May, June, and July, 1996.
SOIL TEMPERATURE: Maximum, 30.5°C August 2, 1991; minimum, -1.8°C Februrary 10, 1994.

EXTREMES FOR CURRENT YEAR.--
WATER LEVEL: Maximum daily low, 10.37 ft. below land-surface datum, November 24, 1997; maximum daily high, 7.74 ft. below land-surface datum, May 9-10, 1998.
SPECIFIC CONDUCTANCE: Maximum, 846 microsiemens September 30, 1998; minimum, 721 microsiemens October 1, 1997.
AIR TEMPERATURE: Maximum, 33.6°C September 18, 1998; minimum, -15.0°C December 31, 1997.
WATER TEMPERATURE: Maximum, 12.4°C many days in September 30, 1998; minimum, 10.8°C April 21-June 18, 20, 1998.
SOIL TEMPERATURE: Maximum, 24.7°C June 28, 1998; minimum, 2.5°C January 1, 1998.

400949083480100 CH-42 NR URBANA OH—Continued





400949083480100 CH-42 NR URBANA OH—Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
1	10.14	10.14	10.14	---	---	---	---	---	---	10.15	10.14	10.15
2	10.14	10.14	10.14	---	---	---	---	---	---	10.15	10.15	10.15
3	10.16	10.14	10.16	---	---	---	---	---	---	10.15	10.15	10.15
4	10.16	10.16	10.16	---	---	---	---	---	---	10.15	10.15	10.15
5	10.17	10.16	10.17	---	---	---	---	---	---	10.15	10.15	10.15
6	10.17	10.17	10.17	---	---	---	---	---	---	10.15	10.13	10.15
7	10.19	10.17	10.18	---	---	---	---	---	---	10.13	8.85	9.65
8	10.19	10.19	10.19	---	---	---	---	---	---	8.85	8.31	8.50
9	---	---	---	---	---	---	---	---	---	8.31	8.25	8.27
10	---	---	---	---	---	---	---	---	---	8.30	8.26	8.27
11	---	---	---	---	---	---	---	---	---	8.35	8.30	8.32
12	---	---	---	10.32	10.32	10.32	---	---	---	8.46	8.35	8.39
13	---	---	---	10.32	10.32	10.32	---	---	---	8.54	8.46	8.50
14	---	---	---	10.33	10.32	10.32	---	---	---	8.55	8.54	8.54
15	---	---	---	10.33	10.33	10.33	---	---	---	8.62	8.55	8.58
16	---	---	---	10.34	10.33	10.33	---	---	---	8.70	8.62	8.65
17	---	---	---	10.34	10.34	10.34	---	---	---	8.76	8.70	8.73
18	---	---	---	10.34	10.34	10.34	---	---	---	8.83	8.76	8.80
19	---	---	---	10.34	10.34	10.34	---	---	---	8.90	8.83	8.86
20	---	---	---	10.36	10.34	10.35	---	---	---	8.94	8.90	8.92
21	---	---	---	10.36	10.36	10.36	---	---	---	8.99	8.94	8.97
22	---	---	---	10.36	10.36	10.36	---	---	---	9.03	8.99	9.02
23	---	---	---	10.36	10.36	10.36	10.30	10.30	10.30	9.08	9.03	9.06
24	---	---	---	10.37	10.36	10.37	10.30	10.27	10.29	9.11	9.08	9.10
25	---	---	---	---	---	---	10.27	10.26	10.26	9.15	9.11	9.13
26	---	---	---	---	---	---	10.26	10.22	10.24	9.18	9.15	9.17
27	---	---	---	---	---	---	10.22	10.19	10.21	9.21	9.18	9.19
28	---	---	---	---	---	---	10.19	10.17	10.18	9.22	9.21	9.21
29	---	---	---	---	---	---	10.17	10.15	10.16	9.25	9.22	9.23
30	---	---	---	---	---	---	10.15	10.15	10.15	9.27	9.25	9.26
31	---	---	---	---	---	---	10.15	10.15	10.15	9.29	9.27	9.29
MONTH	10.19	10.14	10.16	10.37	10.32	10.34	10.30	10.15	10.22	10.15	8.25	9.11

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	FEBRUARY			MARCH			APRIL			MAY		
1	9.31	9.29	9.30	8.94	8.87	8.90	9.15	9.12	9.13	8.27	8.21	8.23
2	9.34	9.31	9.33	8.97	8.94	8.96	9.17	9.15	9.16	8.32	8.27	8.29
3	9.35	9.34	9.35	9.03	8.97	9.00	9.17	9.17	9.17	8.36	8.32	8.34
4	9.37	9.35	9.36	9.07	9.03	9.05	9.20	9.17	9.19	8.39	8.36	8.37
5	9.39	9.37	9.38	9.11	9.07	9.09	9.21	9.20	9.21	8.43	8.39	8.41
6	9.42	9.39	9.41	9.14	9.11	9.12	9.23	9.21	9.21	8.46	8.43	8.45
7	9.45	9.42	9.43	9.17	9.14	9.16	9.23	9.23	9.23	8.47	8.34	8.46
8	9.46	9.45	9.45	9.19	9.17	9.18	9.23	9.15	9.19	8.34	7.82	8.01
9	9.48	9.46	9.47	9.19	9.17	9.17	9.15	8.32	8.78	7.82	7.74	7.77
10	9.49	9.48	9.49	9.17	9.10	9.14	8.32	8.11	8.19	7.80	7.74	7.76
11	9.50	9.49	9.49	9.10	9.03	9.06	8.11	8.05	8.07	7.90	7.80	7.84
12	9.51	9.50	9.50	9.03	8.99	9.01	8.11	8.05	8.08	8.00	7.90	7.95
13	9.51	9.49	9.50	8.99	8.96	8.98	8.19	8.11	8.15	8.09	8.00	8.05
14	9.49	9.48	9.49	9.00	8.95	8.98	8.28	8.19	8.23	8.18	8.09	8.13
15	9.48	9.45	9.47	9.03	9.00	9.01	8.35	8.28	8.32	8.24	8.18	8.21
16	9.45	9.42	9.43	9.07	9.03	9.05	8.36	8.03	8.21	8.33	8.24	8.29
17	9.42	9.31	9.38	9.09	9.07	9.08	8.03	7.85	7.93	8.40	8.33	8.37
18	9.31	9.02	9.17	9.11	9.09	9.10	7.85	7.80	7.82	8.47	8.40	8.44
19	9.02	8.70	8.85	9.12	9.11	9.12	7.85	7.79	7.81	8.54	8.47	8.51
20	8.70	8.57	8.62	9.12	9.12	9.12	7.95	7.85	7.91	8.60	8.54	8.57
21	8.57	8.54	8.55	9.12	9.12	9.12	8.03	7.95	7.99	8.66	8.60	8.63
22	8.55	8.54	8.55	9.12	9.09	9.11	8.09	8.03	8.06	8.72	8.66	8.69
23	8.61	8.55	8.57	9.09	9.05	9.07	8.16	8.09	8.13	8.77	8.72	8.74
24	8.67	8.61	8.64	9.05	9.03	9.04	8.24	8.16	8.20	8.82	8.77	8.79
25	8.73	8.67	8.71	9.03	9.01	9.02	8.31	8.24	8.28	8.86	8.82	8.84
26	8.77	8.73	8.75	9.01	9.00	9.00	8.35	8.28	8.33	8.91	8.86	8.89
27	8.83	8.77	8.79	9.01	9.00	9.01	8.28	8.13	8.19	8.95	8.91	8.93
28	8.87	8.83	8.85	9.04	9.01	9.02	8.13	8.11	8.11	8.99	8.95	8.97
29	---	---	---	9.07	9.04	9.06	8.16	8.11	8.13	9.03	8.99	9.01
30	---	---	---	9.09	9.07	9.08	8.21	8.16	8.19	9.06	9.03	9.04
31	---	---	---	9.12	9.09	9.11	---	---	---	9.08	9.06	9.07
MONTH	9.51	8.54	9.15	9.19	8.87	9.06	9.23	7.79	8.42	9.08	7.74	8.45

400949083480100 CH-42 NR URBANA OH—Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
	JUNE			JULY			AUGUST			SEPTEMBER		
1	9.12	9.08	9.10	8.93	8.88	8.91	---	---	---	---	---	---
2	9.15	9.12	9.13	8.97	8.93	8.95	---	---	---	---	---	---
3	9.18	9.15	9.17	9.01	8.97	8.99	---	---	---	---	---	---
4	9.21	9.18	9.20	9.03	9.01	9.02	---	---	---	---	---	---
5	9.24	9.21	9.23	9.06	9.03	9.04	---	---	---	---	---	---
6	9.27	9.24	9.26	9.09	9.06	9.08	---	---	---	---	---	---
7	9.30	9.27	9.28	9.12	9.09	9.11	---	---	---	---	---	---
8	9.32	9.30	9.31	---	---	---	---	---	---	---	---	---
9	9.34	9.32	9.33	---	---	---	---	---	---	---	---	---
10	9.36	9.34	9.35	---	---	---	---	---	---	---	---	---
11	9.38	9.29	9.35	---	---	---	---	---	---	---	---	---
12	9.29	9.11	9.21	---	---	---	---	---	---	---	---	---
13	9.11	8.74	8.91	---	---	---	---	---	---	---	---	---
14	8.74	8.62	8.67	---	---	---	---	---	---	10.05	10.05	10.05
15	8.62	8.52	8.57	---	---	---	---	---	---	10.07	10.05	10.05
16	8.52	8.36	8.43	---	---	---	---	---	---	10.07	10.07	10.07
17	8.36	8.24	8.30	---	---	---	---	---	---	10.08	10.07	10.07
18	8.24	8.18	8.20	---	---	---	---	---	---	10.10	10.08	10.09
19	8.22	8.18	8.19	---	---	---	---	---	---	10.10	10.10	10.10
20	8.30	8.22	8.26	---	---	---	---	---	---	10.12	10.10	10.11
21	8.38	8.30	8.34	---	---	---	---	---	---	10.12	10.12	10.12
22	8.46	8.38	8.42	---	---	---	---	---	---	10.14	10.12	10.13
23	8.52	8.46	8.49	---	---	---	---	---	---	10.14	10.14	10.14
24	8.58	8.52	8.55	---	---	---	---	---	---	10.15	10.14	10.14
25	8.64	8.58	8.61	---	---	---	---	---	---	10.16	10.15	10.16
26	8.70	8.64	8.66	---	---	---	---	---	---	10.17	10.16	10.16
27	8.75	8.70	8.72	---	---	---	---	---	---	10.19	10.17	10.18
28	8.80	8.75	8.78	---	---	---	---	---	---	10.19	10.19	10.19
29	8.84	8.80	8.83	---	---	---	---	---	---	10.19	10.19	10.19
30	8.88	8.84	8.86	---	---	---	---	---	---	10.20	10.19	10.19
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	9.38	8.18	8.82	9.12	8.88	9.01	---	---	---	10.20	10.05	10.13
YEAR	10.37	7.74	9.11									

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	726	721	---	---	---	---	788	783	795	790	794	791
2	727	722	---	---	---	---	786	785	793	790	795	793
3	727	722	---	---	---	---	786	785	794	791	795	794
4	729	723	---	---	---	---	786	784	794	792	795	793
5	730	723	---	---	---	---	784	783	794	793	795	793
6	731	725	---	---	---	---	784	783	794	790	797	793
7	730	725	---	---	---	---	784	782	793	789	798	792
8	732	726	---	---	---	---	783	781	793	790	798	792
9	---	---	---	---	---	---	786	781	794	790	799	792
10	---	---	---	---	---	---	785	781	793	789	797	795
11	---	---	---	---	---	---	786	780	790	790	797	795
12	---	---	777	773	---	---	786	780	792	790	799	793
13	---	---	777	775	---	---	788	781	792	790	799	795
14	---	---	776	775	---	---	787	782	792	789	800	794
15	---	---	776	775	---	---	786	782	792	789	800	795
16	---	---	777	775	---	---	787	782	792	789	800	793
17	---	---	778	774	---	---	788	786	794	789	800	795
18	---	---	778	774	---	---	789	785	789	788	799	797
19	---	---	776	773	---	---	790	785	794	789	798	796
20	---	---	777	774	---	---	788	787	795	789	800	797
21	---	---	776	775	---	---	789	788	795	788	801	799
22	---	---	776	775	783	782	789	788	795	787	800	797
23	---	---	776	775	785	783	789	787	794	789	800	797
24	---	---	778	775	785	784	790	788	794	789	802	797
25	---	---	778	774	786	785	790	789	794	789	802	797
26	---	---	---	---	788	786	793	787	793	791	801	797
27	---	---	---	---	789	787	793	787	793	791	802	796
28	---	---	---	---	791	787	793	789	794	791	801	797
29	---	---	---	---	792	787	794	789	---	---	802	797
30	---	---	---	---	794	787	794	789	---	---	801	797
31	---	---	---	---	793	785	794	789	---	---	802	800
MONTH	732	721	778	773	794	782	794	780	795	787	802	791

400949083480100 CH-42 NR URBANA OH—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	802	800	806	802	807	800	802	800	---	---	---	---
2	803	800	806	802	806	801	802	800	---	---	---	---
3	802	800	807	802	806	800	802	800	---	---	---	---
4	803	801	807	802	805	799	803	802	---	---	---	---
5	804	799	807	802	805	800	804	802	---	---	---	---
6	803	799	807	801	805	800	804	802	---	---	---	---
7	802	798	807	801	804	799	805	803	---	---	---	---
8	801	799	806	800	805	799	---	---	---	---	---	---
9	801	799	806	800	804	799	---	---	---	---	---	---
10	801	799	807	800	804	799	---	---	---	---	---	---
11	802	799	807	801	803	798	---	---	---	---	---	---
12	802	799	807	801	805	799	---	---	---	---	---	---
13	800	799	806	801	804	796	---	---	---	---	---	---
14	801	799	807	802	803	798	---	---	---	---	828	827
15	802	799	807	802	802	796	---	---	---	---	828	827
16	800	798	807	801	802	797	---	---	---	---	829	828
17	800	798	808	801	802	796	---	---	---	---	830	828
18	801	799	807	802	802	795	---	---	---	---	832	829
19	801	800	807	802	797	795	---	---	---	---	832	830
20	801	799	806	801	803	796	---	---	---	---	832	831
21	803	799	808	801	797	796	---	---	---	---	834	831
22	804	800	807	802	797	796	---	---	---	---	834	833
23	804	800	807	802	798	797	---	---	---	---	835	831
24	805	799	807	802	799	797	---	---	---	---	837	835
25	805	800	807	803	799	797	---	---	---	---	839	836
26	806	801	807	802	800	798	---	---	---	---	841	838
27	805	801	807	802	800	799	---	---	---	---	841	839
28	805	801	807	802	800	799	---	---	---	---	843	841
29	806	802	807	801	800	799	---	---	---	---	845	842
30	806	802	807	801	801	799	---	---	---	---	846	842
31	---	---	806	800	---	---	---	---	---	---	---	---
MONTH	806	798	808	800	807	795	805	800	---	---	846	827
YEAR	846	721										

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	18.8	1.5	---	---	---	---	5.4	-5.0	9.9	-5.7	8.0	-1.2
2	20.7	-2.0	---	---	---	---	10.8	5.4	9.9	-2.6	6.2	-2.9
3	27.1	10.1	---	---	---	---	13.8	10.8	4.0	-3.7	3.3	-.8
4	29.7	15.6	---	---	---	---	15.2	8.8	-.8	-2.6	1.5	-5.3
5	30.0	13.0	---	---	---	---	15.4	11.6	-.9	-3.2	2.5	-5.5
6	29.6	12.1	---	---	---	---	15.7	13.3	4.8	-3.1	8.4	-1.0
7	29.1	10.2	---	---	---	---	14.4	3.6	8.0	-5.1	11.7	-2.6
8	28.8	8.8	---	---	---	---	9.5	1.2	8.1	-5.5	15.0	4.1
9	---	---	---	---	---	---	2.4	.3	9.0	-6.5	13.7	-4.4
10	---	---	---	---	---	---	2.8	-7.6	11.7	-4.1	-3.7	-7.7
11	---	---	---	---	---	---	2.0	-3.5	8.7	4.2	-5.1	-9.6
12	---	---	2.0	-9.0	---	---	8.3	-5.0	5.0	.3	-2.7	-11.1
13	---	---	1.8	-9.0	---	---	-2.8	-11.2	5.3	-.6	2.9	-11.7
14	---	---	.7	-.3	---	---	.5	-5.7	8.3	-1.8	4.3	-6.0
15	---	---	.8	-2.4	---	---	1.5	-1.9	8.9	-2.7	3.4	-7.3
16	---	---	-.8	-6.7	---	---	-.9	-3.1	7.1	1.5	6.6	-4.6
17	---	---	2.2	-8.6	---	---	.6	-2.1	9.6	5.8	7.7	.5
18	---	---	5.2	-9.1	---	---	-.1	-13.9	8.6	3.2	13.7	7.7
19	---	---	10.8	-4.0	---	---	-2.3	-14.9	4.8	2.8	13.4	7.3
20	---	---	11.7	-5.8	---	---	-2.3	-6.8	4.8	1.7	7.4	.6
21	---	---	9.2	2.3	---	---	.2	-6.8	6.2	1.8	.6	-.8
22	---	---	5.2	2.2	---	---	2.6	-.2	9.4	2.2	5.5	-1.2
23	---	---	3.1	-3.0	2.4	.0	5.1	-.9	5.1	.9	5.7	-4.0
24	---	---	1.9	-8.2	8.5	2.3	.1	-1.6	8.8	-3.0	8.8	-3.5
25	---	---	---	---	2.8	-.4	-.1	-2.5	11.4	-1.7	10.9	-2.6
26	---	---	---	---	-.2	-3.8	6.5	-4.3	14.1	2.6	23.9	8.1
27	---	---	---	---	1.0	-8.0	9.8	-2.3	16.3	1.4	26.1	14.6
28	---	---	---	---	1.7	-5.5	10.5	-5.7	15.4	-2.1	21.9	11.3
29	---	---	---	---	1.1	-3.8	5.9	.4	---	---	27.6	9.5
30	---	---	---	---	-1.4	-10.6	.9	-.7	---	---	27.1	15.6
31	---	---	---	---	-4.7	-15.0	4.4	-3.9	---	---	24.4	12.5
MONTH	30.0	-2.0	11.7	-9.1	8.5	-15.0	15.7	-14.9	16.3	-6.5	27.6	-11.7

400949083480100 CH-42 NR URBANA OH—Continued

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	17.0	7.9	16.9	12.3	25.1	12.5	27.7	13.6	---	---	---	---
2	12.8	1.5	16.9	10.5	30.0	12.5	30.1	13.3	---	---	---	---
3	12.7	-1.6	19.8	7.0	23.7	8.1	29.6	12.9	---	---	---	---
4	9.3	-1.5	19.3	6.4	19.3	8.7	27.8	18.3	---	---	---	---
5	14.7	-3.9	22.0	6.4	13.1	5.9	30.8	15.1	---	---	---	---
6	16.7	-1.9	24.1	8.1	19.3	3.1	27.6	14.2	---	---	---	---
7	16.8	3.6	18.2	14.9	19.5	4.4	27.2	16.3	---	---	---	---
8	22.6	10.1	21.5	14.0	21.8	6.2	---	---	---	---	---	---
9	14.6	5.0	20.6	12.5	16.3	13.7	---	---	---	---	---	---
10	12.6	1.8	23.7	12.6	27.8	15.8	---	---	---	---	---	---
11	15.4	-1.8	21.6	10.8	20.6	15.0	---	---	---	---	---	---
12	19.8	.0	25.2	10.1	29.3	17.6	---	---	---	---	---	---
13	21.5	9.2	26.0	14.8	24.5	15.8	---	---	---	---	---	---
14	17.5	8.6	30.3	11.8	23.7	13.1	---	---	---	---	---	---
15	18.2	3.7	31.5	12.4	24.4	16.5	---	---	---	---	27.3	19.8
16	21.9	11.0	28.5	16.5	22.8	17.9	---	---	---	---	27.3	18.0
17	12.6	2.9	30.0	11.0	27.4	17.7	---	---	---	---	30.3	15.2
18	13.7	-.6	30.7	9.6	30.6	15.9	---	---	---	---	33.6	12.4
19	10.0	6.1	31.6	11.8	27.9	17.5	---	---	---	---	31.2	14.6
20	17.2	.4	28.6	15.2	30.7	14.2	---	---	---	---	30.9	16.3
21	16.0	4.2	27.9	12.7	25.5	20.3	---	---	---	---	30.2	17.0
22	17.3	7.1	20.4	10.6	30.9	18.4	---	---	---	---	26.7	7.5
23	20.2	6.5	23.0	11.2	28.2	18.5	---	---	---	---	21.4	4.5
24	22.9	2.3	24.0	14.1	31.9	19.9	---	---	---	---	22.6	2.5
25	21.9	5.9	20.0	12.8	32.8	21.9	---	---	---	---	28.7	15.8
26	18.7	5.5	26.5	9.1	32.4	20.9	---	---	---	---	32.7	17.4
27	13.8	2.4	26.5	10.5	32.2	25.1	---	---	---	---	31.1	17.8
28	17.1	.4	28.8	13.0	31.6	22.7	---	---	---	---	26.2	10.5
29	17.5	10.6	30.9	17.6	28.5	18.2	---	---	---	---	29.4	7.4
30	16.3	13.2	29.2	16.2	25.2	17.5	---	---	---	---	27.2	10.2
31	---	---	28.3	16.1	---	---	---	---	---	---	---	---
MONTH	22.9	-3.9	31.6	6.4	32.8	3.1	30.8	12.9	---	---	33.6	2.5
YEAR	33.6	-15.0										

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	11.9	11.6	---	---	---	---	12.3	12.1	11.8	11.6	11.4	11.4
2	11.9	11.6	---	---	---	---	12.1	12.1	11.6	11.6	11.4	11.4
3	11.9	11.7	---	---	---	---	12.1	12.1	11.6	11.6	11.4	11.4
4	11.9	11.6	---	---	---	---	12.1	12.1	11.6	11.6	11.4	11.4
5	11.9	11.7	---	---	---	---	12.1	12.1	11.6	11.6	11.4	11.4
6	11.9	11.7	---	---	---	---	12.1	12.1	11.6	11.6	11.4	11.2
7	11.9	11.7	---	---	---	---	12.1	12.1	11.7	11.6	11.4	11.2
8	11.9	11.7	---	---	---	---	12.1	12.1	11.7	11.6	11.4	11.2
9	---	---	---	---	---	---	12.1	11.8	11.6	11.6	11.4	11.2
10	---	---	---	---	---	---	12.1	11.8	11.6	11.6	11.4	11.4
11	---	---	---	---	---	---	12.1	11.8	11.6	11.6	11.4	11.4
12	---	---	12.3	12.3	---	---	12.1	11.8	11.6	11.6	11.4	11.2
13	---	---	12.3	12.3	---	---	12.1	11.8	11.6	11.6	11.4	11.2
14	---	---	12.3	12.3	---	---	12.1	11.8	11.6	11.6	11.4	11.2
15	---	---	12.3	12.3	---	---	12.1	11.8	11.6	11.6	11.4	11.2
16	---	---	12.3	12.3	---	---	12.1	11.8	11.6	11.6	11.4	11.2
17	---	---	12.3	12.3	---	---	11.9	11.8	11.6	11.4	11.4	11.2
18	---	---	12.3	12.3	---	---	12.0	11.8	11.6	11.6	11.2	11.2
19	---	---	12.3	12.3	---	---	12.0	11.8	11.6	11.4	11.2	11.2
20	---	---	12.3	12.3	---	---	11.8	11.8	11.6	11.4	11.2	11.2
21	---	---	12.3	12.3	---	---	11.8	11.8	11.6	11.4	11.2	11.2
22	---	---	12.3	12.3	12.3	12.3	11.8	11.8	11.6	11.4	11.2	11.2
23	---	---	12.3	12.3	12.3	12.3	11.8	11.8	11.6	11.4	11.2	11.2
24	---	---	12.3	12.3	12.3	12.3	11.8	11.8	11.6	11.4	11.2	11.0
25	---	---	---	---	12.3	12.3	11.8	11.8	11.6	11.4	11.2	11.0
26	---	---	---	---	12.3	12.3	11.9	11.6	11.4	11.4	11.2	11.0
27	---	---	---	---	12.3	12.3	11.9	11.6	11.4	11.4	11.2	11.0
28	---	---	---	---	12.3	12.1	11.8	11.6	11.4	11.4	11.2	11.0
29	---	---	---	---	12.3	12.1	11.8	11.6	---	---	11.2	11.0
30	---	---	---	---	12.3	12.1	11.8	11.6	---	---	11.2	11.0
31	---	---	---	---	12.3	12.0	11.8	11.6	---	---	11.0	11.0
MONTH	11.9	11.6	12.3	12.3	12.3	12.0	12.3	11.6	11.8	11.4	11.4	11.0

400949083480100 CH-42 NR URBANA OH—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.0	11.0	11.0	10.8	11.0	10.8	11.0	11.0	---	---	---	---
2	11.0	11.0	11.0	10.8	11.0	10.8	11.0	11.0	---	---	---	---
3	11.0	11.0	11.0	10.8	11.0	10.8	11.1	11.0	---	---	---	---
4	11.0	11.0	11.0	10.8	11.0	10.8	11.0	11.0	---	---	---	---
5	11.0	10.9	11.0	10.8	11.0	10.8	11.1	11.0	---	---	---	---
6	11.0	11.0	11.0	10.8	11.0	10.8	11.0	11.0	---	---	---	---
7	11.0	11.0	11.0	10.8	11.0	10.8	11.0	11.0	---	---	---	---
8	11.0	11.0	11.0	10.8	11.0	10.8	---	---	---	---	---	---
9	11.0	11.0	11.0	10.8	11.0	10.8	---	---	---	---	---	---
10	11.0	11.0	11.0	10.8	11.0	10.8	---	---	---	---	---	---
11	11.0	10.9	11.0	10.8	11.0	10.8	---	---	---	---	---	---
12	11.0	11.0	11.0	10.8	11.0	10.8	---	---	---	---	---	---
13	11.0	11.0	11.0	10.8	11.0	10.8	---	---	---	---	---	---
14	11.0	11.0	11.0	10.8	11.0	10.8	---	---	---	---	12.2	12.1
15	11.0	11.0	11.0	10.8	11.0	10.8	---	---	---	---	12.2	12.1
16	11.0	11.0	11.0	10.8	11.0	10.8	---	---	---	---	12.2	12.1
17	11.0	11.0	11.0	10.8	11.0	10.8	---	---	---	---	12.2	12.1
18	11.0	11.0	11.0	10.8	11.0	10.8	---	---	---	---	12.2	12.1
19	11.0	11.0	11.0	10.8	11.0	11.0	---	---	---	---	12.2	12.1
20	11.0	11.0	11.0	10.8	11.1	10.8	---	---	---	---	12.2	12.1
21	11.0	10.8	11.0	10.8	11.0	11.0	---	---	---	---	12.2	12.1
22	11.0	10.8	11.0	10.8	11.0	11.0	---	---	---	---	12.2	12.1
23	11.0	10.8	11.0	10.8	11.0	11.0	---	---	---	---	12.3	12.1
24	11.0	10.8	11.0	10.8	11.1	11.0	---	---	---	---	12.2	12.1
25	11.0	10.8	11.0	10.8	11.1	11.0	---	---	---	---	12.2	12.1
26	11.0	10.8	11.0	10.8	11.0	11.0	---	---	---	---	12.2	12.1
27	11.0	10.8	11.0	10.8	11.0	11.0	---	---	---	---	12.2	12.1
28	11.0	10.8	11.0	10.8	11.0	11.0	---	---	---	---	12.2	12.1
29	11.0	10.8	11.0	10.8	11.0	11.0	---	---	---	---	12.2	12.1
30	11.0	10.8	11.0	10.8	11.0	11.0	---	---	---	---	12.4	12.1
31	---	---	11.0	10.8	---	---	---	---	---	---	---	---
MONTH	11.0	10.8	11.0	10.8	11.1	10.8	11.1	11.0	---	---	12.4	12.1
YEAR	12.4	10.8										

TEMPERATURE, SOIL (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.9	15.6	---	---	---	---	2.6	2.5	4.3	3.2	8.2	7.1
2	15.6	13.4	---	---	---	---	4.4	2.6	5.3	4.1	7.4	6.4
3	17.0	14.7	---	---	---	---	6.9	4.4	4.8	4.0	6.4	5.6
4	19.1	16.4	---	---	---	---	7.7	6.9	4.4	3.5	5.6	5.1
5	19.6	17.5	---	---	---	---	9.2	7.4	3.5	3.3	5.6	4.7
6	20.0	17.9	---	---	---	---	10.5	9.2	3.8	3.2	6.4	4.8
7	19.5	17.9	---	---	---	---	11.3	9.2	4.2	3.2	7.2	5.2
8	19.3	17.4	---	---	---	---	9.2	8.0	4.1	3.4	8.9	6.7
9	---	---	---	---	---	---	8.0	6.0	4.5	3.3	9.7	7.0
10	---	---	---	---	---	---	6.0	4.4	5.2	3.6	7.0	4.6
11	---	---	---	---	---	---	4.6	4.4	6.1	5.2	4.6	3.6
12	---	---	7.9	6.1	---	---	5.8	4.5	6.1	5.2	3.6	3.0
13	---	---	6.2	5.6	---	---	5.0	3.5	5.4	4.7	3.0	2.8
14	---	---	5.8	5.7	---	---	3.5	3.3	5.9	4.9	3.0	2.8
15	---	---	5.9	5.0	---	---	3.6	3.3	5.8	4.5	4.1	2.9
16	---	---	5.0	4.4	---	---	3.6	3.5	5.9	4.9	5.1	3.3
17	---	---	4.4	3.5	---	---	3.6	3.5	7.1	5.9	5.4	4.2
18	---	---	3.5	3.3	---	---	3.6	3.3	7.3	6.9	8.3	5.4
19	---	---	4.8	3.4	---	---	3.3	2.9	6.9	6.3	9.4	8.3
20	---	---	5.6	4.0	---	---	3.0	2.9	6.4	6.1	9.0	7.1
21	---	---	6.7	5.6	---	---	3.0	2.8	6.2	5.8	7.1	5.3
22	---	---	6.8	6.6	---	---	3.3	2.8	7.2	6.0	5.7	4.8
23	---	---	6.6	5.1	5.1	4.8	3.8	3.3	6.9	6.4	5.4	4.4
24	---	---	5.1	4.4	5.9	4.8	3.5	3.2	6.4	5.5	6.7	4.6
25	---	---	---	---	5.8	4.4	3.2	2.9	7.0	5.3	6.9	5.2
26	---	---	---	---	4.4	3.9	3.6	2.8	7.4	6.1	10.6	6.9
27	---	---	---	---	3.9	3.4	4.6	3.4	8.9	7.1	12.7	10.5
28	---	---	---	---	3.4	3.1	4.7	3.5	8.7	7.0	13.0	11.8
29	---	---	---	---	3.2	3.1	4.4	3.9	---	---	14.4	11.7
30	---	---	---	---	3.2	2.9	4.3	3.8	---	---	15.3	13.4
31	---	---	---	---	2.9	2.6	4.1	3.7	---	---	15.0	13.7
MONTH	20.0	13.4	7.9	3.3	5.9	2.6	11.3	2.5	8.9	3.2	15.3	2.8

400949083480100 CH-42 NR URBANA OH—Continued

TEMPERATURE, SOIL (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.8	12.3	14.2	13.7	20.3	18.8	22.4	20.8	---	---	---	---
2	12.3	10.8	14.1	13.6	19.2	18.2	21.9	20.4	---	---	---	---
3	11.5	9.8	14.2	13.3	19.1	17.4	21.8	20.0	---	---	---	---
4	10.9	9.7	14.4	13.2	17.4	16.5	22.0	20.8	---	---	---	---
5	10.9	8.3	14.5	13.4	16.6	15.4	22.3	20.8	---	---	---	---
6	11.6	8.8	15.2	13.7	15.4	14.2	21.9	20.5	---	---	---	---
7	11.0	9.6	15.2	14.8	15.2	14.1	21.8	20.7	---	---	---	---
8	12.8	10.5	15.7	15.1	15.5	14.4	---	---	---	---	---	---
9	12.6	10.9	15.8	15.2	15.9	15.4	---	---	---	---	---	---
10	11.8	10.0	16.2	15.4	17.8	15.9	---	---	---	---	---	---
11	11.9	9.4	16.0	15.4	18.2	17.3	---	---	---	---	---	---
12	12.2	9.7	16.3	15.3	20.1	18.2	---	---	---	---	---	---
13	12.1	10.7	17.1	15.8	19.8	19.0	---	---	---	---	---	---
14	13.0	11.9	17.6	16.3	19.2	18.4	---	---	---	---	---	---
15	12.7	11.5	18.5	16.7	19.3	18.7	---	---	---	---	21.9	20.9
16	14.4	12.7	18.9	18.0	19.4	19.0	---	---	---	---	21.7	21.0
17	14.3	12.6	18.5	17.3	20.2	18.9	---	---	---	---	21.7	20.5
18	13.0	11.2	17.9	16.7	21.1	19.4	---	---	---	---	22.1	19.9
19	12.2	11.2	18.5	16.9	21.2	20.4	---	---	---	---	22.1	20.4
20	12.5	10.3	19.0	17.9	21.3	19.8	---	---	---	---	22.2	20.8
21	12.5	11.1	19.0	17.9	21.2	20.7	---	---	---	---	22.4	21.0
22	13.2	11.9	18.0	16.9	22.2	20.7	---	---	---	---	22.0	20.2
23	13.5	12.0	17.3	16.4	22.1	20.9	---	---	---	---	20.2	17.7
24	13.9	11.7	17.9	16.7	23.0	21.3	---	---	---	---	18.0	16.0
25	13.7	12.5	17.9	17.5	23.8	22.4	---	---	---	---	20.1	17.9
26	13.7	12.9	17.5	16.5	23.9	22.7	---	---	---	---	22.0	19.6
27	13.0	11.7	17.8	16.5	24.4	23.3	---	---	---	---	22.3	20.4
28	13.1	11.1	18.5	17.1	24.7	23.6	---	---	---	---	21.8	19.7
29	13.1	12.3	19.3	18.1	24.4	23.2	---	---	---	---	20.3	18.1
30	13.8	13.1	19.9	18.7	23.2	21.9	---	---	---	---	20.2	18.6
31	---	---	20.5	19.7	---	---	---	---	---	---	---	---
MONTH	14.8	8.3	20.5	13.2	24.7	14.1	22.4	20.0	---	---	22.4	16.0
YEAR	24.7	2.5										

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.02	---	---	.00	.00	.00	.00	.07	.00	.00	---	---
2	.00	---	---	.00	.00	.00	.00	.02	.00	.00	---	---
3	.08	---	---	.01	.00	.06	.00	.18	.05	.00	---	---
4	.00	---	---	.00	.00	.01	.00	.00	.01	.00	---	---
5	.00	---	---	.12	.00	.05	.00	.00	.08	.00	---	---
6	.00	---	---	.71	.20	.00	.00	.00	.00	.00	---	---
7	.00	---	---	1.76	.00	.00	.00	1.13	.00	.00	---	---
8	.00	---	---	.07	.00	.18	.00	.00	.00	---	---	---
9	.01	---	---	.00	.00	.65	.00	.01	.12	---	---	---
10	---	---	---	.00	.00	.00	.00	.00	.00	---	---	---
11	---	---	---	.00	.48	.00	.00	.00	1.48	---	---	---
12	---	.00	---	.00	.03	.00	.00	.00	.79	---	---	---
13	---	.17	---	.02	.00	.00	.00	.07	.05	---	---	---
14	---	.17	---	.00	.00	.00	.00	.00	.04	---	---	---
15	---	.11	---	.01	.00	.00	.02	.00	.56	---	---	.00
16	---	.01	---	.00	.32	.00	1.39	.00	.01	---	---	.00
17	---	.00	---	.11	.56	.33	.00	.00	.01	---	---	.00
18	---	.00	---	.01	.26	.18	.00	.00	.00	---	---	.00
19	---	.00	---	.00	.00	.00	.30	.02	.02	---	---	.01
20	---	.00	---	.00	.05	.12	.00	.05	.00	---	---	.01
21	---	.24	---	.00	.00	.08	.02	.01	.03	---	---	.00
22	---	.07	.10	.15	.00	.00	.12	.00	.03	---	---	.20
23	---	.00	.00	.20	.00	.01	.00	.16	.05	---	---	.00
24	---	.00	.57	.01	.05	.01	.00	.30	.07	---	---	.00
25	---	---	.01	.00	.00	.03	.03	.00	.03	---	---	.00
26	---	---	.00	.00	.00	.00	.96	.00	.02	---	---	.00
27	---	---	.00	.00	.01	.00	.00	.00	.00	---	---	.29
28	---	---	.00	.00	.04	.00	.00	.00	.00	---	---	.01
29	---	---	.00	.02	---	.00	.09	.28	.10	---	---	.00
30	---	---	.02	.01	---	.00	.35	.00	.00	---	---	.00
31	---	---	.00	.00	---	.01	---	.00	---	---	---	---
TOTAL	0.11	0.77	0.70	3.21	2.00	1.72	3.28	2.30	3.55	0.00	---	0.52

WTR YR 1998 TOTAL 18.16

400949083480100 CH-42 NR URBANA OH—Continued

DEICING SALT LBS/LANE-MILE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	195	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	600	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	200	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	400	---	325	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	400	---	1125	195	---	---	---	---	---	---	---

WTR YR 1998 TOTAL 1720

GROUND-WATER RECORDS

395859083440700. Local number, CL-138.

LOCATION.--Lat 39°58'59" Long 83°44'07", Hydrologic Unit 05080001, along State Route 4 near Springfield, OH.
Owner.--USGS/U.S. Corps of Engineers.

AQUIFER.--Sand and Gravel of Pleistocene age.

WELL CHARACTERISTICS.--Observation well drilled by hollow stem auger, diameter 4.0 in., depth 28.5 ft. Cased with Sch 40 PVC to 18.5 ft; .020 in. screen from 18.5 to 28.5 ft.

INSTRUMENTATION - Data logger--60 minute record. Precipitation data collected with a propane-heated, tipping-bucket rain gauge. Also collected: water level, air temperature, soil temperature, water temperature, and specific conductance.

DATUM.--Elevation of land-surface datum is 1031.61 feet above sea level.
Measuring point: shelter shelf 3.31 ft above land-surface datum.

REMARKS.--This station is part of an eight-site network to collect data for the Ohio Department of Transportation concerning road salt application and its effect(s) on shallow ground-water quality. Water-quality data for nearby wells is available in preceding tables. Incomplete conductance data this year due to electronic recorder malfunction.

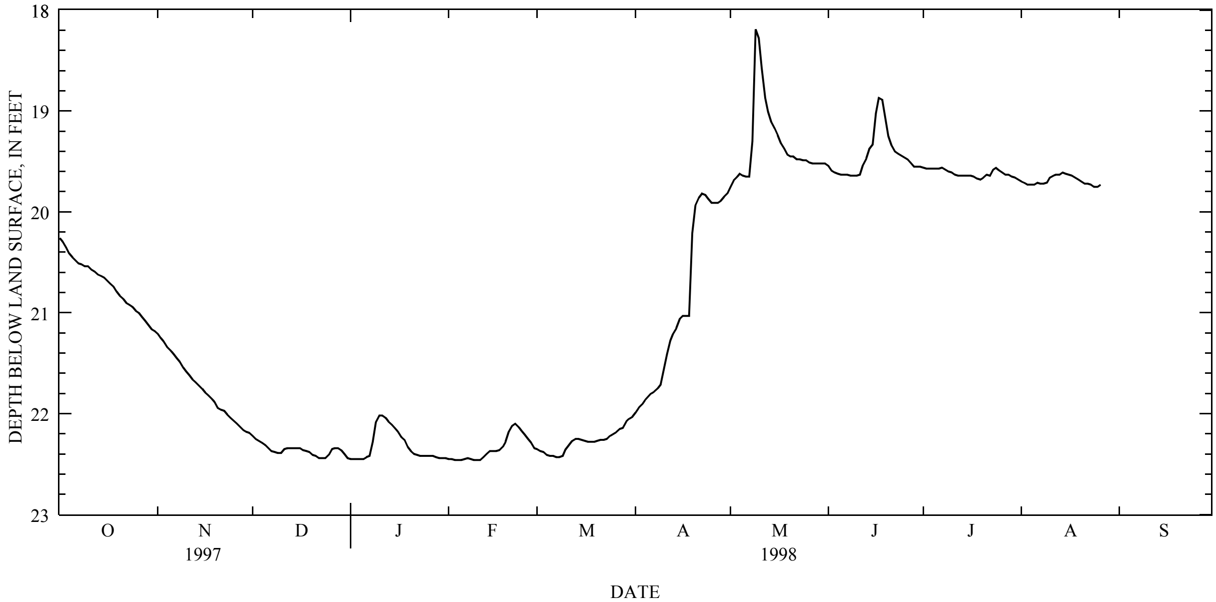
PERIOD OF RECORD.--February 1991 to current year.

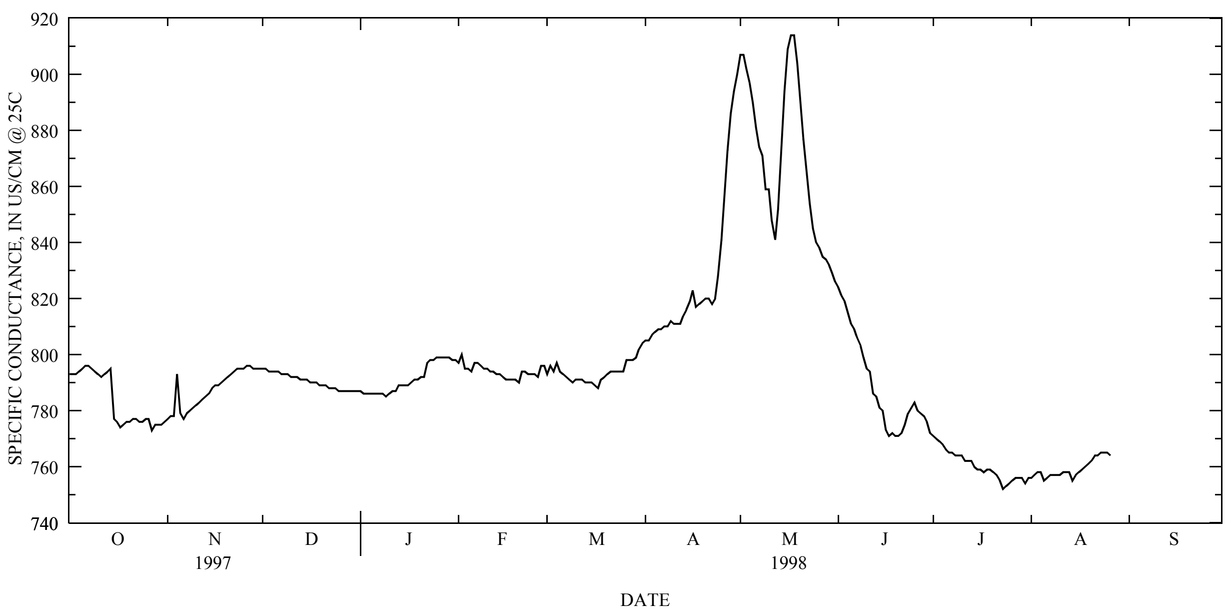
PERIOD OF DAILY RECORD.--
WATER LEVEL: February 1991 to current year.
SPECIFIC CONDUCTANCE: July 1992 to current year.
AIR TEMPERATURE: February 1991 to current year.
WATER TEMPERATURE: July 1992 to current year.
SOIL TEMPERATURE: February 1991 to current year.
PRECIPITATION: February 1991 to current year.

EXTREMES FOR PERIOD OF DAILY RECORD.--
WATER LEVEL: Maximum daily low, 22.61 ft. below land-surface datum, February 2,3, 1995; maximum daily high, 17.00 ft. below land-surface datum, May 12, 1996.
WATER TEMPERATURE: Maximum, 13.9°C many days in November, December, 1993; minimum, 2.2°C August 29-September 4, 1995.
AIR TEMPERATURE: Maximum, 37.5°C July 22, 1991; minimum, -30.7°C January 21, 1994.
SOIL TEMPERATURE: Maximum, 39.5°C July 22 and August 2, 1991; minimum, -2.7°C Dec. 27, 1992.
SPECIFIC CONDUCTANCE: Maximum, 1010 microsiemens, February 4-7, May 13-15, 1996; minimum 733 microsiemens, May 19-20, July 14-16, 1995.

EXTREMES FOR CURRENT YEAR.--
WATER LEVEL: Maximum daily low, 22.46 ft. below land-surface datum, February 3-5, 9-11, 1998; maximum daily high, 18.08 ft. below land-surface datum, May 9, 1998.
SPECIFIC CONDUCTANCE: Maximum, 914 microsiemens, May 17-18, 1998; minimum 750 microsiemens, July 22-23, 1998.
AIR TEMPERATURE: Maximum, 34.2°C August 25, 1998; minimum, -11.8°C January 19, 1998.
WATER TEMPERATURE: Maximum, 13.4°C December 5-6, 1997; minimum, 10.4°C June 4-8, 1998.
SOIL TEMPERATURE: Maximum, 29.8°C June 28, 1998; minimum, 0.9°C January 21, 1998.

395859083440700 CL-138 NR SPRGFLD,OH—Continued





395859083440700 CL-138 NR SPRGFLD,OH—Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	20.26	20.19	20.22	21.21	21.18	21.20	22.22	22.19	22.21	22.45	22.44	22.45
2	20.30	20.26	20.28	21.25	21.21	21.23	22.25	22.22	22.23	22.45	22.44	22.45
3	20.35	20.30	20.32	21.29	21.25	21.27	22.27	22.25	22.26	22.45	22.45	22.45
4	20.41	20.35	20.38	21.34	21.29	21.32	22.29	22.27	22.28	22.45	22.45	22.45
5	20.45	20.41	20.43	21.37	21.34	21.36	22.31	22.29	22.30	22.45	22.43	22.44
6	20.48	20.45	20.47	21.41	21.37	21.40	22.34	22.31	22.33	22.43	22.42	22.43
7	20.51	20.48	20.50	21.45	21.41	21.43	22.37	22.34	22.35	22.42	22.28	22.37
8	20.52	20.51	20.51	21.49	21.45	21.47	22.38	22.36	22.37	22.28	22.08	22.16
9	20.54	20.52	20.53	21.54	21.49	21.51	22.39	22.38	22.38	22.08	22.02	22.04
10	20.54	20.54	20.54	21.58	21.54	21.56	22.39	22.35	22.37	22.02	22.00	22.00
11	20.57	20.54	20.56	21.62	21.58	21.60	22.35	22.34	22.35	22.02	22.00	22.00
12	20.59	20.57	20.58	21.66	21.62	21.64	22.34	22.34	22.34	22.04	22.02	22.03
13	20.62	20.59	20.60	21.69	21.66	21.68	22.34	22.34	22.34	22.08	22.04	22.07
14	20.63	20.62	20.62	21.72	21.69	21.70	22.34	22.34	22.34	22.11	22.08	22.10
15	20.65	20.63	20.64	21.75	21.72	21.73	22.34	22.34	22.34	22.14	22.11	22.12
16	20.68	20.65	20.67	21.79	21.75	21.77	22.34	22.34	22.34	22.18	22.14	22.17
17	20.71	20.68	20.69	21.82	21.79	21.81	22.36	22.34	22.35	22.23	22.18	22.21
18	20.74	20.71	20.73	21.85	21.82	21.84	22.37	22.36	22.37	22.26	22.23	22.26
19	20.79	20.74	20.77	21.89	21.85	21.87	22.38	22.37	22.38	22.33	22.26	22.31
20	20.83	20.79	20.81	21.94	21.89	21.92	22.41	22.38	22.40	22.37	22.33	22.35
21	20.86	20.83	20.85	21.96	21.94	21.95	22.42	22.41	22.41	22.40	22.37	22.38
22	20.90	20.86	20.88	21.97	21.96	21.97	22.44	22.41	22.42	22.41	22.40	22.41
23	20.92	20.90	20.91	22.01	21.97	21.99	22.44	22.44	22.44	22.42	22.41	22.41
24	20.94	20.92	20.93	22.04	22.01	22.02	22.44	22.41	22.43	22.42	22.42	22.42
25	20.98	20.94	20.96	22.07	22.04	22.05	22.41	22.35	22.37	22.42	22.42	22.42
26	21.00	20.98	20.99	22.10	22.07	22.08	22.35	22.34	22.35	22.42	22.42	22.42
27	21.04	21.00	21.02	22.13	22.10	22.11	22.34	22.34	22.34	22.42	22.42	22.42
28	21.08	21.04	21.06	22.16	22.13	22.15	22.34	22.34	22.34	22.43	22.42	22.43
29	21.12	21.08	21.09	22.18	22.16	22.17	22.36	22.34	22.35	22.44	22.42	22.43
30	21.16	21.12	21.14	22.19	22.18	22.19	22.40	22.36	22.38	22.44	22.44	22.44
31	21.18	21.16	21.17	---	---	---	22.44	22.40	22.43	22.44	22.44	22.44
MONTH	21.18	20.19	20.70	22.19	21.18	21.73	22.44	22.19	22.35	22.45	22.00	22.31

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	22.45	22.44	22.45	22.35	22.34	22.34	21.99	21.94	21.97	19.75	19.69	19.72
2	22.45	22.45	22.45	22.37	22.35	22.36	21.94	21.91	21.93	19.69	19.66	19.68
3	22.46	22.45	22.46	22.38	22.37	22.38	21.91	21.87	21.89	19.66	19.62	19.64
4	22.46	22.45	22.46	22.41	22.38	22.40	21.87	21.83	21.85	19.62	19.61	19.61
5	22.46	22.45	22.46	22.42	22.41	22.42	21.83	21.80	21.82	19.64	19.61	19.62
6	22.45	22.44	22.45	22.42	22.42	22.42	21.80	21.78	21.79	19.65	19.64	19.65
7	22.44	22.44	22.44	22.43	22.42	22.43	21.78	21.75	21.76	19.65	19.30	19.61
8	22.45	22.44	22.45	22.43	22.42	22.43	21.75	21.71	21.73	19.30	18.19	18.47
9	22.46	22.45	22.46	22.42	22.35	22.39	21.71	21.56	21.65	18.19	18.08	18.12
10	22.46	22.46	22.46	22.35	22.31	22.33	21.56	21.41	21.48	18.28	18.09	18.16
11	22.46	22.43	22.44	22.31	22.27	22.29	21.41	21.28	21.33	18.57	18.28	18.42
12	22.43	22.40	22.41	22.27	22.25	22.26	21.28	21.20	21.25	18.87	18.57	18.73
13	22.40	22.37	22.39	22.25	22.24	22.24	21.20	21.15	21.17	19.01	18.87	18.95
14	22.37	22.37	22.37	22.25	22.24	22.24	21.15	21.06	21.09	19.11	19.01	19.06
15	22.37	22.36	22.36	22.26	22.25	22.26	21.06	21.03	21.05	19.17	19.11	19.14
16	22.37	22.36	22.36	22.27	22.26	22.27	21.03	21.02	21.03	19.24	19.17	19.21
17	22.36	22.33	22.35	22.28	22.27	22.28	21.03	21.03	21.03	19.32	19.24	19.28
18	22.33	22.28	22.31	22.28	22.28	22.28	21.03	20.20	20.53	19.37	19.32	19.34
19	22.28	22.17	22.22	22.28	22.27	22.27	20.21	19.93	20.15	19.43	19.37	19.40
20	22.17	22.12	22.14	22.27	22.26	22.26	19.93	19.86	19.90	19.45	19.43	19.44
21	22.12	22.10	22.11	22.26	22.26	22.26	19.86	19.82	19.84	19.45	19.45	19.45
22	22.10	22.10	22.10	22.26	22.25	22.25	19.82	19.81	19.81	19.48	19.45	19.47
23	22.13	22.10	22.12	22.25	22.22	22.23	19.83	19.81	19.82	19.48	19.47	19.48
24	22.17	22.13	22.16	22.22	22.20	22.21	19.87	19.83	19.85	19.49	19.47	19.48
25	22.21	22.17	22.20	22.20	22.18	22.19	19.91	19.87	19.90	19.49	19.49	19.49
26	22.25	22.21	22.24	22.18	22.15	22.17	19.91	19.90	19.90	19.51	19.49	19.50
27	22.29	22.25	22.27	22.15	22.14	22.14	19.91	19.88	19.90	19.52	19.51	19.51
28	22.34	22.29	22.32	22.14	22.08	22.10	19.89	19.85	19.87	19.52	19.51	19.52
29	---	---	---	22.08	22.05	22.06	19.85	19.82	19.83	19.52	19.51	19.51
30	---	---	---	22.05	22.03	22.04	19.82	19.75	19.79	19.52	19.49	19.50
31	---	---	---	22.03	21.99	22.01	---	---	---	19.52	19.48	19.49
MONTH	22.46	22.10	22.34	22.43	21.99	22.26	21.99	19.75	20.83	19.75	18.08	19.28

395859083440700 CL-138 NR SPRGFLD,OH—Continued

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		JUNE			JULY			AUGUST			SEPTEMBER	
1	19.54	19.52	19.53	19.56	19.53	19.54	19.70	19.68	19.69	---	---	---
2	19.59	19.54	19.55	19.57	19.56	19.56	19.71	19.70	19.70	---	---	---
3	19.61	19.59	19.61	19.57	19.57	19.57	19.73	19.71	19.72	---	---	---
4	19.62	19.61	19.61	19.57	19.54	19.55	19.73	19.72	19.72	---	---	---
5	19.63	19.61	19.62	19.57	19.55	19.56	19.73	19.71	19.71	---	---	---
6	19.63	19.63	19.63	19.57	19.55	19.57	19.71	19.69	19.70	---	---	---
7	19.63	19.62	19.63	19.56	19.55	19.55	19.72	19.70	19.71	---	---	---
8	19.64	19.63	19.63	19.58	19.56	19.57	19.72	19.71	19.71	---	---	---
9	19.64	19.64	19.64	19.60	19.58	19.59	19.71	19.66	19.68	---	---	---
10	19.64	19.63	19.63	19.61	19.60	19.60	19.66	19.64	19.65	---	---	---
11	19.63	19.53	19.61	19.63	19.61	19.61	19.64	19.63	19.63	---	---	---
12	19.53	19.47	19.50	19.64	19.62	19.63	19.63	19.62	19.63	---	---	---
13	19.47	19.37	19.39	19.64	19.64	19.64	19.63	19.60	19.61	---	---	---
14	19.37	19.33	19.34	19.64	19.64	19.64	19.61	19.60	19.60	---	---	---
15	19.33	19.02	19.20	19.64	19.63	19.63	19.62	19.59	19.60	---	---	---
16	19.02	18.87	18.96	19.64	19.63	19.63	19.63	19.60	19.61	---	---	---
17	18.87	18.79	18.81	19.65	19.64	19.64	19.64	19.60	19.62	---	---	---
18	18.89	18.79	18.83	19.67	19.65	19.65	19.66	19.63	19.64	---	---	---
19	19.05	18.89	18.97	19.68	19.66	19.67	19.68	19.65	19.66	---	---	---
20	19.25	19.05	19.16	19.66	19.62	19.63	19.70	19.67	19.68	---	---	---
21	19.34	19.25	19.30	19.63	19.60	19.61	19.72	19.68	19.70	---	---	---
22	19.40	19.34	19.37	19.64	19.57	19.60	19.72	19.70	19.71	---	---	---
23	19.42	19.40	19.41	19.58	19.53	19.54	19.73	19.70	19.71	---	---	---
24	19.44	19.42	19.43	19.56	19.54	19.55	19.75	19.71	19.73	---	---	---
25	19.46	19.44	19.44	19.59	19.56	19.57	19.75	19.72	19.74	---	---	---
26	19.48	19.46	19.47	19.61	19.59	19.59	19.73	19.70	19.71	---	---	---
27	19.51	19.48	19.49	19.63	19.60	19.61	---	---	---	---	---	---
28	19.55	19.51	19.52	19.63	19.63	19.63	---	---	---	---	---	---
29	19.55	19.55	19.55	19.65	19.63	19.63	---	---	---	---	---	---
30	19.55	19.50	19.51	19.66	19.63	19.64	---	---	---	---	---	---
31	---	---	---	19.68	19.66	19.67	---	---	---	---	---	---
MONTH	19.64	18.79	19.41	19.68	19.53	19.60	19.75	19.59	19.68	---	---	---
YEAR	22.46	18.08	20.96									

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	793	790	777	771	795	794	787	785	797	796	793	791
2	793	790	778	772	795	794	786	786	800	794	796	792
3	793	791	778	773	794	793	786	785	795	794	794	792
4	794	792	793	773	794	793	786	785	795	794	797	792
5	795	793	779	775	794	789	786	785	794	793	794	788
6	796	793	777	776	794	788	786	785	797	792	793	788
7	796	790	779	777	793	792	786	784	797	792	792	790
8	795	788	780	778	793	792	786	783	796	791	791	790
9	794	788	781	779	793	791	785	784	795	791	790	790
10	793	789	782	781	792	791	786	785	795	793	791	790
11	792	790	783	782	792	791	787	785	794	793	791	790
12	793	791	784	782	792	790	787	786	794	793	791	789
13	794	791	785	783	791	790	789	787	793	792	790	789
14	795	771	786	785	791	790	789	788	793	791	790	788
15	777	771	788	786	791	786	789	788	792	791	790	788
16	776	772	789	788	790	789	789	788	791	790	789	787
17	774	774	789	788	790	788	790	789	791	790	788	787
18	775	774	790	789	790	785	791	789	791	790	791	787
19	776	773	791	790	789	788	791	790	791	790	792	791
20	776	775	792	791	789	788	792	790	790	790	793	788
21	777	775	793	792	789	788	792	791	794	789	794	792
22	777	772	794	793	788	787	797	792	794	789	794	793
23	776	771	795	794	788	787	798	792	793	788	794	794
24	776	771	795	794	788	787	798	793	793	788	794	793
25	777	771	795	794	787	787	799	793	793	792	794	794
26	777	772	796	794	787	786	799	793	792	791	798	794
27	773	772	796	795	787	786	799	794	796	791	798	794
28	775	773	795	794	787	786	799	794	796	791	798	794
29	775	774	795	794	787	786	799	794	---	---	799	798
30	775	774	795	794	787	786	798	797	---	---	802	799
31	776	775	---	---	787	786	798	797	---	---	804	800
MONTH	796	771	796	771	795	785	799	783	800	788	804	787

395859083440700 CL-138 NR SPRGFLD,OH—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	805	801	907	900	824	818	771	768	756	754	---	---
2	805	801	907	900	821	816	770	767	757	751	---	---
3	807	803	902	897	819	810	769	766	758	752	---	---
4	808	804	897	890	815	808	768	763	758	753	---	---
5	809	805	890	881	811	804	766	764	755	753	---	---
6	809	808	881	874	809	802	765	763	756	754	---	---
7	810	809	874	867	806	801	765	762	757	754	---	---
8	810	809	871	841	803	797	764	761	757	755	---	---
9	812	810	859	845	799	794	764	761	757	755	---	---
10	811	810	859	848	795	792	764	760	757	755	---	---
11	811	809	848	838	794	786	762	759	758	755	---	---
12	811	810	841	838	786	784	762	759	758	753	---	---
13	814	811	852	841	785	779	762	758	758	753	---	---
14	816	814	873	852	781	779	760	757	755	753	---	---
15	819	815	894	873	780	770	759	757	757	754	---	---
16	823	813	909	894	773	771	759	756	758	755	---	---
17	817	810	914	909	771	766	758	753	759	755	---	---
18	818	810	914	904	772	768	759	754	760	757	---	---
19	819	818	904	891	771	766	759	753	761	758	---	---
20	820	818	891	877	771	766	758	751	762	759	---	---
21	820	818	877	864	772	767	757	752	764	759	---	---
22	818	816	864	854	775	768	755	750	764	760	---	---
23	820	815	854	845	779	772	752	750	765	758	---	---
24	828	817	845	839	781	776	753	751	765	758	---	---
25	841	825	840	835	783	778	754	752	765	759	---	---
26	856	841	838	832	780	778	755	752	764	759	---	---
27	873	856	835	831	779	777	756	753	---	---	---	---
28	886	871	834	829	778	775	756	751	---	---	---	---
29	894	886	832	827	776	772	756	751	---	---	---	---
30	900	894	829	823	772	769	754	752	---	---	---	---
31	---	---	826	821	---	---	756	753	---	---	---	---
MONTH	900	801	914	821	824	766	771	750	765	751	---	---
YEAR	914	750										

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	16.8	3.8	13.3	6.3	3.1	-.2	3.5	-10.6	10.1	-4.4	9.3	.7
2	20.3	1.0	8.7	4.0	5.4	-2.5	8.1	3.5	11.2	-1.4	5.9	-2.5
3	26.4	10.9	5.6	.3	10.7	2.3	13.3	6.3	4.4	-2.4	3.1	-.9
4	28.6	16.9	3.6	.3	6.8	-.9	14.8	7.6	-.6	-2.2	1.9	-2.8
5	28.7	13.3	11.7	3.2	-.5	-6.5	14.0	8.4	-1.1	-2.9	3.1	-4.9
6	27.9	13.7	12.4	3.7	-2.9	-6.9	15.6	11.9	3.4	-2.8	8.4	-1.4
7	27.6	12.9	10.1	3.7	.1	-3.0	14.6	5.5	7.5	-4.1	12.5	-1.2
8	27.6	11.6	11.5	6.0	-.5	-2.1	10.0	4.1	6.5	-5.0	15.4	4.7
9	27.2	15.1	9.0	3.0	1.4	-1.2	8.0	1.3	8.5	-5.3	13.7	-4.1
10	23.8	7.9	7.1	3.1	6.7	.5	4.2	-3.3	10.5	-3.0	-3.0	-7.1
11	22.5	5.1	4.5	.6	1.3	-.6	1.7	-8.0	8.9	4.8	-5.4	-10.0
12	27.5	7.1	2.2	-7.2	.4	-1.9	9.2	-.2	5.6	.7	-2.3	-11.0
13	26.0	11.2	3.4	-6.7	.5	-3.0	9.2	-8.3	4.9	-.3	3.6	-9.0
14	16.5	4.7	1.1	.1	.2	-6.6	1.5	-10.8	7.3	-1.0	5.4	-4.7
15	14.3	-.6	.7	-2.6	6.6	-6.9	2.5	-1.3	9.3	-1.2	4.0	-6.5
16	13.5	1.8	-.4	-5.2	9.9	-3.5	-.6	-2.6	7.5	2.7	7.3	-3.8
17	12.5	5.7	2.0	-7.8	8.7	-5.1	.5	-1.4	9.5	6.5	8.3	.7
18	17.0	6.4	5.3	-7.2	8.5	-6.8	-.1	-10.5	8.3	3.4	13.0	7.8
19	17.6	.8	10.6	-2.0	13.9	.7	-2.1	-11.8	5.5	2.8	15.4	7.7
20	15.9	.4	11.8	-2.9	6.5	-1.2	-1.2	-7.3	5.1	2.3	7.8	.9
21	13.2	-1.6	7.6	1.9	3.7	-.3	1.1	-6.1	7.3	2.1	.9	-.9
22	7.4	-3.8	5.5	2.9	9.0	.1	4.4	.3	10.7	2.8	6.4	-1.0
23	10.2	-3.7	3.9	-2.6	4.3	1.1	5.9	-.4	5.4	.4	4.6	-3.9
24	10.1	2.7	1.7	-5.8	8.7	1.1	1.2	-1.0	9.6	-2.3	9.1	-2.3
25	12.8	5.1	13.1	-3.0	7.4	1.2	.2	-1.4	10.4	-1.9	11.1	-1.4
26	11.9	6.0	12.1	2.7	1.2	-.5	6.6	-3.0	15.6	2.7	24.1	7.2
27	7.3	2.2	7.9	-4.0	.8	-2.8	9.4	-2.1	16.7	2.0	25.4	15.7
28	9.6	-3.2	17.1	6.7	.8	-5.5	11.3	-4.6	14.3	-.4	23.4	13.9
29	15.0	.6	16.0	10.2	2.1	-5.0	7.3	-1.1	---	---	27.2	9.6
30	17.9	-.7	13.0	3.1	-1.1	-5.1	1.3	-.4	---	---	26.8	15.6
31	16.8	4.6	---	---	-4.7	-11.7	3.4	-4.4	---	---	24.4	12.7
MONTH	28.7	-3.8	17.1	-7.8	13.9	-11.7	15.6	-11.8	16.7	-5.3	27.2	-11.0

395859083440700 CL-138 NR SPRGFLD,OH—Continued

TEMPERATURE, AIR, DEGREES CELSIUS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	15.1	8.3	17.0	11.0	24.9	13.0	28.0	14.2	27.0	12.9	---	---
2	13.6	3.2	17.8	10.9	30.0	12.9	27.2	13.6	29.7	12.8	---	---
3	13.5	1.3	19.7	7.9	22.3	8.7	28.7	14.2	29.4	15.1	---	---
4	8.4	-1.0	19.3	6.7	18.5	10.0	28.3	18.9	25.5	17.6	---	---
5	14.2	-3.7	21.8	7.7	13.9	7.0	27.6	15.6	28.4	18.7	---	---
6	17.0	-.5	23.0	9.1	17.7	5.0	27.3	15.2	30.5	20.5	---	---
7	17.1	3.6	18.2	15.3	20.3	3.4	27.4	17.1	31.5	20.6	---	---
8	22.2	9.6	22.0	14.2	20.3	7.1	29.5	21.6	31.8	19.2	---	---
9	14.6	5.7	22.6	13.5	16.1	14.0	28.9	18.9	28.6	19.3	---	---
10	12.9	2.3	21.9	12.4	28.9	16.1	28.3	15.1	29.8	19.3	---	---
11	15.7	-1.1	21.2	10.7	21.2	16.2	25.6	10.0	28.6	17.0	---	---
12	19.2	1.0	24.0	10.9	29.7	17.9	27.4	10.7	27.4	16.0	---	---
13	20.2	10.4	25.7	14.3	24.6	14.6	30.0	12.1	27.9	15.1	---	---
14	17.8	9.0	29.6	13.1	24.6	12.9	27.0	19.6	27.9	17.0	---	---
15	17.5	4.2	30.2	13.1	22.7	17.1	26.1	20.4	29.5	17.5	---	---
16	21.5	12.1	28.7	15.7	23.7	17.9	29.9	19.8	29.7	17.1	---	---
17	13.0	3.9	28.3	11.3	28.0	17.4	28.5	14.4	31.0	17.6	---	---
18	13.9	.5	29.0	9.4	30.7	15.9	31.5	16.9	29.7	17.7	---	---
19	10.3	6.1	30.4	12.2	28.5	18.6	30.7	18.0	26.2	11.0	---	---
20	16.6	1.3	28.8	15.4	30.5	14.9	31.6	19.7	29.6	10.5	---	---
21	16.9	4.6	25.0	12.8	26.2	20.5	34.1	22.6	33.1	13.1	---	---
22	17.9	8.1	19.9	10.4	30.8	19.2	30.5	20.1	31.7	17.1	---	---
23	19.9	7.2	21.9	11.4	28.6	18.7	27.4	16.8	32.7	16.3	---	---
24	23.4	3.7	23.3	14.0	31.5	20.0	26.6	14.5	33.6	20.3	---	---
25	22.0	6.7	20.9	13.7	32.8	22.4	25.9	12.9	34.2	19.7	---	---
26	19.1	6.2	23.4	9.0	33.0	21.5	26.6	12.0	28.5	16.6	---	---
27	14.2	2.8	26.0	11.1	31.9	24.9	28.0	13.8	---	---	---	---
28	19.2	.1	27.6	14.1	32.3	23.8	29.0	16.2	---	---	---	---
29	17.3	11.9	30.5	15.7	27.7	18.0	29.9	19.3	---	---	---	---
30	16.0	13.6	29.4	17.7	26.3	16.3	26.8	18.7	---	---	---	---
31	---	---	27.7	18.2	---	---	27.2	14.7	---	---	---	---
MONTH	23.4	-3.7	30.5	6.7	33.0	3.4	34.1	10.0	34.2	10.5	---	---
YEAR	34.2	-11.8										

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	12.3	12.2	13.2	12.9	13.1	13.1	13.1	13.1	12.9	12.9	12.5	12.4
2	12.3	12.2	13.1	12.9	13.2	13.1	13.1	13.1	12.9	12.7	12.4	12.2
3	12.3	12.2	13.1	12.9	13.1	13.1	13.1	13.1	12.9	12.9	12.4	12.4
4	12.3	12.2	13.1	12.2	13.1	13.1	13.2	13.1	12.9	12.9	12.4	12.2
5	12.3	12.2	13.2	12.9	13.4	13.1	13.2	13.1	12.9	12.9	12.4	12.2
6	12.3	12.2	13.2	13.1	13.4	13.1	13.2	13.1	12.9	12.6	12.4	12.2
7	12.5	12.2	13.2	13.1	13.1	13.1	13.2	13.1	12.9	12.6	12.2	12.2
8	12.5	12.2	13.2	13.1	13.1	13.1	13.1	13.1	12.9	12.6	12.2	12.2
9	12.5	12.3	13.2	13.1	13.1	13.1	13.1	13.1	12.9	12.6	12.2	12.2
10	12.5	12.3	13.1	13.1	13.1	13.1	13.1	13.1	12.7	12.6	12.2	12.2
11	12.5	12.4	13.1	13.1	13.1	13.1	13.1	13.1	12.7	12.7	12.2	12.1
12	12.5	12.4	13.1	13.1	13.1	13.1	13.1	13.1	12.7	12.6	12.2	12.1
13	12.5	12.4	13.1	13.1	13.1	13.1	13.1	13.1	12.7	12.6	12.2	12.1
14	12.7	12.4	13.1	13.1	13.1	13.1	13.1	13.1	12.7	12.6	12.2	12.2
15	12.7	12.4	13.1	13.1	13.3	13.1	13.1	13.1	12.7	12.6	12.2	12.1
16	12.7	12.5	13.1	13.1	13.2	13.1	13.1	13.1	12.7	12.6	12.2	12.2
17	12.7	12.7	13.1	13.1	13.2	13.1	13.1	13.1	12.7	12.7	12.2	12.2
18	12.7	12.7	13.1	13.1	13.3	13.1	13.1	13.1	12.7	12.6	12.2	12.0
19	12.7	12.6	13.2	13.1	13.2	13.1	13.1	13.1	12.7	12.6	12.0	12.0
20	12.7	12.6	13.2	13.1	13.1	13.1	13.1	13.1	12.7	12.6	12.2	12.0
21	12.7	12.6	13.1	13.1	13.1	13.1	13.1	13.1	12.7	12.4	12.0	11.9
22	12.9	12.6	13.1	13.1	13.1	13.1	13.1	12.9	12.6	12.4	12.0	11.9
23	12.9	12.6	13.1	13.1	13.1	13.1	13.1	12.9	12.6	12.4	12.0	11.9
24	12.9	12.7	13.1	13.1	13.1	13.1	13.1	12.9	12.6	12.4	12.0	11.9
25	12.9	12.7	13.2	13.1	13.1	13.1	13.1	12.9	12.5	12.4	12.0	11.9
26	12.9	12.7	13.1	13.1	13.1	13.1	13.1	12.9	12.5	12.4	12.0	11.8
27	12.9	12.9	13.1	13.1	13.1	13.1	13.1	12.9	12.5	12.2	12.0	11.8
28	12.9	12.9	13.2	13.1	13.1	13.1	13.1	12.9	12.5	12.2	12.0	11.8
29	12.9	12.9	13.2	13.1	13.1	13.1	13.1	12.9	---	---	11.8	11.8
30	12.9	12.9	13.2	13.1	13.1	13.1	12.9	12.9	---	---	11.8	11.6
31	12.9	12.9	---	---	13.1	13.1	12.9	12.9	---	---	11.8	11.6
MONTH	12.9	12.2	13.2	12.2	13.4	13.1	13.2	12.9	12.9	12.2	12.5	11.6

395859083440700 CL-138 NR SPRGFLD,OH—Continued

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	11.8	11.5	11.1	10.9	10.7	10.5	10.8	10.7	11.2	11.1	---	---
2	11.8	11.5	11.1	10.9	10.7	10.5	10.8	10.7	11.3	11.1	---	---
3	11.7	11.5	10.9	10.9	10.7	10.5	10.8	10.7	11.4	11.1	---	---
4	11.8	11.5	10.9	10.9	10.7	10.4	10.7	10.7	11.4	11.1	---	---
5	11.7	11.5	10.9	10.9	10.7	10.4	10.8	10.7	11.4	11.3	---	---
6	11.6	11.5	10.9	10.7	10.7	10.4	10.8	10.7	11.4	11.3	---	---
7	11.6	11.5	10.9	10.9	10.7	10.4	10.7	10.7	11.4	11.3	---	---
8	11.6	11.5	10.9	10.7	10.7	10.4	10.8	10.7	11.4	11.3	---	---
9	11.6	11.5	10.9	10.7	10.7	10.5	10.8	10.7	11.4	11.3	---	---
10	11.6	11.5	10.7	10.7	10.5	10.5	10.8	10.7	11.4	11.3	---	---
11	11.6	11.5	10.7	10.7	10.5	10.5	10.7	10.7	11.4	11.3	---	---
12	11.6	11.5	10.7	10.7	10.5	10.5	10.8	10.7	11.6	11.3	---	---
13	11.6	11.5	10.7	10.7	10.5	10.5	10.8	10.7	11.6	11.4	---	---
14	11.6	11.5	10.8	10.7	10.5	10.5	10.7	10.7	11.6	11.6	---	---
15	11.6	11.3	10.8	10.7	10.7	10.5	10.7	10.7	11.6	11.6	---	---
16	11.6	11.3	10.8	10.7	10.5	10.5	10.8	10.7	11.6	11.6	---	---
17	11.5	11.3	10.8	10.7	10.7	10.5	10.9	10.7	11.6	11.6	---	---
18	11.5	11.3	10.8	10.7	10.7	10.5	10.9	10.7	11.6	11.6	---	---
19	11.3	11.3	10.8	10.7	10.7	10.5	11.0	10.7	11.6	11.5	---	---
20	11.4	11.3	10.8	10.7	10.7	10.5	11.0	10.7	11.6	11.5	---	---
21	11.4	11.3	10.7	10.7	10.7	10.5	11.0	10.8	11.6	11.5	---	---
22	11.4	11.3	10.7	10.7	10.7	10.5	11.0	10.8	11.6	11.6	---	---
23	11.4	11.1	10.7	10.5	10.7	10.5	11.0	10.9	11.8	11.6	---	---
24	11.3	11.1	10.7	10.5	10.8	10.5	11.0	10.9	11.8	11.6	---	---
25	11.3	11.1	10.7	10.5	10.8	10.5	11.0	10.9	11.9	11.6	---	---
26	11.1	11.1	10.7	10.5	10.8	10.7	11.0	10.9	11.8	11.6	---	---
27	11.1	11.1	10.7	10.5	10.8	10.7	11.0	10.9	---	---	---	---
28	11.3	11.1	10.7	10.5	10.8	10.7	11.1	10.9	---	---	---	---
29	11.1	11.1	10.7	10.5	10.7	10.7	11.2	10.9	---	---	---	---
30	11.1	11.1	10.7	10.5	10.7	10.7	11.2	11.1	---	---	---	---
31	---	---	10.7	10.5	---	---	11.2	11.1	---	---	---	---
MONTH	11.8	11.1	11.1	10.5	10.8	10.4	11.2	10.7	11.9	11.1	---	---
YEAR	13.4	10.4										

TEMPERATURE, SOIL (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	OCTOBER		NOVEMBER		DECEMBER		JANUARY		FEBRUARY		MARCH	
1	17.3	15.8	11.2	10.1	8.5	6.1	1.3	1.0	2.8	1.5	7.3	5.7
2	16.4	13.6	10.9	8.9	6.1	5.1	2.4	1.0	4.7	2.4	6.6	4.9
3	17.9	15.0	8.9	7.6	7.1	5.0	5.5	2.4	3.6	2.4	5.1	4.3
4	19.1	16.4	7.6	6.9	7.1	5.3	7.1	5.5	2.7	1.7	4.3	3.8
5	19.7	16.9	8.7	6.9	5.3	3.6	7.6	6.1	2.0	1.8	4.6	3.2
6	19.9	17.2	8.8	7.3	3.6	3.2	9.5	7.6	2.3	1.8	5.6	3.2
7	19.8	17.5	8.8	8.0	3.3	3.2	10.4	9.0	2.1	1.4	6.2	3.6
8	20.0	17.3	9.2	8.3	3.3	3.0	9.0	7.7	2.2	1.3	8.0	5.6
9	19.9	17.7	8.9	8.2	3.1	2.8	8.1	5.5	2.4	1.2	8.8	5.9
10	19.6	17.6	8.5	8.0	4.2	3.1	5.6	4.3	3.6	1.5	5.9	3.2
11	17.6	15.1	8.1	7.0	4.0	3.4	4.3	2.6	4.8	3.6	3.2	2.2
12	17.8	14.3	7.0	4.6	3.4	2.9	4.3	3.0	4.7	3.8	2.2	1.5
13	19.0	16.9	4.9	3.9	2.9	2.0	4.6	2.6	4.6	3.3	1.5	1.1
14	18.1	15.0	4.7	4.2	2.5	1.9	2.6	1.6	4.9	3.3	2.7	1.1
15	15.0	12.5	4.6	4.1	2.0	1.4	2.1	1.5	4.4	2.7	2.7	1.4
16	13.0	11.4	4.1	3.3	2.0	1.3	2.1	1.8	4.6	3.3	3.8	1.7
17	12.8	11.8	3.3	2.2	2.0	1.3	2.1	1.8	6.0	4.6	4.3	2.8
18	13.4	11.6	2.3	1.7	1.9	1.2	2.0	1.6	6.3	5.8	7.0	4.3
19	13.4	10.9	3.7	1.9	3.7	1.7	1.6	1.1	5.8	5.2	9.2	7.0
20	13.4	11.9	4.7	2.6	3.4	2.4	1.1	1.0	5.5	5.0	8.4	5.8
21	12.3	10.2	5.5	4.3	3.4	2.7	1.0	.9	5.5	4.6	5.8	3.6
22	11.1	8.8	5.8	5.5	4.3	2.7	1.9	1.0	6.2	4.8	4.8	3.3
23	10.0	7.6	5.6	4.2	4.3	3.9	2.6	1.9	5.7	4.9	4.4	2.7
24	9.8	8.8	4.3	3.3	4.8	3.6	2.4	1.9	4.9	3.4	5.8	3.3
25	10.7	9.6	5.0	2.7	4.9	4.0	2.1	1.7	6.0	3.2	6.1	3.8
26	10.6	9.7	6.3	5.0	4.0	3.0	2.6	1.3	6.5	4.4	10.2	5.6
27	10.6	8.6	5.6	3.8	3.0	2.4	3.7	1.9	8.5	6.0	12.8	9.8
28	8.7	6.9	8.0	5.0	2.4	1.7	3.4	1.8	7.9	5.7	13.1	11.1
29	9.3	6.7	9.4	8.0	1.7	1.4	2.9	2.0	---	---	14.8	11.3
30	10.2	7.3	9.6	8.5	1.5	1.4	2.9	2.4	---	---	15.7	13.1
31	10.9	8.6	---	---	1.5	1.3	3.1	2.3	---	---	15.1	13.2
MONTH	20.0	6.7	11.2	1.7	8.5	1.2	10.4	.9	8.5	1.2	15.7	1.1

395859083440700 CL-138 NR SPRGFLD,OH—Continued

TEMPERATURE, SOIL (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN	MAX	MIN
	APRIL		MAY		JUNE		JULY		AUGUST		SEPTEMBER	
1	14.6	11.9	14.9	13.7	24.0	21.6	26.9	24.6	24.8	22.1	---	---
2	12.6	10.5	14.7	13.6	24.0	21.1	26.5	24.3	25.1	21.8	---	---
3	11.2	9.4	15.3	13.1	23.0	20.3	26.7	23.9	25.6	22.8	---	---
4	10.1	8.3	16.6	13.2	20.7	19.3	26.2	24.8	24.7	23.4	---	---
5	10.2	6.6	16.6	13.9	20.0	17.6	26.2	24.3	25.0	23.5	---	---
6	11.0	7.5	17.4	14.3	18.8	16.1	26.4	23.9	26.4	23.9	---	---
7	10.4	8.4	16.9	15.9	19.5	16.0	25.8	24.3	27.1	24.5	---	---
8	13.2	10.0	17.6	15.7	19.5	16.8	27.4	25.2	27.1	24.6	---	---
9	12.7	10.7	17.5	16.1	19.0	18.3	27.5	25.3	26.1	24.7	---	---
10	11.4	9.3	18.1	16.1	22.5	18.5	27.0	24.8	26.0	24.6	---	---
11	11.8	8.5	17.4	15.8	21.7	20.2	25.7	22.9	25.4	23.7	---	---
12	12.8	9.1	19.3	15.8	23.7	20.7	26.0	22.5	24.8	23.0	---	---
13	13.1	10.5	19.6	17.0	23.6	21.9	26.4	22.9	24.8	22.4	---	---
14	13.5	12.1	21.3	17.3	22.7	20.8	25.8	24.5	24.8	22.9	---	---
15	13.1	11.1	22.3	18.2	22.3	21.1	25.9	24.8	25.7	23.2	---	---
16	15.7	12.7	23.2	20.2	22.4	21.5	26.6	24.7	25.8	23.2	---	---
17	15.2	12.7	22.5	19.2	24.0	21.4	26.4	23.7	26.4	23.7	---	---
18	13.3	10.9	22.6	18.8	24.9	21.8	26.9	24.1	26.1	24.5	---	---
19	12.1	10.7	22.8	19.1	25.5	23.5	27.2	24.5	25.2	22.6	---	---
20	13.1	9.4	23.9	20.5	25.8	22.9	27.7	25.0	24.8	21.5	---	---
21	13.2	10.8	23.1	20.8	25.3	24.3	29.2	26.1	25.6	22.1	---	---
22	14.2	11.9	21.6	19.3	26.6	23.7	28.3	26.2	25.8	23.2	---	---
23	14.4	12.0	21.1	18.5	26.3	24.5	27.6	26.1	26.4	23.4	---	---
24	15.4	11.5	21.1	19.5	27.3	24.7	26.5	24.4	27.1	24.1	---	---
25	15.2	12.8	20.9	19.9	28.8	26.0	25.2	23.3	27.0	24.7	---	---
26	14.7	13.1	21.2	18.5	28.8	27.0	25.5	22.4	25.8	24.0	---	---
27	13.3	11.2	22.3	18.8	29.5	27.5	25.6	22.9	---	---	---	---
28	14.2	10.3	22.8	19.5	29.8	28.0	25.8	23.4	---	---	---	---
29	14.0	12.5	23.7	20.3	29.3	27.9	26.3	23.9	---	---	---	---
30	14.3	13.5	24.8	21.5	28.0	26.3	25.7	24.4	---	---	---	---
31	---	---	24.3	23.2	---	---	25.2	23.1	---	---	---	---
MONTH	15.7	6.6	24.8	13.1	29.8	16.0	29.2	22.4	27.1	21.5	---	---
YEAR	29.8	.9										

PRECIPITATION, TOTAL, INCHES, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	.00	.07	.00	.01	.00	.00	.00	.03	.00	.06	.00	---
2	.00	.01	.00	.00	.00	.00	.00	.02	.00	.04	.00	---
3	.02	.08	.20	.01	.00	.04	.04	.17	.06	.01	.00	---
4	.00	.02	.00	.01	.00	.04	.03	.00	.00	.04	.02	---
5	.00	.00	.01	.08	.00	.01	.00	.00	.04	.03	.09	---
6	.00	.00	.00	.12	.17	.00	.00	.00	.00	.03	.00	---
7	.00	.02	.01	.69	.00	.00	.05	1.36	.00	.01	.00	---
8	.00	.00	.00	.07	.00	.12	.25	.02	.00	.02	.16	---
9	.14	.00	.04	.06	.01	.32	.98	.00	.06	.00	.00	---
10	.01	.01	.16	.00	.00	.01	.00	.00	.00	.00	.21	---
11	.00	.00	.00	.00	.27	.01	.00	.00	.38	.00	.01	---
12	.00	.00	.00	.00	.05	.00	.00	.00	.67	.00	.00	---
13	.09	.10	.00	.05	.00	.00	.01	.43	.03	.00	.00	---
14	.05	.09	.00	.01	.00	.00	.01	.00	.19	.00	.00	---
15	.00	.06	.00	.02	.00	.00	.03	.00	.38	.00	.00	---
16	.00	.01	.00	.00	.22	.00	.71	.00	.07	.00	.00	---
17	.00	.00	.00	.06	.20	.14	.00	.00	.06	.00	.00	---
18	.00	.00	.00	.01	.14	.09	.00	.00	.01	.00	.00	---
19	.00	.00	.00	.00	.01	.00	.16	.04	.00	.66	.00	---
20	.00	.00	.00	.00	.05	.07	.00	.32	.01	.00	.00	---
21	.00	.12	.00	.00	.00	.06	.07	.00	.00	.00	.00	---
22	.00	.08	.19	.08	.00	.12	.02	.00	.01	.53	.00	---
23	.00	.00	.00	.04	.02	.03	.00	.23	.03	.15	.00	---
24	.12	.01	.44	.03	.04	.00	.00	.26	.03	.00	.05	---
25	.00	.01	.02	.00	.01	.00	.04	.00	.02	.00	.62	---
26	.14	.00	.00	.00	.00	.00	.43	.00	.03	.00	.00	---
27	.00	.00	.00	.00	.01	.00	.01	.00	.00	.00	---	---
28	.00	.09	.00	.00	.16	.00	.00	.00	.00	.00	---	---
29	.00	.04	.00	.02	---	.00	.11	.16	.03	.00	---	---
30	.00	.22	.02	.01	---	.00	.28	.00	.05	.00	---	---
31	.02	---	.00	.00	---	.27	---	.01	---	.00	---	---
TOTAL	0.59	1.04	1.09	1.38	1.36	1.33	3.23	3.05	2.16	1.58	1.16	---

WTR YR 1998 TOTAL 17.97

395859083440700 CL-138 NR SPRGFLD,OH—Continued

DEICING SALT LBS/LANE-MILE, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY SUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	133	200	---	---	---	---	---	---
5	---	---	---	---	133	200	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	200	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	480	---	100	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	200	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	200	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	100	---	---	---	---	---	---	---	---
25	---	---	---	---	---	---	---	---	---	---	---	---
26	---	---	---	---	---	---	---	---	---	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
TOTAL	---	480	---	400	266	800	---	---	---	---	---	---

WTR YR 1998 TOTAL 1946

Geochemistry and Ground-Water Flow Beneath an Abandoned Coal Mine Treated with Flue-Gas Desulfurization By-Products as Soil and Spoil Amendments

The following tables list ground-water levels and chemical analyses of interstitial-, ground-, and surface-water samples collected from an abandoned mine site that has been reclaimed in part by application of a coal-combustion by-product, also known as flue-gas desulfurization (FGD) by-product. Water levels in wells were measured periodically. The fifth round of water-quality analyses from ground- and surface-water samples are presented herein. Additionally, interstitial waters were sampled by use of soil-suction lysimeters. The lysimeters produced only small amounts of water; thus, chemical analyses for interstitial water are incomplete.

The site selected for study is in Tuscarawas County, Ohio, and is also known as the Fleming abandoned mine site. FGD by-products are produced as a result of injection of dolostone slurry through the flue gases of coal-burning utilities that use high-sulfur coals as fuel. Beneficial uses of the by-products are being developed, and their environmental effects are being assessed.

The following site description applies to all wells, soil-suction lysimeters, and surface-water sites used for this study.

LOCATION.--Hydrologic Unit 05040001, approximately 1.5 mi northwest of the city of Dover, Ohio; 0.5 mi west of Interstate I-77.
AQUIFER.--Sandstones and coals of Allegheny and Conemaugh Groups, of middle and lower Pennsylvanian Age.
INSTRUMENTATION.--Periodic measurement of water level with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is given in feet above National Geodetic Vertical Datum of 1983, surveyed using Total Station with reference points established by global positioning system, accurate to 0.01 ft.
PERIOD OF RECORD.--Mar. 1995 to current year for wells TU-100 through TU-114; Dec. 1995 to current year for wells TU-115 through TU-119.
REMARKS.--These sites are used for chemical-quality sampling only as part of a cooperative study with The Ohio State University.

WELL, SOIL-SUCTION LYSIMETER, AND SURFACE-WATER SITE DESCRIPTIONS

LOCAL NUMBER	SITE ID	LATITUDE (DMS)	LONGITUDE (DMS)	CASING INNER DIAMETER (IN)	LSD (FT)	MP (FT)	DEPTH (FT BELOW LSD)	SCREEN INTERVAL TOP	SCREEN INTERVAL BOTTOM
Ground-water wells									
TU-100-W1S	403321081311901	40 33 21	081 31 19	6	1078.90	1081.48	68.00	1022.90	1012.90
TU-101-W1D	403321081311902	40 33 21	081 31 19	6	1079.05	1081.79	98.00	993.05	983.05
TU-102-W2	403319081312000	40 33 19	081 31 20	6	1079.99	1082.64	68.00	1023.99	1013.99
TU-103-W3S	403315081312301	40 33 15	081 31 23	6	1072.89	1075.38	70.00	1014.89	1004.89
TU-104-W3D	403315081312302	40 33 15	081 31 23	6	1072.93	1075.53	86.00	998.93	988.93
TU-105-W4S	403313081311901	40 33 13	081 31 19	6	1047.80	1050.49	46.00	1013.80	1003.80
TU-106-W4I	403313081311902	40 33 13	081 31 19	6	1047.32	1050.19	63.50	995.82	985.82
TU-107-W4D	403313081311903	40 33 13	081 31 19	6	1046.58	1049.19	100.00	958.58	948.58
TU-108-W5SP	403312081311401	40 33 12	081 31 14	6	1045.84	1048.53	16.00	1036.84	1031.84
TU-109-W5D	403312081311402	40 33 12	081 31 14	6	1045.90	1048.53	38.00	1019.90	1009.90
TU-110-W6S	403315081311001	40 33 15	081 31 10	6	1051.18	1053.81	43.00	1020.18	1010.18
TU-111-W6D	403315081311002	40 33 15	081 31 10	6	1051.62	1054.02	60.00	1003.62	993.62
TU-112-W7	403320081311000	40 33 20	081 31 10	6	1059.13	1061.75	53.00	1018.13	1008.13
TU-113-W8S	403323081311601	40 33 23	081 31 16	6	1076.57	1079.26	68.00	1020.57	1010.57
TU-114-W8D	403323081311602	40 33 23	081 31 16	6	1075.54	1078.26	92.00	995.54	985.54
TU-115-W9	403316081310600	40 33 16	081 31 06	2	1049.88	1051.38	49.00	1012.88	1002.88
TU-116-W10	403314081311500	40 33 14	081 31 15	2	1053.53	1055.33	57.00	1008.53	998.53
TU-117-W11	403316081311300	40 33 16	081 31 13	2	1055.69	1057.18	58.00	1009.69	999.69
TU-118-W12	403318081311200	40 33 18	081 31 12	2	1057.07	1059.14	57.60	1011.47	1001.47
TU-119-W13	403321081311400	40 33 21	081 31 14	2	1070.98	1072.71	70.00	1012.98	1002.98
Soil-suction lysimeters									
TU-131-L1A-2.5	403316081311102	40 33 16	081 31 11	--	--	--	2.50	--	--
TU-132-L1A-3.5	403316081311103			--	--	--	3.50	--	--
TU-135-L1B-3.5	403316081311106			--	--	--	3.50	--	--
TU-139-L2B-1.5	403313081311404	40 33 13	091 31 14	--	--	--	1.50	--	--
TU-143-L3A-4.5B	403314081311802	40 33 14	081 31 18	--	--	--	4.50	--	--
TU-148-L3C-2.5	403314081311807			--	--	--	2.50	--	--
TU-157-L4C-2.5UP	403315081312108			--	--	--	2.50	--	--
TU-158-L4C-3.5UP	403315081312109			--	--	--	3.50	--	--
TU-159-L5A-1.5	403316081310501	40 33 16	081 31 05	--	--	--	2.50	--	--
TU-160-L5A-2.5	403316081310502			--	--	--	2.50	--	--
TU-162-L5B-1.5	403316081310504			--	--	--	1.50	--	--
TU-164-L5B-3.5	403316081310506			--	--	--	3.50	--	--
Surface-water sites									
TU-120	403258081311900	40 32 58	081 31 19	--	--	--	--	--	--
TU-124	403311081311600	40 33 11	081 31 16	--	--	--	--	--	--
TU-125	403304081305700	40 33 04	081 30 57	--	--	--	--	--	--

Geochemistry and Ground-Water Flow Beneath an Abandoned Coal Mine Treated with Flue-Gas Desulfurization By-Products as Soil and Spoil Amendments

WATER LEVELS IN GROUND-WATER WELLS

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL (FT BELOW LAND SURFACE)	ALTITUDE OF LAND SURFACE (FEET)
403321081311901	TU-100-W1S	68.0	324ALGN	19971001	42.63	1078.90
				19971110	43.37	
				19971204	43.54	
				19980129	43.82	
				19980313	44.18	
				19980423	43.33	
				19980615	42.03	
403321081311902	TU-101-W1D	98.0	324PSVL	19971001	42.36	1079.05
				19971110	43.12	
				19971204	43.32	
				19980129	43.72	
				19980313	44.08	
				19980423	43.26	
				19980615	41.96	
403319081312000	TU-102-W2	68.0	324ALGN	19971001	44.30	1079.99
				19971110	44.93	
				19971204	45.10	
				19980129	45.20	
				19980313	45.48	
				19980423	44.70	
				19980615	43.50	
03315081312301	TU-103-W3S	70.0	324ALGN	19971001	40.52	1072.89
				19971110	41.04	
				19971204	41.11	
				19980129	40.87	
				19980313	40.95	
				19980423	40.43	
				19980615	39.65	
403315081312302	TU-104-W3D	86.0	324PSVL	19971001	40.31	1072.93
				19971110	40.80	
				19971204	40.93	
				19980129	40.66	
				19980313	40.97	
				19980423	40.25	
				19980615	39.46	
403313081311901	TU-105-W4S	46.0	324ALGN	19971001	15.74	1047.80
				19971110	16.35	
				19971204	16.45	
				19980129	16.15	
				19980313	16.41	
				19980423	15.74	
				19980615	14.76	
403313081311902	TU-106-W4I	63.5	324PSVL	19971001	39.20	1047.32
				19971110	39.10	
				19971204	39.06	
				19980129	38.93	
				19980313	38.96	
				19980423	38.57	
				19980615	38.61	
403313081311903	TU-107-W4D	100.0	324PSVL	19971001	64.67	1046.58
				19971110	64.64	
				19971204	64.48	
				19980129	64.03	
				19980313	63.84	
				19980423	63.28	
				19980615	63.39	
403312081311401	TU-108-W5SP	15.0	324ALGN	19971001	13.15	1045.84
				19971110	dry	
				19971204	dry	
				19980129	11.14	
				19980313	11.03	
				19980423	10.80	
				19980615	10.67	

WATER LEVELS IN GROUND-WATER WELLS—Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL (FT BELOW LAND SURFACE)	ALTITUDE OF LAND SURFACE (FEET)
403312081311402	TU-109-W5D	38.0	324ALGN	19971001	14.07	1045.90
				19971110	14.79	
				19971204	14.76	
				19980129	14.03	
				19980313	14.14	
				19980423	13.55	
				19980615	12.83	
403315081311001	TU-110-W6S	43.0	324ALGN	19971001	16.30	1051.18
				19971110	17.31	
				19971204	17.28	
				19980129	17.02	
				19980313	17.03	
				19980423	16.13	
				19980615	15.17	
403315081311002	TU-111-W6D	60.0	324PSVL	19971001	16.75	1051.62
				19971110	17.63	
				19971204	17.81	
				19980129	17.55	
				19980313	17.54	
				19980423	16.59	
				19980615	15.66	
403320081311000	TU-112-W7	53.0	324ALGN	19971001	24.64	1059.13
				19971110	25.42	
				19971204	25.52	
				19980129	25.44	
				19980313	25.55	
				19980423	24.59	
				19980615	23.23	
403323081311601	TU-113-W8S	68.0	324ALGN	19971001	40.22	1076.57
				19971110	40.93	
				19971204	41.10	
				19980129	41.49	
				19980313	41.87	
				19980423	41.01	
				19980615	39.69	
403323081311602	TU-114-W8D	92.0	324PSVL	19971001	39.18	1075.54
				19971110	39.88	
				19971204	40.08	
				19980129	40.45	
				19980313	40.84	
				19980423	39.97	
				19980615	38.67	
403316081310600	TU-115-W9	49.0	324ALGN	19971001	15.87	1049.88
				19971110	16.76	
				19971204	16.76	
				19980129	16.54	
				19980313	16.58	
				19980423	15.60	
				19980615	14.23	
403314081311500	TU-116-W10	57.0	324ALGN	19971001	20.60	1053.53
				19971110	21.22	
				19971204	21.32	
				19980129	21.15	
				19980313	21.33	
				19980423	20.64	
				19980615	19.73	
403316081311300	TU-117-W11	58.0	324ALGN	19971001	20.33	1055.69
				19971110	20.97	
				19971204	21.24	
				19980129	21.29	
				19980313	21.47	
				19980423	20.60	
				19980615	19.35	

WATER LEVELS IN GROUND-WATER WELLS—Continued

SITE-ID	LOCAL WELL NUMBER	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL (FT BELOW LAND SURFACE)	ALTITUDE OF LAND SURFACE (FEET)
403318081311200	TU-118-W12	57.6	324ALGN	19971001	21.88	1057.07
				19971110	22.65	
				19971204	22.77	
				19980129	22.85	
				19980313	23.03	
				19980423	22.14	
				19980615	20.81	
403321081311400	TU-119-W13	70.0	324ALGN	19971001	35.52	1070.98
				19971110	36.25	
				19971204	36.40	
				19980129	36.57	
				19980313	36.79	
				19980423	35.91	
				19980615	34.58	

Geochemistry and Ground-Water Flow Beneath an Abandoned Coal Mine Treated with Flue-Gas Desulfurization By-Products as Soil and Spoil Amendments

LOCAL NUMBER	DATE	TIME	DEPTH TO WATER (FT BELOW LSD)	SPE-CIFIC CON-DUCT-ANCE (US/CM)	PH WATER WHOLE FIELD (STAND-ARD UNITS)	REDOX POT-ENT-IAL (MV)	TEMPER-ATURE AIR (DEG C)	TEMPER-ATURE WATER (DEG C)	TURBID-ITY (NTU)	OXYGEN DIS-SOLVED (MG/L)	HARD-NESS (MG/L) AS CACO3)	ACID-ITY (MG/L AS CACO3)
					Ground water							
TU-100-W1S	980615	1900	44.61	3140	5.8	139	25	13.0	2	<0.10	1800	13.6
TU-101-W1D	980616	1730	41.96	1980	7.3	25	23	15.0	54	0.10	720	0.2
TU-102-W2	980616	800	43.50	3570	5.5	149	22	12.0	0	<0.10	1700	16.1
TU-103-W3S	980616	1130	43.50	2690	6.1	118	23	12.0	9	<0.10	1400	3.5
TU-104-W3D	980616	1000	39.46	2710	6.3	113	22	12.0	1	<0.10	1600	2.1
TU-105-W4S	980617	800	14.76	2630	5.6	153	21	12.0	5	<0.10	1700	12.2
TU-106-W4I	980617	1000	38.61	3050	5.7	162	22	13.0	45	0.80	1900	13.4
TU-107-W4D	980618	800	63.65	1670	6.6	78	20	15.0	8	<0.10	900	0.5
TU-108-W5SP	980617	1100	10.67	2290	3.9	383	24	15.0	11	--	1200	7.5
TU-109-W5D	980616	1330	12.83	2670	5.2	193	23	13.0	6	<0.10	1600	12.0
TU-110-W6S	980616	1530	15.17	4150	5.2	216	23	13.0	108	<0.10	2000	31.2
TU-111-W6D	980617	1300	22.47	3540	5.5	204	24	14.0	9	0.10	2400	24.0
TU-112-W7	980618	1130	23.23	2260	5.8	140	25	13.0	5	<0.10	1500	6.4
TU-113-W8S	980615	1500	42.38	2010	5.9	112	23	13.0	--	<0.10	1400	5.6
TU-114-W8D	980615	1700	41.39	2220	5.8	121	25	13.0	1	<0.10	1500	8.5
TU-115-W9	980618	1000	14.23	3030	5.5	220	23	14.0	2	<0.10	1500	8.4
TU-116-W10	980615	1300	21.53	3750	5.4	209	27	15.0	7	<0.10	1700	12.2
TU-117-W11	980617	1630	19.35	3830	5.6	193	27	16.0	7	<0.10	2000	12.4
TU-118-W12	980617	1430	20.81	2870	5.7	191	26	15.0	3	<0.10	1800	7.3
TU-119-W13	980617	1930	34.58	3350	5.9	163	27	14.0	1	<0.10	1700	10.2
					Interstitial water							
TU-131-L1A-2.5	980618	1300	2.5	7570	4.1	--	--	--	--	--	6800	--
TU-132-L1A-3.5	980618	1310	3.5	6780	5.8	--	--	--	--	--	5600	--
TU-135-L1B-3.5	980618	1320	3.5	3540	4.1	--	--	--	--	--	3942	--
TU-139-L2B-1.5	980618	1330	1.5	5480	7.1	--	--	--	--	--	4600	--
TU-143-L3A-4.5B	980618	1340	4.5	4620	5.9	--	--	--	--	--	3500	--
TU-148-L3C-2.5	980618	1350	2.5	4190	6.3	--	--	--	--	--	3200	--
TU-157-L4C-2.5UP	980618	1400	2.5	4240	6.1	--	--	--	--	--	3100	--
TU-158-L4C-3.5UP	980618	1410	3.5	4050	6.3	--	--	--	--	--	3000	--
TU-159-L5A-1.5	980618	1420	1.5	1850	3.9	--	--	--	--	--	900	--
TU-160-L5A-2.5	980618	1430	2.5	2250	4.6	--	--	--	--	--	1200	--
TU-162-L5B-1.5	980618	1440	1.5	2610	3.7	--	--	--	--	--	1200	--
TU-164-L5B-3.5	980618	1500	3.5	2080	6.0	--	--	--	--	--	980	--
					Surface water							
TU-120	980624	1230	--	1510	4.0	430	27	23.0	4	7.50	790	0.9
TU-124	980624	1100	--	1320	3.7	361	26	25.0	19	8.30	230	0.1
TU-125	980624	1400	--	570	6.5	307	30	20.0	17	9.10	670	0.1

Geochemistry and Ground-Water Flow Beneath an Abandoned Coal Mine Treated with Flue-Gas Desulfurization By-Products as Soil and Spoil Amendments

LOCAL NUMBER	DATE	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)	BI-CARB-ONATE IT-FLD (MG/L AS HCO3)	ALKA-LIN-ITY WATER WHOLE FIELD (MG/L AS CAC03)	SULF-ATE DIS-SOLVED (MG/L AS SO4)	CHLOR-IDE DIS-SOLVED (MG/L AS CL)	FLUOR-IDE DIS-SOLVED (MG/L AS F)	SILICA DIS-SOLVED (MG/L AS SIO2)
					Ground water						
TU-100-W1S	980615	358.5	217.90	12.60	14.90	85	74	2603	40.0	<0.1	12.00
TU-101-W1D	980616	177.2	67.40	165.60	7.80	251	206	988	<1.0	<0.1	9.00
TU-102-W2	980616	338.2	206.80	10.50	14.70	73	58	2638	40.0	<0.1	10.00
TU-103-W3S	980616	306.0	156.40	7.80	6.60	98	80	1524	<1.0	<0.1	10.00
TU-104-W3D	980616	394.6	150.70	9.40	7.50	149	121	1688	<1.0	<0.1	10.00
TU-105-W4S	980617	345.4	206.60	9.00	11.30	63	51	2561	41.0	<0.1	11.00
TU-106-W4I	980617	385.0	221.50	9.30	10.90	76	64	2644	40.0	<0.1	11.00
TU-107-W4D	980618	242.7	80.20	13.10	13.20	237	197	853	<1.0	<0.1	8.00
TU-108-W5SP	980617	195.0	169.00	6.60	8.20	--	--	1813	43.0	1.0	30.00
TU-109-W5D	980616	304.4	204.20	8.60	9.00	39	26	2268	41.0	<0.1	14.00
TU-110-W6S	980616	314.1	293.50	9.10	11.60	38	32	4042	42.0	4.0	8.00
TU-111-W6D	980617	412.7	332.20	12.90	13.40	85	69	4063	40.0	1.0	15.00
TU-112-W7	980618	314.0	164.20	10.70	9.70	88	70	1951	<1.0	<0.1	10.00
TU-113-W8S	980615	315.4	157.30	7.90	6.80	110	89	1711	41.0	<0.1	13.00
TU-114-W8D	980615	338.7	170.30	9.70	7.20	120	96	1894	40.0	<0.1	12.00
TU-115-W9	980618	319.9	179.90	9.30	11.30	56	44	2140	40.0	<0.1	11.00
TU-116-W10	980615	338.8	217.80	9.40	11.40	46	38	2414	40.0	<0.1	10.00
TU-117-W11	980617	401.5	245.00	10.90	10.80	85	61	2856	42.0	<0.1	13.00
TU-118-W12	980617	383.4	198.40	12.50	11.10	63	59	2445	40.0	<0.1	11.00
TU-119-W13	980617	348.0	191.70	11.00	7.90	68	53	2420	<1.0	<0.1	10.00
					Interstitial water						
TU-131-L1A-2.5	980618	423.2	1404.70	45.30	--	--	--	6583	27.7	1.6	130.00
TU-132-L1A-3.5	980618	429.2	1106.00	37.90	29.40	--	167	5207	24.3	0.5	65.00
TU-135-L1B-3.5	980618	406.7	710.60	44.10	16.20	--	2	4359	18.2	0.7	<0.21
TU-139-L2B-1.5	980618	531.7	788.50	21.20	33.50	--	470	3698	1.2	0.6	75.00
TU-143-L3A-4.5B	980618	470.3	566.20	25.40	12.20	--	107	3245	6.9	0.5	51.00
TU-148-L3C-2.5	980618	507.6	472.50	8.80	29.20	--	329	2691	1.9	0.7	41.00
TU-157-L4C-2.5UP	980618	471.9	477.40	32.00	--	--	--	2963	7.4	0.4	63.00
TU-158-L4C-3.5UP	980618	488.8	426.30	10.00	26.30	--	223	2710	4.0	0.8	57.00
TU-159-L5A-1.5	980618	208.2	91.60	25.20	--	--	--	1109	4.9	0.9	84.00
TU-160-L5A-2.5	980618	249.5	138.00	31.50	15.00	--	--	1412	7.5	0.6	75.00
TU-162-L5B-1.5	980618	242.5	150.80	65.40	22.20	--	--	1377	10.2	0.3	62.00
TU-164-L5B-3.5	980618	182.3	127.40	69.80	17.40	--	35	1081	5.4	0.5	41.00
					Surface water						
TU-120	980624	154.9	98.00	16.60	4.60	--	--	1051	54.0	<0.1	19.00
TU-124	980624	131.5	83.60	3.10	6.10	--	--	844	41.0	<0.1	10.00
Tu-125	980624	45.4	29.20	7.60	3.00	3	4	305	45.0	<0.1	14.00

LOCAL NUMBER	DATE	DIS-SOLVED SOLIDS RESI-DUE AT 180C (MG/L)	NITRO-GEN NITRITE DIS-SOLVED (MG/L AS N)	NITRO-GEN NITRO-GEN AMMONIA DIS-SOLVED (MG/L AS N)	NITRITE PLUS NITRATE DIS-SOLVED (MG/L AS N)	PHOS-PHORUS ORTHO-PHOS-PHATE DIS-SOLVED (MG/L AS P)	ALUM-INUM TOTAL (UG/L AS AL)	ALUM-INUM DIS-SOLVED (UG/L AS AL)	ANTI-MONY DIS-SOLVED (UG/L AS SB)	ARS-ENIC DIS-SOLVED (UG/L AS AS)
				Ground water						
TU-100-W1S	980615	3700	<0.01	1.33	<0.05	0.01	142	68	<106	<2
TU-101-W1D	980616	1580	--	--	--	--	149	37	<106	<2
TU-102-W2	980616	3660	<0.01	0.84	<0.05	0.02	635	663	<106	<2
TU-103-W3S	980616	2170	<0.01	0.47	<0.05	<0.01	130	44	<106	<2
TU-104-W3D	980616	2450	<0.01	0.70	<0.05	<0.01	71	46	<106	<2
TU-105-W4S	980617	3360	<0.01	0.92	<0.05	0.01	147	84	<106	2
TU-106-W4I	980617	3450	<0.01	0.93	<0.05	0.01	234	47	<106	2
TU-107-W4D	980618	1390	0.01	1.37	<0.05	<0.01	49	<27	<106	<2
TU-108-W5SP	980617	2210	0.03	0.38	0.12	<0.01	22694	22219	<106	<2
TU-109-W5D	980616	2720	<0.01	0.65	<0.05	0.01	5022	5147	<106	<2
TU-110-W6S	980616	5360	<0.01	0.41	<0.05	0.03	4559	3710	<106	<2
TU-111-W6D	980617	5490	0.01	0.38	<0.05	0.03	1029	913	<106	<2
TU-112-W7	980618	2580	0.01	0.95	<0.05	<0.01	46	38	<106	<2
TU-113-W8S	980615	2540	--	--	--	--	97	73	<106	<2
TU-114-W8D	980615	2790	<0.01	0.54	<0.05	>0.01	88	58	<106	<2
TU-115-W9	980618	2850	0.01	1.25	<0.05	<0.01	203	193	111	<2
TU-116-W10	980615	3560	<0.01	0.84	<0.05	0.02	283	290	<106	<2
TU-117-W11	980617	3780	<0.01	0.80	<0.05	<0.01	248	224	<106	<2
TU-118-W12	980617	3160	<0.01	1.21	<0.05	<0.01	109	67	<106	<2
TU-119-W13	980617	3190	<0.01	0.75	<0.05	<0.01	79	40	<106	<2
				Interstitial water						
TU-132-L1A-3.5	980618	7060	--	--	--	--	--	--	--	<2
TU-139-L2B-1.5	980618	5390	--	--	--	--	--	--	--	<1
TU-143-L3A-4.5B	980618	4500	--	--	--	--	--	--	--	<2
TU-148-L3C-2.5	980618	3930	--	--	--	--	--	--	--	<2
TU-157-L4C-2.5UP	980618	--	--	--	--	--	--	--	--	<2
TU-158-L4C-3.5UP	980618	3850	--	--	--	--	--	--	--	<2
TU-159-L5A-1.5	980618	--	--	--	--	--	--	--	--	<2
TU-160-L5A-2.5	980618	--	--	--	--	--	--	--	--	<2
TU-162-L5B-1.5	980618	--	--	--	--	--	--	--	--	<2
TU-164-L5B-3.5	980618	1620	--	--	--	--	--	--	--	<2
				Surface water						
TU-120	980624	1300	<0.01	0.34	0.11	<0.01	5128	5105	<106	<1
TU-124	980624	370	0.01	0.16	<0.05	0.01	2259	2153	<106	<1
TU-125	980624	1090	0.01	0.06	0.31	0.02	1243	222	<106	<1

Geochemistry and Ground-Water Flow Beneath an Abandoned Coal Mine Treated with Flue-Gas Desulfurization By-Products as Soil and Spoil Amendments

LOCAL NUMBER	DATE	BARIUM DIS SOLVED (UG/L AS BA)	BERYL- LIUM DIS- SOLVED (UG/L AS BE)	BORON DIS- SOLVED (UG/L AS B)	CAD- MIUM DIS- SOLVED (UG/L AS CD)	CHROM- IUM DIS- SOLVED (UG/L AS CR)	COBALT DIS- SOLVED (UG/L AS CO)	COPPER DIS- SOLVED (UG/L AS CU)	IRON TOTAL (UG/L AS FE)	IRON DIS- SOLVED (UG/L AS FE)	LEAD DIS- SOLVED (UG/L AS PB)
					Ground water						
TU-100-W1S	980615	20	1.7	381	5	7	224	<2	277860	300620	<2
TU-101-W1D	980616	12	<0.1	236	<1	2	8	<2	1067	1156	<1
TU-102-W2	980616	15	6.8	198	7	<2	200	<2	310374	337461	<2
TU-103-W3S	980616	13	<0.1	83	2	<2	90	<2	59464	61402	<2
TU-104-W3D	980616	12	<0.1	152	<1	<2	22	<2	43099	44598	<2
TU-105-W4S	980617	13	1.9	226	6	4	204	<2	237557	262268	<2
TU-106-W4I	980617	10	0.2	246	6	2	208	<2	228304	242241	<2
TU-107-W4D	980618	19	0.8	300	<1	8	<6	<2	12268	12875	<1
TU-108-W5SP	980617	9	11.7	223	5	7	932	114	35827	35173	6
TU-109-W5D	980616	12	4.1	156	5	<2	439	<2	203752	220257	<2
TU-110-W6S	980616	8	27.2	17	13	<2	660	<2	592131	671859	<2
TU-111-W6D	980617	10	12.7	108	9	4	449	<2	477892	520848	<2
TU-112-W7	980618	18	1.5	245	3	<2	155	<2	124399	132410	<1
TU-113-W8S	980615	36	0.7	124	3	<2	117	<2	144532	143548	<1
TU-114-W8D	980615	15	1.0	125	3	2	124	<2	165452	175655	<1
TU-115-W9	980618	14	7.1	301	3	6	252	<2	152498	157831	<2
TU-116-W10	980615	12	2.7	255	4	3	278	<2	257527	269686	<2
TU-117-W11	980617	10	3.4	201	4	6	205	<2	234285	251711	<2
TU-118-W12	980617	13	3.3	307	2	6	182	<2	145245	151296	<2
TU-119-W13	980617	17	1.0	198	5	3	101	<2	213507	235571	<2
					Interstitial water						
TU-131-L1A-2.5	980618	--	--	523	--	--	--	--	--	8506	<4
TU-132-L1A-3.5	980618	--	--	720	--	--	--	--	--	176	<4
TU-135-L1B-3.5	980618	--	--	350	--	--	--	--	--	62414	<4
TU-139-L2B-1.5	980618	--	--	1734	--	--	--	--	--	100	<4
TU-143-L3A-4.5B	980618	--	--	559	--	--	--	--	--	3711	<4
TU-148-L3C-2.5	980618	--	--	1018	--	--	--	--	--	214	<2
TU-157-L4C-2.5UP	980618	--	--	779	--	--	--	--	--	85	<2
TU-158-L4C-3.5UP	980618	--	--	1039	--	--	--	--	--	2559	<2
TU-159-L5A-1.5	980618	--	--	93	--	--	--	--	--	180	6
TU-160-L5A-2.5	980618	--	--	81	--	--	--	--	--	48080	<1
TU-162-L5B-1.5	980618	--	--	72	--	--	--	--	--	16413	<1
TU-164-L5B-3.5	980618	--	--	70	--	--	--	--	--	86422	<1
					Surface water						
TU-120	980624	21	2.7	500	2	4	143	8	514	929	<1
TU-124	980624	19	2.1	189	2	2	94	<2	2541	2819	<1
TU-125	980624	37	0.5	54	<1	<2	<6	<2	16	1044	<1

Geochemistry and Ground-Water Flow Beneath an Abandoned Coal Mine Treated with Flue-Gas Desulfurization By-Products as Soil and Spoil Amendments

LOCAL NUMBER	DATE	LITHIUM DISSOLVED (UG/L AS LI)	MANGANESE TOTAL (UG/L AS MN)	MANGANESE DISSOLVED (UG/L AS MN)	MOLYBDENUM DISSOLVED (UG/L AS MO)	NICKEL DISSOLVED (UG/L AS NI)	SELENIUM DISSOLVED (UG/L AS SE)	SILVER DISSOLVED (UG/L AS AG)	STRONTIUM DISSOLVED (UG/L AS SR)	VANADIUM DISSOLVED (UG/L AS V)
					Ground water					
TU-100-W1S	980615	149	16811	17462	<11.0	522	<1	<3	4895	8
TU-101-W1D	980616	26	260	232	<11.0	<5	<1	<3	2021	<5
TU-102-W2	980616	211	18263	19129	<11.0	409	<1	<3	2613	<5
TU-103-W3S	980616	113	12614	13163	<11.0	80	<1	<3	1075	<5
TU-104-W3D	980616	82	3571	3765	<11.0	16	<1	<3	1725	<5
TU-105-W4S	980617	175	14370	15396	<11.0	441	<1	<3	2658	<5
TU-106-W4I	980617	176	13609	14150	<11.0	427	<1	<3	2681	<5
TU-107-W4D	980618	27	1112	1165	<11.0	7	<1	<3	2158	<5
TU-108-W5SP	980617	420	44652	46513	<11.0	791	<1	<3	523	16
TU-109-W5D	980616	254	21976	22609	<11.0	539	<1	6	1564	<5
TU-110-W6S	980616	238	55430	58673	<11.0	882	--	<3	1072	<5
TU-111-W6D	980617	407	40736	42382	<11.0	835	<1	<3	1862	25
TU-112-W7	980618	228	9830	10379	<11.0	354	<1	<3	2691	<5
TU-113-W8S	980615	143	10448	10217	<11.0	239	<1	<3	1167	<5
TU-114-W8D	980615	154	10481	10972	<11.0	314	<1	<3	1121	<5
TU-115-W9	980618	231	17241	17578	<11.0	535	<1	<3	2901	<5
TU-116-W10	980615	218	18737	19053	<11.0	584	<1	<3	2765	7
TU-117-W11	980617	260	25962	27144	<11.0	480	<1	<3	2281	11
TU-118-W12	980617	167	14012	14515	<11.0	420	<1	<3	3848	22
TU-119-W13	980617	113	8716	9341	<11.0	288	<1	<3	2474	7
					Interstitial water					
TU-131-L1A-2.5	980618	--	--	31402	--	--	--	--	--	--
TU-132-L1A-3.5	980618	--	--	97894	--	--	--	--	--	--
TU-135-L1B-3.5	980618	--	--	85401	--	--	--	--	--	--
TU-139-L2B-1.5	980618	--	--	619	--	--	<1	--	--	--
TU-143-L3A-4.5B	980618	--	--	58080	--	--	<1	--	--	--
TU-148-L3C-2.5	980618	--	--	5036	--	--	<1	--	--	--
TU-157-L4C-2.5UP	980618	--	--	29699	--	--	--	--	--	--
TU-158-L4C-3.5UP	980618	--	--	16643	--	--	--	--	--	--
TU-159-L5A-1.5	980618	--	--	45876	--	--	<1	--	--	--
TU-160-L5A-2.5	980618	--	--	68620	--	--	<1	--	--	--
TU-162-L5B-1.5	980618	--	--	27714	--	--	<1	--	--	--
TU-164-L5B-3.5	980618	--	--	12160	--	--	<1	--	--	--
					Surface water					
TU-120	980624	155	18987	19274	<11.0	315	<1	<3	381	11
TU-124	980624	110	5630	6015	<11.0	203	<1	<3	461	14
TU-125	980624	49	1676	2116	<11.0	124	<1	<3	140	<5

Geochemistry and Ground-Water Flow Beneath an Abandoned Coal Mine Treated with Flue-Gas Desulfurization By-Products as Soil and Spoil Amendments

LOCAL NUMBER	DATE	ZINC DIS- SOLVED (UG/L AS ZN)	CARBON ORGANIC DIS- SOLVED (MG/L AS C)
	Ground water		
TU-100-W1S	980615	305	0.6
TU-101-W1D	980616	<1	--
TU-102-W2	980616	348	1.0
TU-103-W3S	980616	19	0.9
TU-104-W3D	980616	<1	0.8
TU-105-W4S	980617	431	1.0
TU-106-W4I	980617	362	0.8
TU-107-W4D	980618	<1	1.1
TU-108-W5SP	980617	1559	3.0
TU-109-W5D	980616	764	1.6
TU-110-W6S	980616	1534	2.0
TU-111-W6D	980617	480	1.4
TU-112-W7	980618	181	0.7
TU-113-W8S	980615	<1	--
TU-114-W8D	980615	118	1.1
TU-115-W9	980618	694	--
TU-116-W10	980615	775	1.1
TU-117-W11	980617	410	1.0
TU-118-W12	980617	344	0.7
TU-119-W13	980617	30	0.6
	Surface water		
TU-120	980624	309	2.3
TU-124	980624	218	1.3
TU-125	980624	130	2.1

CERCLA Assistance for the Lewisburg Drum Site
Ground-Water Quality Data for the Lockport Dolomite

The following tables contain chemical analyses from ground-water samples collected from the Lockport Dolomite using domestic wells in Darke, Miami, Montgomery, and Preble Counties. The data were collected in May 1998 as part of a cooperative study with the U.S. Environmental Protection Agency (USEPA). The objectives of the study were to provide information on natural range of inorganic constituents in ground water from the Lockport Dolomite to aid USEPA in determining remedial measures at the Lewisburg Drum Site, northwest of Lewisburg, Ohio. The locations of the sample sites are shown on the figure below. The five-digit parameter codes (in parentheses) in the water-quality reports are defined in WATSTORE

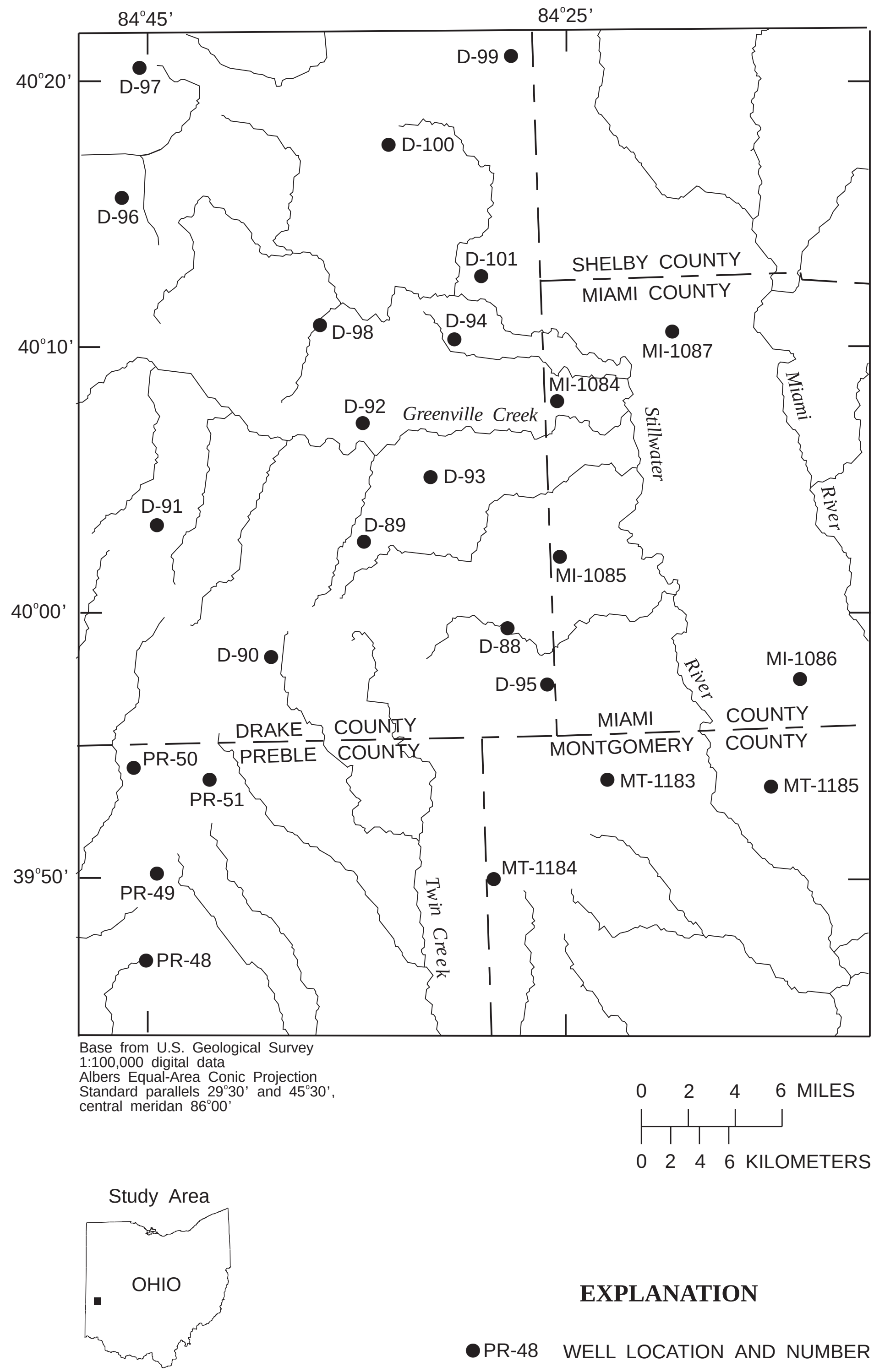


Figure 10. Location of well sites sampled from the Lockport Dolomite.

CERCLA Assistance for the Lewisburg Drum Site
Ground-Water Quality Data for the Lockport Dolomite

395905084274500 Local number D-88

LOCATION -- Lat. 39°59′05″ Long. 84°27′45″
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5.5 in diameter, 81 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
MAY											
20...	506	.05	7.6	240	42	31	26	1.7	2.9	.2	1

DATE	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
MAY											
20...	8.7	29	190	<1.0	86.2	<8	<14	<12	<10	1100	<100

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
MAY										
20...	<4	<60	<40	<4	5200	<10	<20	<4	276	289

400221084345200 Local number D-89

LOCATION -- Lat. 40°02′21″ Long. 84°34′52″
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5.5 in diameter, 101 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
MAY											
20...	655	.04	7.0	370	90	34	4.0	1.3	9.2	63	.4

DATE	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
MAY											
20...	15	6	210	<1.0	21.8	<8	<14	<12	<10	1700	<100

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
MAY										
20...	30	<60	<40	<4	420	<10	<20	6	282	398

395806084391600 Local number D-90
LOCATION -- Lat. 39°58'06" Long. 84°39'16"
HYDROLOGIC UNIT -- 05080002
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5 in diameter, 121 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
MAY											
20...	615	.04	7.0	340	80	33	9.2	1.4	2.4	12	.9

DATE	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
MAY											
20...	18	10	190	<1.0	44.4	<8	<14	<12	<10	1200	<100

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
MAY										
20...	29	<60	<40	<4	2700	<10	<20	9	338	362

400300084444400 Local number D-91
LOCATION -- Lat. 40°03'00" Long. 84°44'44"
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well,5.5 in diameter, 121 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
MAY											
21...	505	.05	7.2	280	68	26	4.0	1.0	1.5	14	.6

DATE	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
MAY											
21...	16	11	420	<1.0	22.3	<8	<14	<12	<10	890	<100

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
MAY										
21...	14	<60	<40	<4	1200	<10	<20	6	270	269

CERCLA Assistance for the Lewisburg Drum Site
Ground-Water Quality Data for the Lockport Dolomite

400642084343700 Local number D-92
LOCATION -- Lat. 40°06′42″ Long. 84°34′37″
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5 in diameter, 121 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
MAY											
21...	663	.06	6.9	350	84	33	14	1.3	9.3	27	.7

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
MAY											
21...	16	14	170	<1.0	60.4	<8	<14	<12	<10	1200	<100

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAY										
21...	89	<60	<40	<4	1700	<10	<20	10	332	393

400441084312700 Local number D-93
LOCATION -- Lat. 40°04′41″ Long. 84°31′27″
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5 in diameter, 101 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
MAY											
21...	562	.05	7.1	290	72	27	12	1.1	3.4	<.1	.8

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
MAY											
21...	17	19	320	<1.0	40.5	<8	<14	<12	<10	1500	<100

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAY										
21...	12	<60	<40	<4	1400	<10	<20	4	332	--

CERCLA Assistance for the Lewisburg Drum Site
Ground-Water Quality Data for the Lockport Dolomite

400943084301300 Local number D-94

LOCATION -- Lat. 40°09’43” Long. 84°30’13”
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5 in diameter, 101 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
MAY											
21...	798	.05	6.9	440	100	45	7.9	1.5	15	67	.7

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
MAY											
21...	19	12	270	<1.0	33.9	<8	<14	16	<10	1900	<100

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAY										
21...	61	<60	<40	<4	2300	<10	<20	15	368	467

395656084260400 Local number D-95

LOCATION -- Lat. 39°56’56” Long. 84°26’04”
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 6 in diameter, 50 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
MAY											
22...	952	.06	7.2	430	110	36	46	2.5	3.2	250	1.7

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
MAY											
22...	17	2	21	<1.0	258	<8	<14	17	<10	1700	<100

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAY										
22...	30	70	<40	<4	12000	<10	<20	13	276	630

CERCLA Assistance for the Lewisburg Drum Site
Ground-Water Quality Data for the Lockport Dolomite

401509084461100 Local number D-96
LOCATION -- Lat. 40°15′09″ Long. 84°46′11″
HYDROLOGIC UNIT -- 05120103
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5.5 in diameter, 121 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
MAY											
26...	737	.63	7.2	380	78	41	18	1.8	2.3	66	1.6

DATE	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
MAY											
26...	18	24	82	<1.0	122	<8	<14	<12	<10	1500	<100

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
MAY										
26...	15	<60	<40	<4	18000	<10	<20	20	350	459

401952084452400 Local number D-97
LOCATION -- Lat. 40°19′52″ Long. 84°45′24″
HYDROLOGIC UNIT -- 05120103
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 6 in diameter, 215 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
MAY											
26...	1356	6.32	7.1	650	140	66	67	2.0	5.4	580	2.3

DATE	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
MAY											
26...	14	10	11	<1.0	568	<8	<14	<12	<10	1400	<100

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
MAY										
26...	46	120	<40	<4	22000	<10	<20	31	179	1010

401019084364700 Local number D-98
LOCATION -- Lat. 40°10'19" Long. 84°36'47"
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well,5 in diameter, 141 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
MAY											
26...	736	.30	7.1	410	93	40	10	1.6	3.0	41	1.1

DATE	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
MAY											
26...	18	17	150	<1.0	59.1	<8	<14	<12	<10	1700	<100

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
MAY										
26...	24	<60	<40	<4	7200	<10	<20	15	360	445

402004084271500 Local number D-99
LOCATION -- Lat. 40°20'04" Long. 84°27'15"
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 6 in diameter, 111 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
MAY											
27...	1520	.13	7.1	800	200	70	60	2.5	6.1	690	1.5

DATE	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
MAY											
27...	15	6	11	<1.0	384	<8	<14	<12	<10	3100	<100

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
MAY										
27...	46	<60	<40	<4	11000	<10	<20	26	194	1160

CERCLA Assistance for the Lewisburg Drum Site
Ground-Water Quality Data for the Lockport Dolomite

401653084331400 Local number D-100
LOCATION -- Lat. 40°16'53" Long. 84°33'14"
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5 in diameter, 130 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
MAY											
27...	968	.13	7.3	430	91	43	52	1.9	5.8	320	2.0

DATE	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
MAY											
27...	14	12	25	<1.0	442	<8	<14	<12	<10	1800	<100

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
MAY										
27...	8	90	<40	<4	19000	<10	<20	26	218	674

401159084290100 Local number D-101
LOCATION -- Lat. 40°11'59" Long. 84°29'01"
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5 in diameter, 141 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
MAY											
27...	893	.25	6.8	500	120	50	8.3	1.8	8.2	98	.9

DATE	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
MAY											
27...	20	12	150	<1.0	40.2	<8	<14	21	<10	2600	<100

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
MAY										
27...	28	<60	<40	<4	1400	<10	<20	23	414	552

400724084251800 Local number MI-1084
LOCATION -- Lat. 40°07′24″ Long. 84°25′18″
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5.5 in diameter, 110 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
MAY											
18...	994	.07	6.7	520	120	51	19	2.0	46	98	1.0

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
MAY											
18...	20	10	150	<1.0	44.7	<8	<14	14	<10	2300	<100

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAY										
18...	78	<60	<40	<4	5100	<10	24	16	388	572

400143084252400 Local number MI-1085
LOCATION -- Lat. 40°01′43″ Long. 84°25′24″
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5.5 in diameter, 81 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
MAY											
18...	553	.13	7.4	270	56	30	19	1.2	2.7	.4	1.3

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
MAY											
18...	13	11	320	<1.0	67.6	<8	<14	<12	<10	960	<100

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAY										
18...	8	<60	<40	<4	6600	<10	<20	7	280	311

CERCLA Assistance for the Lewisburg Drum Site
Ground-Water Quality Data for the Lockport Dolomite

395658084133500 Local number MI-1086
LOCATION -- Lat. 39°56′58″ Long. 84°13′35″
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5 in diameter, 40 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
MAY											
18...	936	6.21	6.8	0	.08	.04	220	<.1	73	34	.2

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
MAY											
18...	11	<1	<1	<1.0	40.7	<8	<14	<12	<10	<10	<100

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
MAY										
18...	<4	<60	<40	<4	<1	<10	<20	<4	322	--

400954084193600 Local number MI-1087
LOCATION -- Lat. 40°09′54″ Long. 84°19′36″
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5 in diameter, 88 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	HARD- NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)
MAY											
28...	840	.03	7.0	470	100	50	11	2.0	3.2	52	1.6

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS- SOLVED (UG/L AS BA) (01005)	BERYL- LIUM, DIS- SOLVED (UG/L AS BE) (01010)	BORON, DIS- SOLVED (UG/L AS B) (01020)	CADMIUM DIS- SOLVED (UG/L AS CD) (01025)	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	COBALT, DIS- SOLVED (UG/L AS CO) (01035)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)
MAY											
28...	21	18	130	<1.0	60.5	<8	<14	<12	<10	2400	<100

DATE	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	MOLYB- DENUM, DIS- SOLVED (UG/L AS MO) (01060)	NICKEL, DIS- SOLVED (UG/L AS NI) (01065)	SILVER, DIS- SOLVED (UG/L AS AG) (01075)	STRON- TIUM, DIS- SOLVED (UG/L AS SR) (01080)	VANA- DIUM, DIS- SOLVED (UG/L AS V) (01085)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	LITHIUM DIS- SOLVED (UG/L AS LI) (01130)	ALKA- LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTI- TUENTS, DIS- SOLVED (MG/L) (70301)
MAY										
28...	57	<60	<40	<4	8700	<10	<20	28	444	522

395328084231000 Local number MT-1183
LOCATION -- Lat. 39°53'28" Long. 84°23'10"
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5.5 in diameter, 81 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
MAY											
18...	658	.91	6.9	360	82	37	4.1	.8	9.2	52	.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
MAY											
18...	8.8	<1	43	<1.0	<16.0	<8	<14	<12	10	61	<100

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAY										
18...	12	<60	<40	<4	72	<10	<20	<4	272	350

394950084284500 Local number MT-1184
LOCATION -- Lat. 39°49'50" Long. 84°28'45"
HYDROLOGIC UNIT -- 05080002
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 6 in diameter, 53 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
MAY											
20...	766	.06	6.9	420	87	49	13	2.0	5.1	30	1.4

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
MAY											
20...	17	9	180	<1.0	64.3	<8	<14	<12	<10	1200	<100

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAY										
20...	17	<60	<40	<4	2900	<10	<20	22	412	425

CERCLA Assistance for the Lewisburg Drum Site
Ground-Water Quality Data for the Lockport Dolomite

395310084150400 Local number MT-1185

LOCATION -- Lat. 39°53′10″ Long. 84°15′04″
HYDROLOGIC UNIT -- 05080001
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled irrigation water well, 6 in diameter, 100 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
MAY											
28...	863	6.25	7.0	380	89	38	37	.8	79	39	.2

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
MAY											
28...	9.4	<1	52	<1.0	18.5	<8	<14	<12	<10	<10	<100

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAY										
28...	<4	<60	<40	<4	82	<10	50	<4	282	463

394713084453500 Local number PR-48

LOCATION -- Lat. 39°47′13″ Long. 84°45′35″
HYDROLOGIC UNIT -- 05080002
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5.5 in diameter, 161 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)
MAY											
19...	572	.05	7.1	290	69	26	19	1.3	1.5	11	1.5

DATE	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	BORON, DIS-SOLVED (UG/L AS B) (01020)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	CHRO-MIUM, DIS-SOLVED (UG/L AS CR) (01030)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)
MAY											
19...	15	14	190	<1.0	95.9	<8	<14	<12	<10	1300	<100

DATE	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	NICKEL, DIS-SOLVED (UG/L AS NI) (01065)	SILVER, DIS-SOLVED (UG/L AS AG) (01075)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)
MAY										
19...	56	<60	<40	<4	12000	<10	<20	7	310	344

395015084450400 Local number PR-49
LOCATION -- Lat. 39°50′15″ Long. 84°45′04″
HYDROLOGIC UNIT -- 05080003
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5.5 in diameter, 221 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
MAY											
19...	549	.04	7.2	270	68	24	21	1.0	2.8	12	1.0

DATE	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
MAY											
19...	15	12	190	<1.0	89.6	<8	<14	<12	<10	1100	<100

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
MAY										
19...	21	<60	<40	<4	5100	<10	<20	<4	284	329

395408084460800 Local number PR-50
LOCATION -- Lat. 39°54′08″ Long. 84°46′08″
HYDROLOGIC UNIT -- 05080003
AQUIFER -- Lockport Dolomite
WELL CHARACTERISTICS -- Drilled domestic water well, 5.5 in diameter, 101 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
MAY											
19...	652	.05	7.0	380	90	36	5.6	1.2	5.7	37	.5

DATE	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
MAY											
19...	16	8	260	<1.0	26.6	<8	<14	<12	<10	1500	<100

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
MAY										
19...	54	<60	<40	<4	750	<10	<20	8	334	381

CERCLA Assistance for the Lewisburg Drum Site
Ground-Water Quality Data for the Lockport Dolomite

395339084422900 Local number PR-51

LOCATION -- Lat. 39°53'39" Long. 84°42'29"

HYDROLOGIC UNIT -- 05080002

AQUIFER -- Lockport Dolomite

WELL CHARACTERISTICS -- Drilled domestic water well, 5 in diameter, 181 ft deep.

WATER-QUALITY DATA, CALENDAR YEAR JANUARY 1998 TO DECEMBER 1998

DATE	SPECIFIC CONDUCTANCE (US/CM) (00095)	OXYGEN, DISSOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STANDARD UNITS) (00400)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	CHLORIDE, DISSOLVED (MG/L AS CL) (00940)	SULFATE DISSOLVED (MG/L AS SO4) (00945)	FLUORIDE, DISSOLVED (MG/L AS F) (00950)
MAY											
28...	582	.04	7.1	320	77	30	7.5	1.2	1.0	12	1.2

DATE	SILICA, DISSOLVED (MG/L AS SIO2) (00955)	ARSENIC TOTAL (UG/L AS AS) (01002)	BARIUM, DISSOLVED (UG/L AS BA) (01005)	BERYLLIUM, DISSOLVED (UG/L AS BE) (01010)	BORON, DISSOLVED (UG/L AS B) (01020)	CADMIUM DISSOLVED (UG/L AS CD) (01025)	CHROMIUM, DISSOLVED (UG/L AS CR) (01030)	COBALT, DISSOLVED (UG/L AS CO) (01035)	COPPER, DISSOLVED (UG/L AS CU) (01040)	IRON, DISSOLVED (UG/L AS FE) (01046)	LEAD, DISSOLVED (UG/L AS PB) (01049)
MAY											
28...	17	13	230	<1.0	49.8	<8	<14	<12	<10	1500	<100

DATE	MANGANESE, DISSOLVED (UG/L AS MN) (01056)	MOLYBDENUM, DISSOLVED (UG/L AS MO) (01060)	NICKEL, DISSOLVED (UG/L AS NI) (01065)	SILVER, DISSOLVED (UG/L AS AG) (01075)	STRONTIUM, DISSOLVED (UG/L AS SR) (01080)	VANADIUM, DISSOLVED (UG/L AS V) (01085)	ZINC, DISSOLVED (UG/L AS ZN) (01090)	LITHIUM DISSOLVED (UG/L AS LI) (01130)	ALKALINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SOLIDS, SUM OF CONSTITUENTS, DISSOLVED (MG/L) (70301)
MAY										
28...	15	<60	<40	<4	4500	<10	39	10	328	350

CERCLA Assistance for the Lewisburg Drum Site

Synoptic Water-Level Survey near Lewisburg, Ohio

The following table contains ground-water-level data collected from domestic wells in Darke, and Preble Counties in mid July 1998. The wells were completed in either glacial sediments or the Lockport Dolomite; some were completed in both formations. These data were collected, as part of a cooperative study with the U.S. Environmental Protection Agency (USEPA), to determine the directions of ground-water flow in the vicinity of Lewisburg, Ohio. Water-level data also were collected in late May 1998, from domestic wells in Darke, Miami, Montgomery, and Preble Counties, as part of a related water-quality study. These wells were completed in the Lockport Dolomite. [FT, feet; BLS, below land surface; ---, not available]

WELL NUMBER	MONTH	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	DEPTH OF WELL (FT BLS)	ALTITUDE OF LAND SURFACE	DEPTH TO WATER (FT BLS)
D-88	May	395905	0842745	81	1020	10.6
D-89	May	400221	0843452	101	1065	21.32
D-91	May	400300	0844444	121	1117	15.53
D-92	May	400642	0843437	121	1042	29.97
D-93	May	400441	0843127	101	1024	8.2
D-94	May	400943	0843013	101	1001	12.1
D-96	May	401509	0844611	121	1043	14.06
D-97	May	401952	0844524	215	1095	95.7
D-98	May	401019	0843647	141	1003	.82
D-99	May	402004	0842715	111	963	14.95
D-100	May	401653	0843314	130	1022	40.24
D-101	May	401159	0842901	141	1005	37.57
D-102	July	395523	0844020	40	1132	19.73
D-103	July	395540	0844014	43	1120	9.24
D-104	July	395644	0843947	44	1098	10.69
D-105	July	395733	0843731	101	1091	22.11
D-106	July	395803	0843638	81	1095	20.04
D-107	July	395611	0843312	118	1030	13.47
D-108	July	395722	0843411	101	1050	18.59
D-109	July	395732	0843416	120	1040	5.09
D-110	July	395919	0843414	101	1060	4.14
D-111	July	395717	0843700	124	1090	20.37
D-112	July	395646	0843342	81	1050	11.55
D-113	July	395531	0843744	43	1090	16.02
D-114	July	395551	0843731	121	1081	9.82
D-115	July	395655	0843446	56	1066	10.41
D-116	July	395658	0843445	81	1062	14.75
D-117	July	395815	0843837	39	1080	4.04
D-118	July	395824	0843949	67	1100	8.17
D-119	July	395628	0843911	49	1100	16.49
D-120	July	395637	0843752	82	1081	14.08
D-121	July	395606	0843732	161	1080	15.06
D-122	July	395609	0843328	81	1022	5.33
D-123	July	395644	0843317	81	1040	6.45
D-124	July	395542	0843032	161	1046	28.25
D-125	July	395819	0843311	61	1050	8.13
D-126	July	395751	0842835	140	1030	8.98
D-127	July	395718	0842910	60	1037	8.18
D-128	July	395625	0843021	173	1044	39.91
D-129	July	395557	0842959	---	1042	13.08
D-130	July	395528	0843100	141	1040	36.06
D-131	July	395723	0843446	55.5	1063	5.18
D-132	July	395723	0843445	61	1065	13.59
D-133	July	395712	0843434	81	1050	13.82
D-134	July	395710	0843429	81	1046	16.14
D-135	July	395706	0843406	121	1056	26.2
D-136	July	395631	0843323	81	1040	8.32
D-137	July	395549	0843027	161	1049	26.97
D-138	July	395550	0843029	141	1049	32.72
D-139	July	395649	0843004	147	1040	31.94
D-140	July	395551	0843901	70	1104	11.80
D-141	July	395627	0843319	101	1035	10.82
D-142	July	395625	0843320	61	1036	14.67
D-143	July	395553	0843732	121	1081	16.28
D-144	July	395551	0844019	42	1120	7.58

CERCLA Assistance for the Lewisburg Drum Site

Synoptic Water-Level Survey near Lewisburg, Ohio

WELL NUMBER	MONTH	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	DEPTH OF WELL (FT BLS)	ALTITUDE OF LAND SURFACE	DEPTH TO WATER (FT BLS)
D-145	July	395559	0843031	161	1045	23.05
D-146	July	395635	0843307	81	1038	10.42
D-147	July	395506	0843129	42	1042	9.16
D-148	July	395550	0843048	122	1043	23.77
D-149	July	395545	0843338	88	1045	14.01
D-150	July	395553	0843330	180	1030	24.27
D-151	July	395545	0843304	85	1021	15.3
D-152	July	395541	0843548	45	1070	5.89
D-153	July	395618	0843346	101	1058	24.36
D-154	July	395536	0843542	46	1070	5.97
D-155	July	395507	0843544	121	1060	.21
D-156	July	395612	0843345	81	1046	18.6
D-157	July	395646	0843324	81	1043	7.68
MI-1084	May	400724	0842518	110	1002	39.3
MI-1085	May	400143	0842524	81	1002	8.8
MI-1087	May	400954	0841936	88	985	14.73
MT-1183	May	395328	0842310	81	1033	6.0
MT-1184	May	394950	0842845	53	1050	30.62
MT-1185	May	395310	0841504	100	990	10.0
PR-48	May	394713	0844535	161	1080	35.6
PR-49	May	395015	0844504	221	1210	66.82
PR-50	May	395408	0844608	101	1100	56.62
PR-51	May	395339	0844229	181	1201	81.75
PR-52	July	395242	0843332	59	1015	20.08
PR-53	July	395212	0843118	68	1017	50.16
PR-54	July	395401	0843048	181	1026	46.04
PR-55	July	395403	0843049	179	1025	42.6
PR-56	July	395208	0843229	135	1000	43.37
PR-57	July	395406	0843738	66	1090	10.01
PR-58	July	395414	0843804	38	1100	10.76
PR-59	July	395246	0843650	84	1080	15.7
PR-60	July	395405	0843912	45	1119	11.42
PR-61	July	395404	0843410	133	1070	32.66
PR-62	July	395328	0843803	41	1100	10.05
PR-63	July	395305	0843904	81	1139	35.64
PR-64	July	395257	0843809	102	1100	17.77
PR-65	July	395246	0843757	46	1110	15.08
PR-66	July	395333	0843739	58	1090	11.48
PR-67	July	395159	0843740	44	1100	10.4
PR-68	July	395133	0843739	104	1094	15.09
PR-69	July	394956	0843749	---	1100	36.15
PR-70	July	395435	0844141	102	1150	22.58
PR-71	July	395156	0843737	---	1100	15.21
PR-72	July	395207	0843842	102	1110	9.02
PR-73	July	395200	0843820	80	1108	13.27
PR-74	July	395137	0843728	100	1100	20.39
PR-75	July	395445	0843733	101	1091	13.6
PR-76	July	395157	0843729	---	1100	12.66
PR-77	July	394914	0843429	20	1007	15.7
PR-78	July	394855	0843451	80	1053	27.35
PR-79	July	394900	0843259	110	1013	36.1
PR-80	July	394807	0843457	40	1043	15.13
PR-81	July	394917	0843339	52	1040	18.25
PR-82	July	394840	0843410	100	1020	19.1
PR-83	July	395425	0844151	101	1150	24.81
PR-84	July	395434	0843916	49	1111	7.61
PR-85	July	395429	0843846	142	1110	4.38
PR-86	July	394856	0843217	75	982	13.01
PR-87	July	394810	0843259	42	990	15.68
PR-88	July	394805	0843251	119	983	52.29
PR-89	July	394952	0843903	101	1120	31.54
PR-90	July	394941	0843957	101	1110	10.07
PR-91	July	394916	0843616	53	1084	33.77
PR-92	July	394930	0843233	60	1004	21.78
PR-93	July	394906	0843254	103	1011	21.10

CERCLA Assistance for the Lewisburg Drum Site
Synoptic Water-Level Survey near Lewisburg, Ohio

WELL NUMBER	MONTH	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	DEPTH OF WELL (FT BLS)	ALTITUDE OF LAND SURFACE	DEPTH TO WATER (FT BLS)
PR-94	July	394822	0843350	35.6	987	21.45
PR-95	July	394819	0843355	45	1010	26.40
PR-96	July	394834	0843218	26	987	8.58
PR-97	July	394947	0843338	52	1030	13.6
PR-98	July	394947	0843340	43	1034	17.71
PR-99	July	395041	0843052	43	1020	17.41
PR-100	July	395050	0843110	60	1000	11.37
PR-101	July	395158	0843031	102	1032	42.15
PR-102	July	395227	0843002	50	1030	17.97
PR-103	July	395040	0843055	55	1018	11.56
PR-104	July	394837	0843107	52	983	24.87
PR-105	July	394845	0843114	80	1000	51.69
PR-106	July	394901	0843053	141	1022	22.79
PR-107	July	394937	0843121	121	1000	22.35
PR-108	July	394940	0843002	58	1050	28.98
PR-109	July	395316	0843021	84	1035	45.67
PR-110	July	395230	0843001	80	1005	45.20
PR-111	July	395349	0843048	158	1010	46.74
PR-112	July	395422	0842941	189	1020	41.72
PR-113	July	395411	0843007	71	1030	12.47
PR-114	July	395219	0843224	92	1010	57.58
PR-115	July	395229	0843213	82	1002	49.13
PR-116	July	395231	0843226	108	1020	60.6
PR-117	July	395201	0843223	142	990	58.48
PR-118	July	395150	0843203	80	994	30.3
PR-119	July	395200	0843221	120	1012	50.9
PR-120	July	394955	0843115	168	1011	20.4
PR-121	July	395000	0843115	125	1008	15.9
PR-122	July	395000	0843126	101	1000	12.09
PR-123	July	395011	0843052	101	1030	32.83
PR-124	July	395124	0843059	123	1000	57.44
PR-125	July	395413	0842949	150	1027	41.97
PR-126	July	395502	0843247	62	1030	35.0
PR-127	July	395136	0843413	25	1040	10.1
PR-128	July	395148	0843314	90	991	30.18
PR-129	July	395037	0843425	60	1050	2.59
PR-130	July	395056	0843633	20	1080	11.86
PR-131	July	395128	0844000	102	1030	8.36
PR-132	July	395135	0844027	179	1142	23.2
PR-133	July	395223	0844016	78	1128	8.77
PR-134	July	395252	0844039	161	1136	17.3
PR-135	July	395333	0844039	101	1132	15.1
PR-136	July	395317	0843027	---	1030	45.97
PR-137	July	394900	0843007	65	1042	30.4
PR-138	July	395105	0843527	101	1071	10.77
PR-139	July	395139	0843335	35	1020	13.79
PR-140	July	395313	0843344	45	1045	5.6
PR-141	July	395212	0843403	44	1040	28.19
PR-142	July	395301	0843356	110	1055	31.72
PR-143	July	395137	0843439	101	1038	12.01
PR-144	July	395419	0842940	37	1020	10.01
PR-145	July	395408	0843132	101	1006	31.54
PR-146	July	395203	0843229	130	998	47.34
PR-147	July	395453	0842946	51	1028	10.82
PR-148	July	395141	0843334	40	1010	.65
PR-149	July	395323	0843128	70	990	24.35
PR-150	July	395253	0843228	50	1040	3.69
PR-151	July	395328	0843230	80	1042	5.52
PR-152	July	395352	0843346	160	1063	31.87
PR-153	July	395427	0843452	50	1063	22.34
PR-154	July	395402	0843515	36	1052	16.19
PR-155	July	395402	0843426	175	1068	28.5
PR-156	July	395408	0843237	81	1030	29.85
PR-157	July	395204	0843442	95	1040	35.39
PR-158	July	395138	0843354	79	1030	16.55

CERCLA Assistance for the Lewisburg Drum Site
Synoptic Water-Level Survey near Lewisburg, Ohio

WELL NUMBER	MONTH	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	DEPTH OF WELL (FT BLS)	ALTITUDE OF LAND SURFACE	DEPTH TO WATER (FT BLS)
PR-159	July	395400	0843229	81	1035	23.07
PR-160	July	395150	0843539	85	1070	23.46
PR-161	July	395036	0843520	101	1076	15.89
PR-162	July	395247	0843545	38	1060	18.98
PR-163	July	395230	0843637	70	1080	18.01
PR-164	July	395156	0843551	60	1060	17.35
PR-165	July	394945	0843700	61	1080	18.05
PR-166	July	395136	0843628	70	1080	14.97
PR-167	July	395318	0843202	101	1025	3.45
PR-168	July	395214	0843231	150	1009	52.56
PR-169	July	395317	0843347	70	1053	12.4
PR-170	July	395228	0843320	112	1014	59.35
PR-171	July	395303	0843340	70	1046	18.22
PR-172	July	395308	0843338	60	1050	15.19
PR-173	July	395332	0843513	53	1060	20.66
PR-174	July	395154	0843540	101	1060	19.55
PR-175	July	394937	0843746	101	1115	42.82
PR-176	July	395305	0843220	121	1040	8.6
PR-177	July	395318	0843024	121	1036	50.43
PR-178	July	395115	0843317	60	1016	10.78
PR-179	July	395003	0843113	50	1010	19.01

Results from Selected Sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study

The following tables contain water-level and water-quality data from a network of 30 monitor wells installed as part of the NAWQA (National Water-Quality Assessment Program) Agricultural Land-Use Study. The goal of the study is to assess how agricultural land use affects shallow ground-water quality. Similar studies have been done in other drainage basins throughout the country.

The monitor wells were installed in areas that meet the following specifications: (1) the land use is agricultural (primarily corn and soybean rowcrops), (2) the surficial sediment is glacial till that is greater than 100 feet thick, (3) the bedrock is shale and sandstone of Upper Devonian to Lower Mississippian age, and (4) the physiographic province is the Central Lowlands. The wells were screened in the shallowest saturated sand-and-gravel lens within the till. Water samples from the wells were tested for physical characteristics, nutrients, major elements, and pesticides. Water-level records are presented first, followed by the water-quality data.

The monitor well network is shown in figure 11. At some locations, a monitor well is co-located with a domestic well sampled for the NAWQA Subunit Survey.

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study—Continued

REMARKS. -- 112TILL: Pleistocene till; 112SDGV: Pleistocene sand and gravel; µS/cm: microsiemens per centimeter at 25 degrees Celsius; DEG C: degrees Celsius; mg/L: milligrams per liter; µg/L: micrograms per liter; pCi/L: picocuries per liter; --: no data.

SITE-ID	LOCAL WELL NUMBER	LOCATION MAP NAME	ALTITUDE OF LAND SURFACE (FEET)	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL (FEET)
		DEKALB COUNTY, INDIANA					
413053084565100	AG033-7	HAMILTON, IND.	962	18.1	112TILL	10-22-97	5.23
						11-18-97	5.26
						05-07-98	4.42
						06-08-98	5.57
						06-18-98	15.81
		HILLSDALE COUNTY, MICHIGAN					
414728084390400	AG059-8	READING, MICH.	1023	13.5	112TILL	10-29-97	2.19
						05-06-98	.40
						06-16-98	2.70
414520084374800	AG059-9	READING, MICH.	1028	18.4	112TILL	10-29-97	10.75
						11-19-97	10.94
						06-17-98	9.14
414611084262000	AG059-10	PITTSFORD, MICH.	903	13.1	112TILL	10-29-97	6.54
						05-05-98	5.55
						06-19-98	6.61
414907084243100	AG059-11	PITTSFORD, MICH.	925	16.6	112TILL	10-29-97	8.90
						05-05-98	3.67
						07-10-98	7.53
415026084220000	AG059-12	HUDSON, MICH.	917	28.7	112SDGV	10-29-97	24.38
						05-06-98	22.88
						07-22-98	23.91
420047084234900	AG059-13	SOMERSET CENTER, MICH.	1107	19.1	112TILL	10-28-97	16.97
						11-20-97	16.06
						07-09-98	12.25
		LAPEER COUNTY, MICHIGAN					
430336083012700	AG087-24	IMLAY CITY, MICH.	820	24.4	112TILL	11-03-97	7.79
						07-12-98	8.15
						07-16-98	20.06
425758083040100	AG087-29	ALMONT, MICH.	835	11.2	112TILL	11-04-97	8.29
						11-19-97	8.25
						11-20-97	8.28
						07-13-98	8.33
		LENAWEE COUNTY, MICHIGAN					
414320084161200	AG091-14	FAYETTE, OHIO-MICH.	804	14.1	112TILL	10-30-97	6.44
						05-13-98	6.47
						07-08-98	9.25
414519084161600	AG091-15	HUDSON, MICH.	822	29.0	112TILL	10-30-97	22.29
						05-13-98	18.01
						05-14-98	18.02
						07-24-98	21.96
415456084095500	AG091-16	ROME CENTER, MICH.	870	11.6	112TILL	10-28-97	3.33
						05-14-98	2.92
						05-15-98	3.01
						07-20-98	4.75

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study—Continued

SITE-ID	LOCAL WELL NUMBER	LOCATION MAP NAME	ALTITUDE OF LAND SURFACE (FEET)	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL (FEET)
		LENAWEE COUNTY, MICHIGAN—Continued					
420054084024000	AG091-17	TIPTON, MICH.	875	23.4	112TILL	10-28-97	15.76
						11-20-97	15.73
						07-23-98	15.41
420303084040300	AG091-18	TIPTON, MICH.	950	14.1	112TILL	10-28-97	11.39
						10-31-97	11.31
						11-20-97	11.36
						05-14-98	8.65
						07-21-98	10.92
		MACOMB COUNTY, MICHIGAN					
425204083011600	AG099-30	ROMEO, MICH.	817	10.6	112TILL	11-04-97	4.14
						07-13-98	5.64
		ST CLAIR COUNTY, MICHIGAN					
430847082462000	AG147-25	YALE, MICH.	783	9.1	112TILL	11-05-97	2.63
						11-19-97	2.46
						11-20-97	2.41
						07-15-98	4.36
		SANILAC COUNTY, MICHIGAN					
431328082520100	AG151-26	YALE, MICH	795	17.0	112TILL	11-05-97	13.78
						11-19-97	13.85
						11-20-97	13.85
						07-14-98	12.47
431730082492900	AG151-27	PECK, MICH.	760	22.5	112TILL	11-06-97	3.86
						11-18-97	3.76
						07-14-98	4.00
433501082452500	AG151-28	PALMS, MICH.	820	34.1	112TILL	11-06-97	20.14
						11-18-97	19.93
						11-20-97	19.94
						08-05-98	23.78
		WASHTENAW COUNTY, MICHIGAN					
421225083593300	AG161-19	BRIDGEWATER, MICH.	945	13.7	112TILL	10-17-97	9.11
						11-12-97	8.93
						11-13-97	8.91
						06-26-98	7.76
421125083533800	AG161-20	BRIDGEWATER, MICH.	923	11.4	112TILL	10-16-97	6.66
						06-25-98	5.20
421237083523500	AG161-21	BRIDGEWATER, MICH.	923	27.7	112TILL	10-14-97	14.02
						10-15-97	13.54
						06-23-98	10.95
421244083492000	AG161-22	SALINE, MICH.	886	18.9	112TILL	10-17-97	5.28
						11-13-97	4.68
						06-24-98	3.01
		WILLIAMS COUNTY, OHIO					
413923084472000	AG171-1	CLEAR LAKE, IND.-OHIO-MICH.	973	9.8	112TILL	08-17-97	2.66
						10-21-97	2.20
						10-21-97	2.16
						10-23-97	3.03
						11-19-97	3.07
						05-12-98	1.81
						06-08-98	3.36

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study—Continued

SITE-ID	LOCAL WELL NUMBER	LOCATION MAP NAME	ALTITUDE OF LAND SURFACE (FEET)	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL (FEET)
		WILLIAMS COUNTY, OHIO—Continued					
413520084460500	AG171-2	EDON, IND.-OHIO	925	31.0	112TILL	10-21-97	23.62
						05-07-98	15.85
						06-09-98	23.52
						07-06-98	24.24
413148084472200	AG171-3	EDON, IND.-OHIO	894	18.1	112TILL	10-21-97	8.07
						10-24-97	8.54
						10-30-97	7.45
						11-19-97	7.09
						05-12-98	5.84
						06-08-98	9.56
						06-10-98	9.81
413719084361000	AG171-4	MONTPELIER, OHIO	863	11.5	112TILL	10-22-97	6.65
						10-23-97	6.66
						06-11-98	6.77
414125084360800	AG171-5	PIONEER, OHIO-MICH.	923	19.4	112TILL	10-23-97	13.74
						11-18-97	16.93
						05-12-98	13.20
						06-09-98	16.16
						07-07-98	17.16
413746084341400	AG171-6	PIONEER, OHIO-MICH.	868	22.2	112TILL	10-22-97	5.79
						11-18-97	6.39
						05-11-98	5.99
						06-09-98	7.03
413140084442300	AG171-31	BLAKESLEE, OHIO	870	29.1	112TILL	10-21-97	24.05
						11-18-97	24.04
						05-12-98	23.01
						06-10-98	23.69
						06-15-98	23.48

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study—Continued

LOCAL WELL NUMBER	DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
DE KALB COUNTY, INDIANA							
AG033-7	06-18-98	1300	15.81	18.1	962	2050	6.7
HILLSDALE COUNTY, MICHIGAN							
AG059-8	06-16-98	1500	2.70	13.5	1023	685	7.3
AG059-9	06-17-98	1300	9.14	18.4	1028	1700	6.9
AG059-10	06-19-98	1100	6.61	13.1	903	1480	7.0
AG059-11	07-10-98	1200	7.53	16.6	925	1720	6.6
AG059-12	07-22-98	1300	23.91	28.7	917	591	7.2
AG059-13	07-09-98	1300	12.25	19.1	1107	758	6.9
LAPEER COUNTY, MICHIGAN							
AG087-24	07-16-98	1000	20.06	24.4	820	1030	6.8
AG087-29	07-13-98	1600	8.33	11.2	835	800	7.1
LENAWEE COUNTY, MICHIGAN							
AG091-14	07-08-98	1300	9.25	14.1	804	1660	6.9
AG091-15	07-24-98	1300	21.96	29.0	822	1250	6.9
AG091-16	07-20-98	1500	4.75	11.6	870	1980	6.6
AG091-17	07-23-98	1200	15.41	23.4	875	1550	6.9
AG091-18	07-21-98	1400	10.92	14.1	950	701	7.1
MACOMB COUNTY, MICHIGAN							
AG099-30	07-13-98	1200	5.64	10.6	817	1350	7.0
ST CLAIR COUNTY, MICHIGAN							
AG147-25	07-15-98	1200	4.36	9.1	783	656	7.2
SANILAC COUNTY, MICHIGAN							
AG151-26	07-14-98	1200	12.47	17.0	795	747	7.0
AG151-27	07-14-98	1500	4.00	22.5	760	594	7.3
AG151-28	08-05-98	1200	23.78	34.1	820	574	7.4
WASHTENAW COUNTY, MICHIGAN							
AG161-19	06-26-98	1200	7.76	13.7	945	723	7.0
AG161-20	06-25-98	1300	5.20	11.4	923	691	7.0
AG161-21	06-23-98	1700	10.95	27.7	923	1660	6.9
AG161-22	06-24-98	1300	3.01	18.9	886	803	6.9
WILLIAMS COUNTY, OHIO							
AG171-1	06-08-98	1700	3.36	9.8	973	593	7.1
AG171-2	07-06-98	1500	24.24	31.0	925	3090	7.0
AG171-3	06-10-98	0900	9.81	18.1	894	807	7.3
AG171-4	06-11-98	1000	6.77	11.5	863	495	7.3
AG171-5	07-07-98	1300	17.16	19.4	923	3290	6.9
AG171-6	06-09-98	1200	7.03	22.2	868	1400	7.3
AG171-31	06-15-98	1300	23.48	29.1	870	740	7.1

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study—Continued

LOCAL WELL NUMBER	DATE	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
DE KALB COUNTY, INDIANA									
AG033-7	06-18-98	21.3	2.2	1300	340	110	20	2.7	402
HILLSDALE COUNTY, MICHIGAN									
AG059-8	06-16-98	17.5	.1	350	95	28	4.0	1.2	209
AG059-9	06-17-98	20.0	1.2	530	140	43	130	8.5	327
AG059-10	06-19-98	17.5	.2	630	190	39	41	5.3	194
AG059-11	07-10-98	17.0	1.4	1100	240	110	45	6.7	542
AG059-12	07-22-98	19.7	9.1	310	92	19	3.9	.8	242
AG059-13	07-09-98	15.8	.2	370	110	24	6.0	16	326
LAPEER COUNTY, MICHIGAN									
AG087-24	07-16-98	17.1	7.2	510	76	79	30	3.9	473
AG087-29	07-13-98	22.1	6.6	380	100	30	7.9	.8	258
LENAWEE COUNTY, MICHIGAN									
AG091-14	07-08-98	16.2	.9	680	130	88	24	61	418
AG091-15	07-24-98	14.4	.3	660	110	93	24	3.7	476
AG091-16	07-20-98	21.0	.7	1300	410	59	9.5	2.3	451
AG091-17	07-23-98	14.6	.1	670	160	66	46	3.0	376
AG091-18	07-21-98	30.1	6.3	340	97	23	6.3	20	269
MACOMB COUNTY, MICHIGAN									
AG099-30	07-13-98	15.8	.2	440	120	36	100	1.4	304
ST CLAIR COUNTY, MICHIGAN									
AG147-25	07-15-98	19.5	1.4	340	85	30	8.7	1.4	263
SANILAC COUNTY, MICHIGAN									
AG151-26	07-14-98	14.6	9.5	400	100	34	5.0	1.7	301
AG151-27	07-14-98	12.8	.3	300	74	28	14	1.7	294
AG151-28	08-05-98	19.1	3.7	260	44	36	34	2.0	305
WASHTENAW COUNTY, MICHIGAN									
AG161-19	06-26-98	13.6	.1	390	110	28	5.5	1.5	331
AG161-20	06-25-98	20.8	3.8	350	96	27	9.7	.8	320
AG161-21	06-23-98	12.2	.2	590	150	54	130	2.4	452
AG161-22	06-24-98	15.4	2.0	450	120	39	6.3	.8	361
WILLIAMS COUNTY, OHIO									
AG171-1	06-08-98	16.9	.8	250	76	13	32	2.9	277
AG171-2	07-06-98	23.1	3.0	770	130	110	460	5.3	480
AG171-3	06-10-98	15.9	4.7	430	92	48	14	1.6	364
AG171-4	06-11-98	13.6	1.0	220	62	16	2.6	24	248
AG171-5	07-07-98	26.3	4.6	1300	170	200	410	32	552
AG171-6	06-09-98	13.2	2.0	630	88	100	100	3.8	466
AG171-31	06-15-98	23.0	.9	360	82	38	22	3.5	423

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study—Continued

LOCAL WELL NUMBER	DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
					DE KALB COUNTY, INDIANA						
AG033-7	06-18-98	900	23	.3	.06	20	1840	.01	<.05	.25	.3
					HILLSDALE COUNTY, MICHIGAN						
AG059-8	06-16-98	68	43	.2	.05	5.5	417	.30	5.9	.07	<.1
AG059-9	06-17-98	160	160	.2	--	11	892	.03	3.4	1.2	1.3
AG059-10	06-19-98	140	250	<.1	2.7	5.9	1060	<.01	5.6	.14	.3
AG059-11	07-10-98	530	25	.3	.10	16	1380	<.01	<.05	.05	.2
AG059-12	07-22-98	22	16	<.1	.03	9.5	352	.03	3.6	.03	.1
AG059-13	07-09-98	37	15	.2	.04	11	503	<.01	10	.03	.3
					LAPEER COUNTY, MICHIGAN						
AG087-24	07-16-98	110	11	1.0	.10	15	645	.02	.17	.12	.2
AG087-29	07-13-98	22	82	<.1	.26	9.3	444	<.01	.06	.04	<.1
					LENAWEE COUNTY, MICHIGAN						
AG091-14	07-08-98	77	250	.4	.60	15	1030	<.01	2.5	.02	.4
AG091-15	07-24-98	170	42	.6	.10	14	790	<.01	.15	.04	.1
AG091-16	07-20-98	790	12	.2	.02	18	1780	.01	<.05	1.0	1.7
AG091-17	07-23-98	71	230	.4	.60	19	878	<.01	.08	.18	.2
ag091-18	07-21-98	43	21	<.1	.04	8.5	459	<.01	7.3	.02	<.1
					MACOMB COUNTY, MICHIGAN						
AG099-30	07-13-98	83	200	.1	.10	8.4	758	<.01	<.05	.05	.2
					ST CLAIR COUNTY, MICHIGAN						
AG147-25	07-15-98	80	14	.3	.04	15	429	.01	<.05	.11	.2
					SANILAC COUNTY, MICHIGAN						
AG151-26	07-14-98	36	13	.2	.04	8.5	470	<.01	15	.04	.1
AG151-27	07-14-98	18	16	.6	.04	15	353	<.01	<.05	.19	.9
AG151-28	08-05-98	17	.8	1.2	.04	15	325	.06	.17	.12	<.1
					WASHTENAW COUNTY, MICHIGAN						
AG161-19	06-26-98	59	11	.2	.04	13	448	<.01	<.05	.05	<.1
AG161-20	06-25-98	40	8.9	.2	.05	12	405	<.01	<.05	.02	<.1
AG161-21	06-23-98	100	240	.4	.11	14	1000	<.01	<.05	.07	.2
AG161-22	06-24-98	42	20	.2	.04	13	485	.01	7.0	<.02	<.1
					WILLIAMS COUNTY, OHIO						
AG171-1	06-08-98	16	18	.1	<.01	10	354	.01	<.05	.06	.5
AG171-2	07-06-98	750	350	1.0	.26	14	2210	<.01	2.6	.04	.8
AG171-3	06-10-98	76	8.0	.5	.05	15	498	<.01	2.7	.02	.1
AG171-4	06-11-98	18	3.1	.1	.02	8.7	309	.01	.56	.07	.8
AG171-5	07-07-98	1000	390	.6	.27	16	2870	.01	.06	.04	.4
AG171-6	06-09-98	330	43	1.2	.11	16	1020	.02	.30	.14	.2
AG171-31	06-15-98	2.7	2.2	.8	.01	18	444	.01	.24	2.6	3.0

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study—Continued

LOCAL WELL NUMBER	DATE	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	TRITIUM TOTAL (PCI/L) (07000)
		DE KALB COUNTY, INDIANA					
AG033-7	06-18-98	<.01	<.01	1700	100	2.0	46
		HILLSDALE COUNTY, MICHIGAN					
AG059-8	06-16-98	<.01	.01	<10	120	.7	24
AG059-9	06-17-98	.04	.01	<10	81	1.8	40
AG059-10	06-19-98	<.01	<.01	810	360	2.7	42
AG059-11	07-10-98	<.01	.02	110	320	2.7	82
AG059-12	07-22-98	<.01	<.01	<10	<4	.9	45
AG059-13	07-09-98	<.01	.03	<10	11	2.0	46
		LAPEER COUNTY, MICHIGAN					
AG087-24	07-16-98	.07	.01	<10	56	1.9	1.9
AG087-29	07-13-98	.02	<.01	<10	<4	1.4	61
		LENAWEE COUNTY, MICHIGAN					
AG091-14	07-08-98	.01	.02	20	76	3.6	49
AG091-15	07-24-98	<.01	.01	15	390	2.2	84
AG091-16	07-20-98	<.01	.02	9300	3000	12	46
AG091-17	07-23-98	.01	.02	5600	78	1.8	61
AG091-18	07-21-98	<.01	<.01	<10	<4	2.0	27
		MACOMB COUNTY, MICHIGAN					
AG099-30	07-13-98	<.01	.02	37	270	2.5	56
		ST CLAIR COUNTY, MICHIGAN					
AG147-25	07-15-98	<.01	.02	930	61	1.4	44
		SANILAC COUNTY, MICHIGAN					
AG151-26	07-14-98	<.01	.02	<10	<4	1.6	64
AG151-27	07-14-98	.18	.03	700	22	1.3	13
AG151-28	08-05-98	<.01	.01	<10	160	1.0	<1
		WASHTENAW COUNTY, MICHIGAN					
AG161-19	06-26-98	<.01	<.01	830	150	1.3	44
AG161-20	06-25-98	<.01	<.01	<10	7	1.3	45
AG161-21	06-23-98	<.01	.01	1200	120	1.6	31
AG161-22	06-24-98	<.01	<.01	<10	<4	1.2	45
		WILLIAMS COUNTY, OHIO					
AG171-1	06-08-98	.26	.29	16	44	5.7	42
AG171-2	07-06-98	.03	.01	<30	100	2.4	1
AG171-3	06-10-98	<.01	<.01	<10	26	2.0	38
AG171-4	06-11-98	<.01	<.01	580	370	7.5	37
AG171-5	07-07-98	.04	<.01	<30	210	4.7	33
AG171-6	06-09-98	<.01	<.01	14	24	1.4	<1
AG171-31	06-15-98	<.01	<.01	930	18	7.4	<1

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study - Pesticides

REMARKS.-- E: compound was detected at a concentration too low to be accurately quantified.

LOCAL WELL NUMBER	DATE	ACETO- CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA- CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA- ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA- ZINE, WATER, DISS, REC (UG/L) (04040)	METHYL AZIN- PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN- FLUR- ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL- ATE, WATER, DISS, REC (UG/L) (04028)	CAR- BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO- FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)
					DE KALB COUNTY, INDIANA					
AG033-7	06-18-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
					HILLSDALE COUNTY, MICHIGAN					
AG059-8	06-16-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG059-9	06-17-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG059-10	06-19-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG059-11	07-10-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG059-12	07-22-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG059-13	07-09-98	<.002	<.002	.11	E.065	<.001	<.002	<.002	<.003	<.003
					LAPEER COUNTY, MICHIGAN					
AG087-24	08-04-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG087-29	07-13-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
					LENAWEE COUNTY, MICHIGAN					
AG091-14	07-08-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG091-15	07-24-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG091-16	07-20-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG091-17	07-23-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG091-18	07-21-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
					MACOMB COUNTY, MICHIGAN					
AG099-30	07-13-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
					ST CLAIR COUNTY, MICHIGAN					
AG147-25	07-15-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
					SANILAC COUNTY, MICHIGAN					
AG151-26	07-14-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG151-27	07-14-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG151-28	08-05-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
					WASHTENAW COUNTY, MICHIGAN					
AG161-19	06-26-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG161-20	06-25-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG161-21	06-23-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG161-22	06-24-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
					WILLIAMS COUNTY, OHIO					
AG171-1	06-08-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG171-2	07-06-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG171-3	06-10-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG171-4	06-11-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG171-5	07-07-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG171-6	06-09-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
AG171-31	06-15-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study - Pesticides—Continued

LOCAL WELL NUMBER	CHLOR- PYRIFOS DIS- SOLVED (UG/L) (38933)	CYANA- ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	P,P' DDE DISSOLV (UG/L) (34653)	DI- AZINON, DIS- SOLVED (UG/L) (39572)	DI- ELDRIN DIS- SOLVED (UG/L) (39381)	2,6-DI- ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DISUL- FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL- FLUR- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)
DE KALB COUNTY, INDIANA										
AG033-7	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
HILLSDALE COUNTY, MICHIGAN										
AG059-8	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG059-9	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG059-10	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG059-11	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG059-12	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG059-13	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
LAPEER COUNTY, MICHIGAN										
AG087-24	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG087-29	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
LENAWEE COUNTY, MICHIGAN										
AG091-14	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG091-15	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG091-16	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG091-17	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG091-18	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
MACOMB COUNTY, MICHIGAN										
AG099-30	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
ST CLAIR COUNTY, MICHIGAN										
AG147-25	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SANILAC COUNTY, MICHIGAN										
AG151-26	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG151-27	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG151-28	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
WASHTENAW COUNTY, MICHIGAN										
AG161-19	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG161-20	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG161-21	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG161-22	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
WILLIAMS COUNTY, OHIO										
AG171-1	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG171-2	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG171-3	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG171-4	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG171-5	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG171-6	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
AG171-31	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study - Pesticides—Continued

LOCAL WELL NUMBER	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)
DE KALB COUNTY, INDIANA										
AG033-7	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
HILLSDALE COUNTY, MICHIGAN										
AG059-8	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG059-9	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG059-10	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG059-11	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG059-12	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG059-13	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
LAPEER COUNTY, MICHIGAN										
AG087-24	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG087-29	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
LENAWEE COUNTY, MICHIGAN										
AG091-14	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG091-15	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG091-16	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG091-17	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG091-18	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
MACOMB COUNTY, MICHIGAN										
AG099-30	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
ST CLAIR COUNTY, MICHIGAN										
AG147-25	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SANILAC COUNTY, MICHIGAN										
AG151-26	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG151-27	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG151-28	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
WASHTENAW COUNTY, MICHIGAN										
AG161-19	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG161-20	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG161-21	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG161-22	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
WILLIAMS COUNTY, OHIO										
AG171-1	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG171-2	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG171-3	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG171-4	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG171-5	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
AG171-6	<.003	<.003	<.002	<.004	<.002	<.005	.011	<.004	<.004	<.003
AG171-31	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study - Pesticides—Continued

LOCAL WELL NUMBER	PARA-THION, DIS-SOLVED (UG/L) (39542)	METHYL PARA-THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	PEB-ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI-METH-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER-METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRON-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PRO-METON, WATER, DISS, REC (UG/L) (04037)	PROPA CHLOR, WATER, DISS, REC (UG/L) (04024)
DE KALB COUNTY, INDIANA									
AG033-7	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
HILLSDALE COUNTY, MICHIGAN									
AG059-8	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG059-9	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG059-10	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG059-11	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG059-12	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG059-13	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
LAPEER COUNTY, MICHIGAN									
AG087-24	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG087-29	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
LENAWEE COUNTY, MICHIGAN									
AG091-14	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG091-15	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG091-16	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG091-17	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG091-18	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
MACOMB COUNTY, MICHIGAN									
AG099-30	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
ST CLAIR COUNTY, MICHIGAN									
AG147-25	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SANILAC COUNTY, MICHIGAN									
AG151-26	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG151-27	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG151-28	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
WASHTENAW COUNTY, MICHIGAN									
AG161-19	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG161-20	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG161-21	<.004	<.200	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG161-22	<.004	<.020	<.004	<.004	<.005	<.002	<.003	<.018	<.007
WILLIAMS COUNTY, OHIO									
AG171-1	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG171-2	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG171-3	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG171-4	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG171-5	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG171-6	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
AG171-31	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study - Pesticides—Continued

LOCAL WELL NUMBER	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)
DE KALB COUNTY, INDIANA									
AG033-7	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
HILLSDALE COUNTY, MICHIGAN									
AG059-8	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG059-9	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG059-10	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG059-11	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG059-12	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG059-13	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
LAPEER COUNTY, MICHIGAN									
AG087-24	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG087-29	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
LENAWEE COUNTY, MICHIGAN									
AG091-14	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG091-15	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG091-16	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG091-17	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG091-18	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
MACOMB COUNTY, MICHIGAN									
AG099-30	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
ST CLAIR COUNTY, MICHIGAN									
AG147-25	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SANILAC COUNTY, MICHIGAN									
AG151-26	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG151-27	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG151-28	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
WASHTENAW COUNTY, MICHIGAN									
AG161-19	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG161-20	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG161-21	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG161-22	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
WILLIAMS COUNTY, OHIO									
AG171-1	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG171-2	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG171-3	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG171-4	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG171-5	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG171-6	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
AG171-31	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study - Pesticides—Continued

LOCAL WELL NUMBER	DATE	2,4,5-T DIS- SOLVED (UG/L) (39742)	2,4-D, DIS- SOLVED (UG/L) (39732)	2,4-DB WATER, FLTRD, GF 0.7U REC (UG/L) (38746)	ACIFL- UORFEN WATER, FLTRD, GF 0.7U REC (UG/L) (49315)	ALDI- CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (49312)	ALDI- CARB SULFONE WAT,FLT GF 0.7U REC (UG/L) (49313)	ALDICA- RB SUL- FOXIDE, WAT,FLT GF 0.7U REC (UG/L) (49314)	BENTA- ZON, WATER, FLTRD, GF 0.7U REC (UG/L) (38711)	BRO- MACIL, WATER, DISS, REC (UG/L) (04029)
				DE KALB COUNTY, INDIANA						
AG033-7	06-18-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
				HILLSDALE COUNTY, MICHIGAN						
AG059-8	06-16-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG059-9	06-17-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG059-10	06-19-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG059-11	07-10-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG059-12	07-22-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG059-13	07-09-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
				LAPEER COUNTY, MICHIGAN						
AG087-24	08-04-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG087-29	07-13-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
				LENAWEE COUNTY, MICHIGAN						
AG091-14	07-08-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG091-15	07-24-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG091-16	07-20-98	<.035	<.15	<.24	<.035	<.55	<1.0	<.021	<.014	<.035
AG091-17	07-23-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG091-18	07-21-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
				MACOMB COUNTY, MICHIGAN						
AG099-30	07-13-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
				ST CLAIR COUNTY, MICHIGAN						
AG147-25	07-15-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
				SANILAC COUNTY, MICHIGAN						
AG151-26	07-14-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG151-27	07-14-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG151-28	08-05-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
				WASHTENAW COUNTY, MICHIGAN						
AG161-19	06-26-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG161-20	06-25-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG161-21	06-23-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG161-22	06-24-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
				WILLIAMS COUNTY, OHIO						
AG171-1	06-08-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG171-2	07-06-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG171-3	06-10-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG171-4	06-11-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG171-5	07-07-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG171-6	06-09-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035
AG171-31	06-15-98	<.035	<.15	<.24	<.035	<.55	<.10	<.021	<.014	<.035

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study - Pesticides—Continued

LOCAL WELL NUMBER	BRO-MOXYNIL WATER, FLTRD, GF 0.7U REC (UG/L) (49311)	CAR-BARYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49310)	CARBO-FURAN, WATER, FLTRD, GF 0.7U REC (UG/L) (49309)	3HYDRXY CARBO-FURAN WAT,FLT GF 0.7U REC (UG/L) (49308)	CHLOR-AMBEN, WATER, FLTRD, GF 0.7U REC (UG/L) (49307)	CHLORO-THALO-NIL, WAT,FLT GF 0.7U REC (UG/L) (49306)	CLOPYR-ALID, WATER, FLTRD, GF 0.7U REC (UG/L) (49305)	DACTHAL MONO-ACID, WAT,FLT GF 0.7U REC (UG/L) (49304)	DICAMBA WATER, FLTRD, GF 0.7U REC (UG/L) (38442)	DICHLO-BENIL, WATER, FLTRD, GF 0.7U REC (UG/L) (49303)
DE KALB COUNTY, INDIANA										
AG033-7	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
HILLSDALE COUNTY, MICHIGAN										
AG059-8	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG059-9	E.020	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG059-10	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG059-11	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG059-12	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG059-13	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
LAPEER COUNTY, MICHIGAN										
AG087-24	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG087-29	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
LENAWEE COUNTY, MICHIGAN										
AG091-14	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG091-15	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG091-16	<.035	<.008	<.12	<.37	<.42	<.48	<.23	<.017	<.035	<1.2
AG091-17	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG091-18	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
MACOMB COUNTY, MICHIGAN										
AG099-30	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
ST CLAIR COUNTY, MICHIGAN										
AG147-25	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
SANILAC COUNTY, MICHIGAN										
AG151-26	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG151-27	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG151-28	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
WASHTENAW COUNTY, MICHIGAN										
AG161-19	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG161-20	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG161-22	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG161-21	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
WILLIAMS COUNTY, OHIO										
AG171-1	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG171-2	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG171-3	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG171-4	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG171-5	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG171-6	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2
AG171-31	<.035	<.008	<.12	<.014	<.42	<.48	<.23	<.017	<.035	<1.2

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study - Pesticides—Continued

LOCAL WELL NUMBER	DICHLOR PROP, WATER, FLTRD, GF 0.7U REC (UG/L) 49302)	DINOSEB WATER, FLTRD, GF 0.7U REC (UG/L) (49301)	DIURON, WATER, FLTRD, GF 0.7U REC (UG/L) (49300)	DNOC WAT,FLT GF 0.7U REC (UG/L) (49299)	FEN- URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49297)	FLUO- METURON WATER, FLTRD, GF 0.7U REC (UG/L) (38811)	LINURON WATER, FLTRD, GF 0.7U REC (UG/L) (38478)	MCPA, WATER, FLTRD, GF 0.7U REC (UG/L) (38482)	MCPB, WATER, FLTRD, GF 0.7U REC (UG/L) (38487)	METHIO- CARB, WATER, FLTRD, GF 0.7U REC (UG/L) (38501)
DE KALB COUNTY, INDIANA										
AG033-7	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
HILLSDALE COUNTY, MICHIGAN										
AG171-8	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG171-9	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG091-10	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.12
AG059-11	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG059-12	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG059-13	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
LAPEER COUNTY, MICHIGAN										
AG087-24	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG087-29	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
LENAWEE COUNTY, MICHIGAN										
AG091-14	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG091-15	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG091-16	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG091-17	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG091-18	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.23
MACOMB COUNTY, MICHIGAN										
AG099-30	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
ST CLAIR COUNTY, MICHIGAN										
AG147-25	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
SANILAC COUNTY, MICHIGAN										
AG151-26	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG151-27	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG151-28	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
WASHTENAW COUNTY, MICHIGAN										
AG161-19	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG161-20	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG161-21	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG161-22	<.032	<.035	<.020	<.42	.06	<.035	<.018	<.17	<.14	<.026
WILLIAMS COUNTY, OHIO										
AG171-1	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG171-2	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG171-3	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG171-4	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG171-5	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG171-6	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026
AG171-31	<.032	<.035	<.020	<.42	<.013	<.035	<.018	<.17	<.14	<.026

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Agricultural Land-Use Study - Pesticides—Continued

LOCAL WELL NUMBER	METH-OMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (49296)	NEB-URON, WATER, FLTRD, GF 0.7U REC (UG/L) (49294)	NORFLUR AZON, WATER, FLTRD, GF 0.7U REC (UG/L) (49293)	ORY-ZALIN, WATER, FLTRD, GF 0.7U REC (UG/L) (49292)	OXAMYL, WATER, FLTRD, GF 0.7U REC (UG/L) (38866)	PIC-LORAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49291)	PRO-PHAM, WATER, FLTRD, GF 0.7U REC (UG/L) (49236)	PRO-POXUR, WATER, FLTRD, GF 0.7U REC (UG/L) (38538)	SILVEX, DIS-SOLVED (UG/L) (39762)	TRI-CLOPYR, WATER, FLTRD, GF 0.7U REC (UG/L) (49235)
DE KALB COUNTY, INDIANA										
AG033-7	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
HILLSDALE COUNTY, MICHIGAN										
AG059-8	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
AG059-9	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
AG059-10	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
AG059-11	<.017	<.015	<.024	<.90	<.018	<.050	<.035	<.035	<.021	<.25
AG059-12	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
AG059-13	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
LAPEER COUNTY, MICHIGAN										
AG087-24	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
AG087-29	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
LENAWEE COUNTY, MICHIGAN										
AG091-14	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
AG091-15	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
AG091-16	<.017	<.015	<.024	<.34	<.018	<.050	<.035	<.035	<.021	<.25
AG091-17	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
AG091-18	<.017	<.015	<.024	<1.2	<.018	<.050	<.035	<.035	<.021	<.25
MACOMB COUNTY, MICHIGAN										
AG099-30	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
ST CLAIR COUNTY, MICHIGAN										
AG147-25	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
SANILAC COUNTY, MICHIGAN										
AG151-26	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
AG151-27	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
AG151-28	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
WASHTENAW COUNTY, MICHIGAN										
AG161-19	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
AG161-20	<.017	<.015	<.024	<.95	<.018	<.050	<.035	<.035	<.021	<.25
AG161-21	<.017	<.015	<.024	<.60	<.018	<.050	<.035	<.035	<.021	<.25
AG161-22	<.017	<.015	<.024	<.80	<.018	<.050	<.035	<.035	<.021	<.25
WILLIAMS COUNTY, OHIO										
AG171-1	<.017	<.015	<.024	<.60	<.018	<.050	<.035	<.035	<.021	<.25
AG171-2	<.017	<.015	<.024	<1.5	<.018	<.050	<.035	<.035	<.021	<.25
AG171-3	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
AG171-4	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25
AG171-5	<.017	<.015	<.024	<.69	<.21	<.050	<.035	<.035	<.021	<.25
AG171-6	<.017	<.015	<.024	<.74	<.018	<.050	<.035	<.035	<.021	<.25
AG171-31	<.017	<.015	<.024	<.31	<.018	<.050	<.035	<.035	<.021	<.25

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey

The following tables contain water-level and water-quality data from a network of 30 domestic wells sampled as part of the NAWQA Subunit Survey. The goal of the study is to assess the water quality of an aquifer that is used as a source of drinking water. Similar studies have been done in other drainage basins throughout the country.

The domestic wells are located in areas that meet the following specifications: (1) the surficial sediment is glacial till that is greater than 100 feet thick, (2) the bedrock is shale and sandstone of Upper Devonian to Lower Mississippian age, and (3) the physiographic province is the Central Lowlands. Most of the domestic wells produce water from confined sand-and-gravel aquifers within the glacial till. Water samples from the wells were tested for physical characteristics, nutrients, major elements, pesticides, and volatile organic compounds (VOC’s). Water-level records are presented first, followed by the water-quality data.

The domestic-well network is shown in figure 11. At some locations, a domestic well is co-located with a monitor well sampled for the NAWQA Agricultural Land-Use Study.

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey—Continued

REMARKS.-- 112TILL: Pleistocene till; 112SDGV: Pleistocene sand and gravel; l12SAND: Pleiestocene sand; 112GRVL: Pleistocene gravel; 112SGVC: Pleistocene sand, gravel, and clay; 330SDSL: Mississippian sandstone and shale; µS/cm: microsiemens per centimeter at 25 degrees Celsius; DEG C: degrees Celsius; mg/L: milligrams per liter; µg/L: micrograms per liter; pCi/L: picocuries per liter; flw: flowing; --: no data.

SITE-ID	LOCAL WELL NUMBER	LOCATION MAP NAME	ALTITUDE OF LAND SURFACE (FEET)	DEPTH OF WELL (FEET)	AQUIFER CODE	WATER-LEVEL DATE	WATER LEVEL (FEET)
		HILLSDALE COUNTY, MICHIGAN					
414746084394800	SUS059-8	READING, MICH.	1048	90	112SDGV	04-13-87	41
414519084374700	SUS059-9	READING, MICH.	1030	99	112GRVL	08-30-79	70
414604084264600	SUS059-10	PITTSFORD, MICH.	900	31	112SDGV	09-10-69	8
415028084220400	SUS059-12	HUDSON, MICH.	922	91	112SDGV	08-15-79	34
420049084235000	SUS059-13	SOMERSET CENTER, MICH.	1108	120	330SDSL	06-19-79	60
		LAPEER COUNTY, MICHIGAN					
430349083014700	SUS087-24	IMLAY CITY, MICH.	834	129	112SAND	02-01-97	12
425843083042400	SUS087-29	ALMONT, MICH.	833	90	112SAND	10-20-78	35
430313083085300	SUS087-41	ATTICA, MICH.	862	100	112GRVL	09-25-87	2
		LENAWEE COUNTY, MICHIGAN					
414323084161100	SUS091-14	FAYETTE, OHIO-MICH.	808	158	112GRVL	04-28-89	26
420022084024200	SUS091-17	TIPTON, MICH.	865	87	112SDGV	10-31-80	30
415516084061200	SUS091-32	ADRIAN, MICH.	863	80	112SDGV	09-30-95	12
		LIVINGSTON COUNTY, MICHIGAN					
423559083420700	SUS093-36	KENT LAKE, MICH.	987	79	112GRVL	09-19-91	13
		MACOMB COUNTY, MICHIGAN					
425152083001000	SUS099-30	ROMEO, MICH.	779	60	112SDGV	04-26-89	10
424159082493200	SUS099-39	NEW HAVEN, MICH.	630	35	112GRVL	12-16-94	5
		OAKLAND COUNTY, MICHIGAN					
424658083270600	SUS125-35	ORTONVILLE, MICH.	1117	120	112SAND	06-07-89	55
423032083295700	SUS125-37	WALLED LAKE, MICH.	943	72	112SDGV	03-19-91	21
425033083080900	SUS125-40	LAKE ORION, MICH.	1020	170	112SGVC	08-30-85	45
		ST CLAIR COUNTY, MICHIGAN					
430845082462500	SUS147-25	YALE, MICH.	788	140	112GRVL	07-07-92	2
		SANILAC COUNTY, MICHIGAN					
431240082511400	SUS151-26	YALE, MICH.	814	54	112GRVL	07-23-69	20
431008082580700	SUS151-42	BROWN CITY, MICH.	812	205	112SDGV	10-01-92	40
		WASHTENAW COUNTY, MICHIGAN					
421212083593000	SUS161-19	BRIDGEWATER, MICH.	995	92	112SAND	07-07-98	55
421124083534000	SUS161-20	BRIDGEWATER, MICH.	921	100	112SAND	07-15-92	33
421624083515600	SUS161-33	ANN ARBOR WEST, MICH.	903	49	112SDGV	03-29-84	16
		WILLIAMS COUNTY, OHIO					
413924084471600	SUS171-1	CLEAR LAKE, IND.-OHIO-MICH.	980	82	112GRVL	05-28-86	15
413521084460300	SUS171-2	EDON, IND.-OHIO	927	70	112GRVL	07-26-94	34
413229084471600	SUS171-3	EDON, IND.-OHIO	902	78	112GRVL	04-15-86	44
413721084361000	SUS171-4	MONTPELIER, OHIO	863	121	112SDGV	04-27-94	16
414111084363200	SUS171-5	PIONEER, OHIO-MICH.	912	70	112SDGV	03-03-94	11

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey—Continued

LOCAL WELL NUMBER	DATE	TIME	DEPTH OF WELL, TOTAL (FEET) (72008)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
HILLSDALE COUNTY, MICHIGAN						
SUS059-8	08-10-98	1200	90	1048	529	7.5
SUS059-9	08-10-98	1400	99	1030	664	7.1
SUS059-10	08-11-98	1400	31	900	627	7.3
SUS059-12	08-11-98	1200	91	922	603	7.4
SUS059-13	08-13-98	1600	120	1108	667	7.0
LAPEER COUNTY, MICHIGAN						
SUS087-24	08-31-98	1500	129	834	682	7.4
SUS087-29	09-01-98	1000	90	833	908	7.3
SUS087-41	08-04-98	1300	100	862	595	7.4
LENAWEE COUNTY, MICHIGAN						
SUS091-14	08-11-98	1700	158	808	752	7.3
SUS091-17	08-13-98	1200	87	865	544	7.3
SUS091-32	08-06-98	1900	80	863	745	7.1
LIVINGSTON COUNTY, MICHIGAN						
SUS093-36	08-26-98	1800	79	987	2390	7.1
MACOMB COUNTY, MICHIGAN						
SUS099-30	08-05-98	1700	60	779	877	6.9
SUS099-39	09-02-98	1200	35	630	484	7.5
OAKLAND COUNTY, MICHIGAN						
SUS125-35	08-26-98	1400	120	1117	720	7.2
SUS125-37	09-03-98	1600	72	943	697	7.1
SUS125-40	09-03-98	1100	170	1020	754	7.1
ST CLAIR COUNTY, MICHIGAN						
SUS147-25	08-03-98	1400	140	788	512	7.5
SANILAC COUNTY, MICHIGAN						
SUS151-26	08-31-98	1100	54	814	864	7.4
SUS151-42	09-01-98	1600	205	812	1060	7.8
WASHTENAW COUNTY, MICHIGAN						
SUS161-19	08-06-98	1600	92	995	1180	7.0
SUS161-20	08-12-98	1400	100	921	596	7.2
SUS161-33	08-06-98	1400	49	903	597	7.2
WILLIAMS COUNTY, OHIO						
SUS171-1	08-24-98	1700	82	980	623	7.5
SUS171-2	08-25-98	1200	70	927	670	6.9
SUS171-3	06-10-98	1600	78	902	621	7.5
SUS171-4	06-11-98	1500	121	863	633	7.6
SUS171-5	08-25-98	1100	70	912	544	7.2

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey—Continued

LOCAL NUMBER	DATE	TEMPERATURE WATER (DEG C) (00010)	OXYGEN, DISSOLVED (MG/L) (00300)	HARDNESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DISSOLVED (MG/L AS CA) (00915)	MAGNESIUM, DISSOLVED (MG/L AS MG) (00925)	SODIUM, DISSOLVED (MG/L AS NA) (00930)	POTASSIUM, DISSOLVED (MG/L AS K) (00935)	ANC UNFLTRD TIT 4.5 WELL LAB (MG/L AS CACO3) (90410)
HILLSDALE COUNTY, MICHIGAN									
SUS059-8	08-10-98	14.5	.2	240	60	23	14	1.3	257
SUS059-9	08-10-98	14.2	.1	340	99	23	4.3	1.0	303
SUS059-10	08-11-98	12.4	.1	310	80	27	14	1.6	300
SUS059-12	08-11-98	13.5	.2	290	74	26	16	1.4	288
SUS059-13	08-13-98	15.8	.2	350	89	32	8.7	1.6	349
LAPEER COUNTY, MICHIGAN									
SUS087-24	08-31-98	13.9	.1	340	52	50	25	3.2	374
SUS087-29	09-01-98	10.8	.1	430	110	36	8.3	1.2	210
SUS087-41	08-04-98	14.8	.2	270	58	30	23	1.6	269
LENAWEE COUNTY, MICHIGAN									
SUS091-14	08-11-98	13.9	.1	360	83	36	25	2.0	345
SUS091-17	08-13-98	14.6	.2	280	71	24	10	1.4	287
SUS091-32	08-06-98	11.9	.1	380	99	31	13	1.6	316
LIVINGSTON COUNTY, MICHIGAN									
SUS093-36	08-26-98	11.2	.1	530	140	44	260	5.5	295
MACOMB COUNTY, MICHIGAN									
SUS099-30	08-05-98	15.3	.3	490	140	35	6.1	1.4	315
SUS099-39	09-02-98	14.4	.2	240	66	18	4.3	.6	163
OAKLAND COUNTY, MICHIGAN									
SUS125-35	08-26-98	12.5	.1	350	88	32	15	1.5	265
SUS125-37	09-03-98	16.9	.1	360	98	28	4.3	1.0	320
SUS125-40	09-03-98	16.2	.2	400	93	39	10	1.5	348
ST CLAIR COUNTY, MICHIGAN0									
SUS147-25	08-03-98	15.0	.3	210	49	22	37	1.4	245
SANILAC COUNTY, MICHIGAN									
SUS151-26	08-31-98	19.7	.2	240	58	24	91	2.2	289
SUS151-42	09-01-98	13.6	.1	120	28	11	180	2.0	197
WASHTENAW COUNTY, MICHIGAN									
SUS161-19	08-06-98	16.0	.8	500	140	37	52	3.3	306
SUS161-20	08-12-98	12.2	.1	310	82	26	8.2	1.4	309
SUS161-33	08-06-98	13.2	.6	320	84	26	2.8	1.0	232
WILLIAMS COUNTY, OHIO									
SUS171-1	08-24-98	12.6	.1	280	68	28	19	1.7	309
SUS171-2	08-25-98	13.3	.1	360	91	33	13	1.5	325
SUS171-3	06-10-98	12.9	.1	310	78	29	14	1.5	324
SUS171-4	06-11-98	11.9	.1	270	60	30	32	2.0	307
SUS171-5	08-25-98	11.8	.1	260	65	25	15	1.6	274

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey—Continued

LOCAL WELL NUMBER	DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	BROMIDE DIS-SOLVED (MG/L AS BR) (71870)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
HILLSDALE COUNTY, MICHIGAN											
SUS059-8	08-10-98	28	5.2	.8	.04	15	319	<.01	<.05	.25	.3
SUS059-9	08-10-98	60	5.1	.3	.01	19	436	<.01	<.05	.17	.4
SUS059-10	08-11-98	41	8.2	.7	.08	16	386	<.01	<.05	.16	.2
SUS059-12	08-11-98	30	12	.7	.05	17	366	<.01	<.05	.27	.3
SUS059-13	08-13-98	31	2.4	.8	.06	17	395	<.01	<.05	.19	.2
LAPEER COUNTY, MICHIGAN											
SUS087-24	08-31-98	19	2.6	1.5	.04	19	414	<.01	<.05	.30	.3
SUS087-29	09-01-98	45	130	<.1	1.5	12	580	<.01	<.05	.03	<.1
SUS087-41	08-04-98	21	20	1.1	.07	17	344	<.01	<.05	.16	.2
LENAWEE COUNTY, MICHIGAN											
SUS091-14	08-11-98	57	15	.8	.10	19	470	<.01	<.05	.33	.4
SUS091-17	08-13-98	14	4.1	.9	.04	17	319	<.01	<.05	.19	.2
SUS091-32	08-06-98	60	26	.6	.17	14	450	<.01	<.05	.23	.3
LIVINGSTON COUNTY, MICHIGAN											
SUS093-36	08-26-98	39	550	.2	.10	14	1410	<.01	<.05	.15	.2
MACOMB COUNTY, MICHIGAN											
SUS099-30	08-05-98	150	17	<.1	.08	8.5	582	.02	1.6	.05	<.1
SUS099-39	09-02-98	64	19	.2	.11	12	311	<.01	<.05	.08	.1
OAKLAND COUNTY, MICHIGAN											
SUS125-35	08-26-98	52	31	.2	.02	12	429	<.01	<.05	.02	<.1
SUS125-37	09-03-98	62	3.1	.4	.19	20	438	.01	<.05	.25	.4
SUS125-40	09-03-98	59	9.6	.5	.05	15	472	.02	.27	.06	<.1
ST CLAIR COUNTY, MICHIGAN											
SUS147-25	08-03-98	4.4	33	.8	.08	16	320	<.01	<.05	.37	.4
SANILAC COUNTY, MICHIGAN											
SUS151-26	08-31-98	25	99	.7	.10	10	499	<.01	<.05	.36	.4
SUS151-42	09-01-98	140	130	1.9	.15	11	632	<.01	<.05	.23	.2
WASHTENAW COUNTY, MICHIGAN											
SUS161-19	08-06-98	110	140	.1	.13	11	722	<.01	<.05	.04	.1
SUS161-20	08-12-98	23	6.2	.6	.06	17	354	<.01	<.05	.17	.1
SUS161-33	08-06-98	74	14	.1	.06	7.4	395	<.01	.52	.03	<.1
WILLIAMS COUNTY, OHIO											
SUS171-1	08-24-98	10	6.2	1.0	.03	18	344	.01	<.05	.36	.3
SUS171-2	08-25-98	48	6.3	.6	.04	17	433	.01	<.05	.22	.2
SUS171-3	06-10-98	25	4.9	.7	.05	18	388	.01	<.05	.31	.3
SUS171-4	06-11-98	21	21	1.0	.12	17	376	.11	<.05	.46	.5
SUS171-5	08-25-98	7.7	9.8	1.0	.06	17	336	.01	<.05	.31	.3

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey—Continued

LOCAL WELL NUMBER	DATE	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	RADON 222 TOTAL (PCI/L) (82303)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
HILLSDALE COUNTY, MICHIGAN							
SUS059-8	08-10-98	<.01	.01	1600	23	180	.9
SUS059-9	08-10-98	<.01	.02	4500	56	160	5.8
SUS059-10	08-11-98	<.01	<.01	2300	53	190	1.3
SUS059-12	08-11-98	<.01	.01	1900	22	150	1.1
SUS059-13	08-13-98	<.01	.02	1400	230	480	.7
LAPEER COUNTY, MICHIGAN							
SUS087-24	08-31-98	<.01	.02	970	15	140	1.3
SUS087-29	09-01-98	<.01	<.01	1100	25	130	.5
SUS087-41	08-04-98	<.01	.01	620	12	190	.9
LENAWEE COUNTY, MICHIGAN							
SUS091-14	08-11-98	<.01	.02	1600	21	170	1.5
SUS091-17	08-13-98	.02	.02	1000	15	140	.6
SUS091-32	08-06-98	<.01	.01	2700	80	120	1.8
LIVINGSTON COUNTY, MICHIGAN							
SUS093-36	08-26-98	<.01	<.01	3800	170	230	1.1
MACOMB COUNTY, MICHIGAN							
SUS099-30	08-05-98	<.01	.01	680	170	150	.9
SUS099-39	09-02-98	<.01	.02	600	90	190	1.7
OAKLAND COUNTY, MICHIGAN							
SUS125-35	08-26-98	<.01	<.01	390	23	180	.6
SUS125-37	09-03-98	<.01	.02	6000	68	140	3.3
SUS125-40	09-03-98	<.01	.01	320	41	100	.8
ST CLAIR COUNTY, MICHIGAN							
SUS147-25	08-03-98	.03	.02	630	11	160	1.2
SANILAC COUNTY, MICHIGAN							
SUS151-26	08-31-98	<.01	.01	970	16	300	1.1
SUS151-42	09-01-98	<.01	<.01	110	32	260	.7
WASHTENAW COUNTY, MICHIGAN							
SUS161-19	08-06-98	.03	<.01	720	98	180	1.0
SUS161-20	08-12-98	<.01	.02	2000	36	130	.9
SUS161-33	08-06-98	<.01	<.01	100	58	190	.5
WILLIAMS COUNTY, OHIO							
SUS171-1	08-24-98	<.01	<.01	1200	27	170	.9
SUS171-2	08-25-98	<.01	.02	2100	43	150	1.2
SUS171-3	06-10-98	<.01	<.01	2800	37	170	1.9
SUS171-4	06-11-98	.02	.02	1400	14	220	1.2
SUS171-5	08-25-98	<.01	.01	1300	12	240	1.1

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey - Pesticides

REMARKS.-- E: compound was detected at a concentration too low to be accurately quantified.

LOCAL WELL NUMBER	DATE	ACETO-CHLOR, WATER FLTRD REC (UG/L) (49260)	ALA-CHLOR, WATER, DISS, REC, (UG/L) (46342)	ATRA-ZINE, WATER, DISS, REC (UG/L) (39632)	DEETHYL ATRA-ZINE, WATER, DISS, REC (UG/L) (04040)	METHYL AZIN-PHOS WAT FLT 0.7 U GF, REC (UG/L) (82686)	BEN-FLUR-ALIN WAT FLD 0.7 U GF, REC (UG/L) (82673)	BUTYL-ATE, WATER, DISS, REC (UG/L) (04028)	CAR-BARYL WATER FLTRD 0.7 U GF, REC (UG/L) (82680)	CARBO-FURAN WATER FLTRD 0.7 U GF, REC (UG/L) (82674)
HILLSDALE COUNTY, MICHIGAN										
SUS059-8	08-10-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS059-9	08-10-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS059-10	08-11-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS059-12	08-11-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS059-13	08-13-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
LAPEER COUNTY, MICHIGAN										
SUS087-24	08-31-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS087-29	09-01-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS087-41	08-04-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
LENAWEE COUNTY, MICHIGAN										
SUS091-14	08-11-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS091-17	08-13-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS091-32	08-06-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
LIVINGSTON COUNTY, MICHIGAN										
SUS093-36	08-26-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
MACOMB COUNTY, MICHIGAN										
SUS099-30	08-05-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS099-39	09-02-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
OAKLAND COUNTY, MICHIGAN										
SUS125-35	08-26-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS125-37	09-03-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS125-40	09-03-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
ST CLAIR COUNTY, MICHIGAN										
SUS147-25	08-03-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SANILAC COUNTY, MICHIGAN										
SUS151-26	08-31-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS151-42	09-01-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
WASHTENAW COUNTY, MICHIGAN										
SUS161-19	08-06-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS161-20	08-12-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS161-33	08-06-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
WILLIAMS COUNTY, OHIO										
SUS171-1	08-24-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS171-2	08-25-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS171-3	06-10-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003
SUS171-4	06-11-98	<.002	<.002	<.001	E.009	<.001	<.002	<.002	<.003	<.003
SUS171-5	08-25-98	<.002	<.002	<.001	<.002	<.001	<.002	<.002	<.003	<.003

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey - Pesticides—Continued

LOCAL WELL NUMBER	CHLOR-PYRIFOS DIS-SOLVED (UG/L) (38933)	CYANA-ZINE, WATER, DISS, REC (UG/L) (04041)	DCPA WATER FLTRD 0.7 U GF, REC (UG/L) (82682)	P,P' DDE DISSOLV (UG/L) (34653)	DI-AZINON, DIS-SOLVED (UG/L) (39572)	DI-ELDRIN DIS-SOLVED (UG/L) (39381)	2,6-DI-ETHYL ANILINE WAT FLT 0.7 U GF, REC (UG/L) (82660)	DISUL-FOTON WATER FLTRD 0.7 U GF, REC (UG/L) (82677)	EPTC WATER FLTRD 0.7 U GF, REC (UG/L) (82668)	ETHAL-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82663)
HILLSDALE COUNTY, MICHIGAN										
SUS059-8	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS059-9	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS059-10	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS059-12	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS059-13	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
LAPEER COUNTY, MICHIGAN										
SUS087-24	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS087-29	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS087-41	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
LENAWEE COUNTY, MICHIGAN										
SUS091-14	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS091-17	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS091-32	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
LIVINGSTON COUNTY, MICHIGAN										
SUS093-36	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
MACOMB COUNTY, MICHIGAN										
SUS099-30	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS099-39	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
OAKLAND COUNTY, MICHIGAN										
SUS125-35	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS125-37	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS125-40	<.004	<.004	<.002	<.006	.033	<.001	<.003	<.017	<.002	<.004
ST CLAIR COUNTY, MICHIGAN										
SUS147-25	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SANILAC COUNTY, MICHIGAN										
SUS151-26	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS151-42	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
WASHTENAW COUNTY, MICHIGAN										
SUS161-19	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS161-20	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS161-33	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
WILLIAMS COUNTY, OHIO										
SUS171-1	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS171-2	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS171-3	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS171-4	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004
SUS171-5	<.004	<.004	<.002	<.006	<.002	<.001	<.003	<.017	<.002	<.004

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey - Pesicides—Continued

LOCAL WELL NUMBER	ETHO-PROP WATER FLTRD 0.7 U GF, REC (UG/L) (82672)	FONOFOS WATER DISS REC (UG/L) (04095)	ALPHA BHC DIS-SOLVED (UG/L) (34253)	LINDANE DIS-SOLVED (UG/L) (39341)	LIN-URON WATER FLTRD 0.7 U GF, REC (UG/L) (82666)	MALA-THION, DIS-SOLVED (UG/L) (39532)	METO-LACHLOR WATER DISSOLV (UG/L) (39415)	METRI-BUZIN SENCOR WATER DISSOLV (UG/L) (82630)	MOL-INATE WATER FLTRD 0.7 U GF, REC (UG/L) (82671)	NAPROP-AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82684)
HILLSDALE COUNTY, MICHIGAN										
SUS059-8	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS059-9	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS059-10	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS059-12	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS059-13	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
LAPEER COUNTY, MICHIGAN										
SUS087-24	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS087-29	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS087-41	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
LENAWEE COUNTY, MICHIGAN										
SUS091-14	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS091-17	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS091-32	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
LIVINGSTON COUNTY, MICHIGAN										
SUS093-36	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
MACOMB COUNTY, MICHIGAN										
SUS099-30	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS099-39	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
OAKLAND COUNTY, MICHIGAN										
SUS125-35	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS125-37	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS125-40	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
ST CLAIR COUNTY, MICHIGAN										
SUS147-25	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SANILAC COUNTY, MICHIGAN										
SUS151-26	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS151-42	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
WASHTENAW COUNTY, MICHIGAN										
SUS161-19	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS161-20	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS161-33	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
WILLIAMS COUNTY, OHIO										
SUS171-1	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS171-2	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS171-3	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS171-4	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003
SUS171-5	<.003	<.003	<.002	<.004	<.002	<.005	<.002	<.004	<.004	<.003

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey - Pesticides—Continued

LOCAL WELL NUMBER	PARA- THION, DIS- SOLVED (UG/L) (39542)	METHYL PARA- THION WAT FLT 0.7 U GF, REC (UG/L) (82667)	PEB- ULATE WATER FILTRD 0.7 U GF, REC (UG/L) (82669)	PENDI- METH- ALIN WAT FLT 0.7 U GF, REC (UG/L) (82683)	PER- METHRIN CIS WAT FLT 0.7 U GF, REC (UG/L) (82687)	PHORATE WATER FLTRD 0.7 U GF, REC (UG/L) (82664)	PRON- AMIDE WATER FLTRD 0.7 U GF, REC (UG/L) (82676)	PRO- METON, WATER, DISS, REC (UG/L) (04037)	PROPA- CHLOR, WATER, DISS, REC (UG/L) (04024)
HILLSDALE COUNTY, MICHIGAN									
SUS059-8	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS059-9	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS059-10	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS059-12	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS059-13	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
LAPEER COUNTY, MICHIGAN									
SUS087-24	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS087-29	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS087-41	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
LENAWEE COUNTY, MICHIGAN									
SUS091-14	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS091-17	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS091-32	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
LIVINGSTON COUNTY, MICHIGAN									
SUS093-36	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
MACOMB COUNTY, MICHIGAN									
SUS099-30	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS099-39	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
OAKLAND COUNTY, MICHIGAN									
SUS125-35	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS125-37	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS125-40	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
ST CLAIR COUNTY, MICHIGAN									
SUS147-25	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SANILAC COUNTY, MICHIGAN									
SUS151-26	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS151-42	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
WASHTENAW COUNTY, MICHIGAN									
SUS161-19	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS161-20	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS161-33	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
WILLIAMS COUNTY, OHIO									
SUS171-1	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS171-2	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS171-3	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS171-4	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007
SUS171-5	<.004	<.006	<.004	<.004	<.005	<.002	<.003	<.018	<.007

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey - Pesticides—Continued

LOCAL WELL NUMBER	PRO-PANIL WATER FLTRD 0.7 U GF, REC (UG/L) (82679)	PRO-PARGITE WATER FLTRD 0.7 U GF, REC (UG/L) (82685)	SI-MAZINE, WATER, DISS, REC (UG/L) (04035)	THIO-BENCARB WATER FLTRD 0.7 U GF, REC (UG/L) (82681)	TEBU-THIURON WATER FLTRD 0.7 U GF, REC (UG/L) (82670)	TER-BACIL WATER FLTRD 0.7 U GF, REC (UG/L) (82665)	TER-BUFOS WATER FLTRD 0.7 U GF, REC (UG/L) (82675)	TRIAL-LATE WATER FLTRD 0.7 U GF, REC (UG/L) (82678)	TRI-FLUR-ALIN WAT FLT 0.7 U GF, REC (UG/L) (82661)
HILLSDALE COUNTY, MICHIGAN									
SUS059-8	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS059-9	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS059-10	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS059-12	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS059-13	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
LAPEER COUNTY, MICHIGAN									
SUS087-24	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS087-29	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS087-41	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
LENAWEE COUNTY, MICHIGAN									
SUS091-14	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS091-17	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS091-32	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
LIVINGSTON COUNTY, MICHIGAN									
SUS093-36	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
MACOMB COUNTY, MICHIGAN									
SUS099-30	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS099-39	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
OAKLAND COUNTY, MICHIGAN									
SUS125-35	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS125-37	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS125-40	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
ST CLAIR COUNTY, MICHIGAN									
SUS147-25	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SANILAC COUNTY, MICHIGAN									
SUS151-26	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS151-42	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
WASHTENAW COUNTY, MICHIGAN									
SUS161-19	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS161-20	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS161-33	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
WILLIAMS COUNTY, OHIO									
SUS171-1	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS171-2	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS171-3	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS171-4	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002
SUS171-5	<.004	<.013	<.005	<.002	<.010	<.007	<.013	<.001	<.002

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey - Volatile Organic Compounds

REMARKS.-- E: compound was detected at a concentration too low to be accurately quantified; V: compound may have been introduced into the sample as the result of well installation, sampling, handling, sample preservation, or shipping.

LOCAL WELL NUMBER	DATE	ACETONE WATER WHOLE TOTAL (UG/L) (81552)	ACRYLO-NITRILE TOTAL (UG/L) (34215)	BENZENE TOTAL (UG/L) (34030)	BENZENE 1,3-DI-CHLORO- WATER UNFLTRD REC (UG/L) (34566)	BENZENE 1,4-DI-CHLORO- WATER UNFLTRD REC (UG/L) (34571)	BENZENE N-BUTYL WATER UNFLTRD REC (UG/L) (77342)	BENZENE N-PROPY WATER UNFLTRD REC (UG/L) (77224)	BENZENE O-DI-CHLORO- WATER UNFLTRD REC (UG/L) (34536)
				HILLSDALE COUNTY, MICHIGAN					
SUS059-8	08-10-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
SUS059-9	08-10-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
SUS059-10	08-11-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
SUS059-12	08-11-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
SUS059-13	08-13-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
				LAPEER COUNTY, MICHIGAN					
SUS087-24	08-31-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
SUS087-29	09-01-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
SUS087-41	08-04-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
				LENAWEE COUNTY, MICHIGAN					
SUS091-14	08-11-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
SUS091-17	08-13-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
SUS091-32	08-06-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
				LIVINGSTON COUNTY, MICHIGAN					
SUS093-36	08-26-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
				MACOMB COUNTY, MICHIGAN					
SUS099-30	08-05-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
SUS099-39	09-02-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
				OAKLAND COUNTY, MICHIGAN					
SUS125-35	08-26-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
SUS125-37	09-03-98	<19.6	<4.90	<.400	<.216	<.200	<.744	<.168	<.192
SUS125-40	09-03-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
				ST CLAIR COUNTY, MICHIGAN					
SUS147-25	08-03-98	<9.81	<2.45	<.200	<.108	<.100	<.372	<.084	<.096
				SANILAC COUNTY, MICHIGAN					
SUS151-26	08-31-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
SUS151-42	09-01-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
				WASHTENAW COUNTY, MICHIGAN					
SUS161-19	08-06-98	E11.2	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
SUS161-20	08-12-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
SUS161-33	08-06-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
				WILLIAMS COUNTY, OHIO					
SUS171-1	08-24-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
SUS171-2	08-25-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048
SUS171-3	06-10-98	<4.90	<1.23	<.032	<.054	<.050	<.186	<.042	<.048
SUS171-4	06-11-98	<4.90	<1.23	<.032	<.054	<.050	<.186	<.042	<.048
SUS171-5	08-25-98	<4.90	<1.23	<.100	<.054	<.050	<.186	<.042	<.048

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey - Volatile Organic Compounds—Continued

LOCAL WELL NUMBER	BENZENE SEC BUTYL- WATER UNFLTRD REC (UG/L) (77350)	BENZENE TERT- BUTYL- WATER UNFLTRD REC (UG/L) (77353)	BENZENE 1,2,4- TRI- CHLORO- WAT UNF REC (UG/L) (34551)	BENZENE 123-TRI METHYL- WATER UNFLTRD RECOVER (UG/L) (77221)	BENZENE 124-TRI METHYL UNFILT RECOVER (UG/L) (77222)	BENZENE 135-TRI METHYL WATER UNFLTRD REC (UG/L) (77226)	BROMO- BENZENE WATER, WHOLE, TOTAL (UG/L) (81555)	BROMO- ETHENE WATER UNFLTRD RECOVER (UG/L) (50002)	BROMO- FORM TOTAL (UG/L) (32104)	2BUTENE TRANS-1 4-DI- CHLORO UNFLTRD RECOVER (UG/L) (73547)	CARBON DI- SULFIDE WATER WHOLE TOTAL (UG/L) (77041)
					HILLSDALE COUNTY, MICHIGAN						
SUS059-8	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
SUS059-9	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
SUS059-10	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
SUS059-12	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	E.040
SUS059-13	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
					LAPEER COUNTY, MICHIGAN						
SUS087-24	<.048	<.096	<.188	<.124	V.006	<.044	<.036	<.100	<.104	<.692	E.024
SUS087-29	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
SUS087-41	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
					LENAWEE COUNTY, MICHIGAN						
SUS091-14	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
SUS091-17	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
SUS091-32	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
					LIVINGSTON COUNTY, MICHIGAN						
SUS093-36	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
					MACOMB COUNTY, MICHIGAN						
SUS099-30	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
SUS099-39	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	E.038
					OAKLAND COUNTY, MICHIGAN						
SUS125-35	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
SUS125-37	<.192	<.384	<.752	<.496	<.224	<.176	<.144	<.400	<.416	<2.77	E.071
SUS125-40	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
					ST CLAIR COUNTY, MICHIGAN						
SUS147-25	<.096	<.192	<.376	<.248	<.112	<.088	<.072	<.200	<.208	<1.38	<.740
					SANILAC COUNTY, MICHIGAN						
SUS151-26	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
SUS151-42	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	E.052
					WASHTENAW COUNTY, MICHIGAN						
SUS161-19	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	E.022
SUS161-20	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
SUS161-33	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
					WILLIAMS COUNTY, OHIO						
SUS171-1	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
SUS171-2	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370
SUS171-3	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	E.047
SUS171-4	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.080
SUS171-5	<.048	<.096	<.188	<.124	<.056	<.044	<.036	<.100	<.104	<.692	<.370

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey - Volatile Organic Compounds—Continued

LOCAL WELL NUMBER	CARBON TETRA-CHLO-RIDE TOTAL (UG/L) (32102)	CHLORO-BENZENE TOTAL (UG/L) (34301)	CHLORO-DI-BROMO-METHANE TOTAL (UG/L) (32105)	CHLORO-ETHANE TOTAL (UG/L) (34311)	CHLORO-FORM TOTAL (UG/L) (32106)	CIS-1,2 -DI-CHLORO-ETHENE WATER TOTAL (UG/L) (77093)	CIS 1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34704)	DIBROMO CHLORO-PROPANE WATER WHOLE TOT.REC (UG/L) (82625)	1,2-DIBROMO ETHANE WATER WHOLE TOTAL (UG/L) (77651)	DI-BROMO-METHANE WATER WHOLE RECOVER (UG/L) (30217)	BROMO-DI-CHLORO-METHANE TOTAL (UG/L) (32101)
HILLSDALE COUNTY, MICHIGAN											
SUS059-8	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS059-9	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS059-10	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS059-12	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS059-13	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
LAPEER COUNTY, MICHIGAN											
SUS087-24	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS087-29	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS087-41	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
LENAWEE COUNTY, MICHIGAN											
SUS091-14	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS091-17	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS091-32	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
LIVINGSTON COUNTY, MICHIGAN											
SUS093-36	<.088	<.028	<.182	<.120	V.070	<.038	<.092	<.214	<.036	<.050	<.048
MACOMB COUNTY, MICHIGAN											
SUS099-30	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS099-39	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
OAKLAND COUNTY, MICHIGAN											
SUS125-35	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS125-37	<.352	<.112	<.728	<.480	<.208	<.152	<.368	<.856	<.144	<.200	<.192
SUS125-40	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
ST CLAIR COUNTY, MICHIGAN											
SUS147-25	<.176	<.056	<.364	<.240	<.104	<.076	<.184	<.428	<.072	<.100	<.096
SANILAC COUNTY, MICHIGAN											
SUS151-26	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS151-42	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
WASHTENAW COUNTY, MICHIGAN											
SUS161-19	<.088	<.028	<.182	<.120	.612	<.038	<.092	<.214	<.036	<.050	E.024
SUS161-20	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS161-33	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
WILLIAMS COUNTY, OHIO											
SUS171-1	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS171-2	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS171-3	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS171-4	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048
SUS171-5	<.088	<.028	<.182	<.120	<.052	<.038	<.092	<.214	<.036	<.050	<.048

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey - Volatile Organic Compounds—Continued

LOCAL WELL NUMBER	DI-CHLORO-DI-FLUORO-METHANE TOTAL (UG/L) (34668)	1,1-DI-CHLORO-ETHANE TOTAL (UG/L) (34496)	1,2-DI-CHLORO-ETHANE TOTAL (UG/L) (32103)	1,1-DI-CHLORO-ETHYL-ENE TOTAL (UG/L) (34501)	1,2-DI-CHLORO-PROPANE TOTAL (UG/L) (34541)	1,3-DI-CHLORO-PROPANE WAT. WH TOTAL (UG/L) (77173)	2,2-DI CHLORO-PRO-PANE WAT, WH TOTAL (UG/L) (77170)	1,1-DI CHLORO-PRO-PENE, WAT, WH TOTAL (UG/L) (77168)	DI-ISO-PROPYL-ETHER, WATER, UNFLTRD RECOVER (UG/L) (81577)	ETHANE HEXA-CHLORO-WATER UNFLTRD RECOVER (UG/L) (34396)	ETHANE, 1112-TETRA-CHLORO-WAT UNF REC (UG/L) (77562)
					HILLSDALE COUNTY, MICHIGAN						
SUS059-8	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS059-9	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS059-10	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS059-12	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS059-13	E.014	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
					LAPEER COUNTY, MICHIGAN						
SUS087-24	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS087-29	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS087-41	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
					LENAWEE COUNTY, MICHIGAN						
SUS091-14	E.200	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS091-17	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS091-32	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
					LIVINGSTON COUNTY, MICHIGAN						
SUS093-36	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
					MACOMB COUNTY, MICHIGAN						
SUS099-30	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS099-39	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
					OAKLAND COUNTY, MICHIGAN						
SUS125-35	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS125-37	<.552	<.264	<.536	<.176	<.272	<.464	<.312	<.104	<.392	<1.45	<.176
SUS125-40	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
					ST CLAIR COUNTY, MICHIGAN						
SUS147-25	<.276	<.132	<.268	<.088	<.136	<.232	<.156	<.052	<.196	<.724	<.088
					SANILAC COUNTY, MICHIGAN						
SUS151-26	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS151-42	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
					WASHTENAW COUNTY, MICHIGAN						
SUS161-19	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS161-20	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS161-33	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
					WILLIAMS COUNTY, OHIO						
SUS171-1	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS171-2	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS171-3	<.096	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS171-4	<.096	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044
SUS171-5	<.138	<.066	<.134	<.044	<.068	<.116	<.078	<.026	<.098	<.362	<.044

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey - Volatile Organic Compounds—Continued

LOCAL WELL NUMBER	ETHANE, 1,1,2,2 TETRA- CHLORO- WAT UNF REC (UG/L) (34516)	ETHER ETHYL WATER UNFLTRD RECOVER (UG/L) (81576)	ETHER TERT- BUTYL ETHYL UNFLTRD RECOVER (UG/L) (50004)	ETHER TERT- PENTYL METHYL UNFLTRD RECOVER (UG/L) (50005)	ETHYL- BENZENE TOTAL (UG/L) (34371)	FREON- 113 WATER UNFLTRD REC (UG/L) (77652)	FURAN, TETRA- HYDRO- WATER UNFLTRD RECOVER (UG/L) (81607)	HEXA- CHLORO- BUT- ADIENE TOTAL (UG/L) (39702)	2-HEXA- NONE WATER WHOLE TOTAL (UG/L) (77103)	ISO- DURENE WATER UNFLTRD RECOVER (UG/L) (50000)	ISO- PROPYL- BENZENE WATER WHOLE REC (UG/L) (77223)
HILLSDALE COUNTY, MICHIGAN											
SUS059-8	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
SUS059-9	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
SUS059-10	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
SUS059-12	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
SUS059-13	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
LAPEER COUNTY, MICHIGAN											
SUS087-24	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
SUS087-29	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
SUS087-41	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
LENAWEE COUNTY, MICHIGAN											
SUS091-14	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
SUS091-17	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
SUS091-32	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
LIVINGSTON COUNTY, MICHIGAN											
SUS093-36	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
MACOMB COUNTY, MICHIGAN											
SUS099-30	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
SUS099-39	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
OAKLAND COUNTY, MICHIGAN											
SUS125-35	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
SUS125-37	<.528	<.680	<.216	<.448	<.120	<.128	<35.2	<.568	<2.98	<.960	<.128
SUS125-40	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
ST CLAIR COUNTY, MICHIGAN											
SUS147-25	<.264	<.340	<.108	<.224	<.060	<.064	<17.6	<.284	<1.49	<.480	<.064
SANILAC COUNTY, MICHIGAN											
SUS151-26	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
SUS151-42	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
WASHTENAW COUNTY, MICHIGAN											
SUS161-19	<.132	<.170	<.054	<.112	<.030	<.032	37.2	<.142	<.746	<.240	<.032
SUS161-20	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
SUS161-33	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
WILLIAMS COUNTY, OHIO											
SUS171-1	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
SUS171-2	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032
SUS171-3	<.132	<.170	<.054	<.112	<.030	<.032	E1.68	<.142	<.746	<.240	<.032
SUS171-4	<.132	<.170	<.054	<.112	<.030	<.032	<1.15	<.142	<.746	<.240	<.032
SUS171-5	<.132	<.170	<.054	<.112	<.030	<.032	<8.79	<.142	<.746	<.240	<.032

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey - Volatile Organic Compounds—Continued

LOCAL WELL NUMBER	METHAC-RYLATE ETHYL- WATER UNFLTRD RECOVER (UG/L) (73570)	METHAC-RYLATE METHYL WATER UNFLTRD RECOVER (UG/L) (81597)	METH-ACRYLO-NITRITE WATER UNFLTRD RECOVER (UG/L) (81593)	METHANE BROMO CHLORO- WAT UNFLTRD REC (UG/L) (77297)	METHYL ACRY-LATE WATER UNFLTRD RECOVER (UG/L) (49991)	METHYL-BROMIDE TOTAL (UG/L) (34413)	METHYL-CHLO-RIDE TOTAL (UG/L) (34418)	METHYL ENE CHLO-RIDE TOTAL (UG/L) (34423)	METHYL-ETHYL-KETONE WATER WHOLE TOTAL (UG/L) (81595)	METHYL IODIDE WATER UNFLTRD RECOVER (UG/L) (77424)	METHYL ISO-BUTYL KETONE WAT.WH. TOTAL (UG/L) (78133)
HILLSDALE COUNTY, MICHIGAN											
SUS059-8	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
SUS059-9	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
SUS059-10	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
SUS059-12	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
SUS059-13	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
LAPEER COUNTY, MICHIGAN											
SUS087-24	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
SUS087-29	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
SUS087-41	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
LENAWEE COUNTY, MICHIGAN											
SUS091-14	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
SUS091-17	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
SUS091-32	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
LIVINGSTON COUNTY, MICHIGAN											
SUS093-36	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
MACOMB COUNTY, MICHIGAN											
SUS099-30	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
SUS099-39	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
OAKLAND COUNTY, MICHIGAN											
SUS125-35	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
SUS125-37	<1.11	<1.40	<2.28	<.176	<5.43	<.592	<1.02	<1.53	<6.60	<.832	<1.50
SUS125-40	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
ST CLAIR COUNTY, MICHIGAN											
SUS147-25	<.556	<.700	<1.14	<.088	<2.71	<.296	<.508	<.764	<3.30	<.416	<.748
SANILAC COUNTY, MICHIGAN											
SUS151-26	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
SUS151-42	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
WASHTENAW COUNTY, MICHIGAN											
SUS161-19	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	4.18	<.208	<.374
SUS161-20	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
SUS161-33	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
WILLIAMS COUNTY, OHIO											
SUS171-1	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
SUS171-2	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374
SUS171-3	<.278	<.350	<.570	<.044	<.612	<.148	<.254	<.382	<1.65	<.076	<.374
SUS171-4	<.278	<.350	<.570	<.044	<.612	<.148	<.254	<.382	<1.65	<.076	<.374
SUS171-5	<.278	<.350	<.570	<.044	<1.36	<.148	<.254	<.382	<1.65	<.208	<.374

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey - Volatile Organic Compounds—Continued

LOCAL WELL NUMBER	METHYL TERT-BUTYL ETHER WAT UNF REC (UG/L) (78032)	NAPHTH-ALENE TOTAL (UG/L) (34696)	PREH-NITENE WATER UNFLTRD RECOVER (UG/L) (49999)	PROPENE 3-CHLORO-WATER UNFLTRD RECOVER (UG/L) (78109)	STYRENE TOTAL (UG/L) (77128)	TETRA-CHLORO-ETHYL-ENE TOTAL (UG/L) (34475)	TOLUENE TOTAL (UG/L) (34010)	O-CHLORO-TOLUENE WATER WHOLE TOTAL (UG/L) (77275)	TOLUENE O-ETHYL WATER UNFLTRD RECOVER (UG/L) (77220)	TOLUENE P-CHLOR WATER UNFLTRD REC (UG/L) (77277)	P-ISO-PROPYL-TOLUENE WATER WHOLE REC (UG/L) (77356)
HILLSDALE COUNTY, MICHIGAN											
SUS059-8	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
SUS059-9	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
SUS059-10	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
SUS059-12	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
SUS059-13	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
LAPEER COUNTY, MICHIGAN											
SUS087-24	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
SUS087-29	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
SUS087-41	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
LENAWEE COUNTY, MICHIGAN											
SUS091-14	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
SUS091-17	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
SUS091-32	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
LIVINGSTON COUNTY, MICHIGAN											
SUS093-36	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
MACOMB COUNTY, MICHIGAN											
SUS099-30	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
SUS099-39	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
OAKLAND COUNTY, MICHIGAN											
SUS125-35	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
SUS125-37	<.664	<1.00	<.920	<.784	<.168	<.408	<.216	<.168	<.400	<.224	<.440
SUS125-40	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
ST CLAIR COUNTY, MICHIGAN											
SUS147-25	<.332	<.500	<.460	<.392	<.084	<.204	<.108	<.084	<.200	<.112	<.220
SANILAC COUNTY, MICHIGAN											
SUS151-26	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
SUS151-42	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
WASHTENAW COUNTY, MICHIGAN											
SUS161-19	<.166	<.250	<.230	<.196	<.042	E.009	E.032	<.042	<.100	<.056	<.110
SUS161-20	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
SUS161-33	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
WILLIAMS COUNTY, OHIO											
SUS171-1	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
SUS171-2	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110
SUS171-3	<.112	<.250	<.230	<.196	<.042	<.038	<.038	<.042	<.100	<.056	<.110
SUS171-4	<.112	<.250	<.230	<.196	<.042	<.038	<.038	<.042	<.100	<.056	<.110
SUS171-5	<.166	<.250	<.230	<.196	<.042	<.102	<.054	<.042	<.100	<.056	<.110

Results from selected sites in the Lake Erie-Lake St. Clair Basin (National Water-Quality Assessment Program)

Subunit Survey - Volatile Organic Compounds—Continued

LOCAL WELL NUMBER	TRANS-1,2-DI-CHLORO-ETHENE TOTAL (UG/L) (34546)	TRANS-1,3-DI-CHLORO-PROPENE TOTAL (UG/L) (34699)	1,2,3-TRI-CHLORO BENZENE WAT, WH REC (UG/L) (77613)	1,1,1-TRI-CHLORO-ETHANE TOTAL (UG/L) (34506)	1,1,2-TRI-CHLORO-ETHANE TOTAL (UG/L) (34511)	TRI-CHLORO-ETHYL-ENE TOTAL (UG/L) (39180)	TRI-CHLORO-FLUORO-METHANE TOTAL (UG/L) (34488)	123-TRI CHLORO-PROPANE WATER WHOLE TOTAL (UG/L) (77443)	VINYL CHLO-RIDE TOTAL (UG/L) (39175)	META/PARA-XYLENE WATER UNFLTRD REC (UG/L) (85795)	O-XYLENE WATER WHOLE TOTAL (UG/L) (77135)
HILLSDALE COUNTY, MICHIGAN											
SUS059-8	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
SUS059-9	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
SUS059-10	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
SUS059-12	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	E.009	<.064
SUS059-13	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
LAPEER COUNTY, MICHIGAN											
SUS087-24	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	E.012	<.064
SUS087-29	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	E.014	<.064
SUS087-41	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
LENAWEE COUNTY, MICHIGAN											
SUS091-14	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
SUS091-17	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
SUS091-32	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
LIVINGSTON COUNTY, MICHIGAN											
SUS093-36	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
MACOMB COUNTY, MICHIGAN											
SUS099-30	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
SUS099-39	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
OAKLAND COUNTY, MICHIGAN											
SUS125-35	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
SUS125-37	<.128	<.536	<1.06	<.128	<.256	<.152	<.368	<.648	<.448	<.256	<.256
SUS125-40	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
ST CLAIR COUNTY, MICHIGAN											
SUS147-25	<.064	<.268	<.532	<.064	<.128	<.076	<.184	<.324	<.224	<.128	<.128
SANILAC COUNTY, MICHIGAN											
SUS151-26	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
SUS151-42	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
WASHTENAW COUNTY, MICHIGAN											
SUS161-19	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	E.031	<.064
SUS161-20	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
SUS161-33	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
WILLIAMS COUNTY, OHIO											
SUS171-1	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
SUS171-2	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	<.064	<.064
SUS171-3	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.070	<.112	<.064	<.064
SUS171-4	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.070	<.112	<.064	<.064
SUS171-5	<.032	<.134	<.266	<.032	<.064	<.038	<.092	<.162	<.112	E.012	<.064

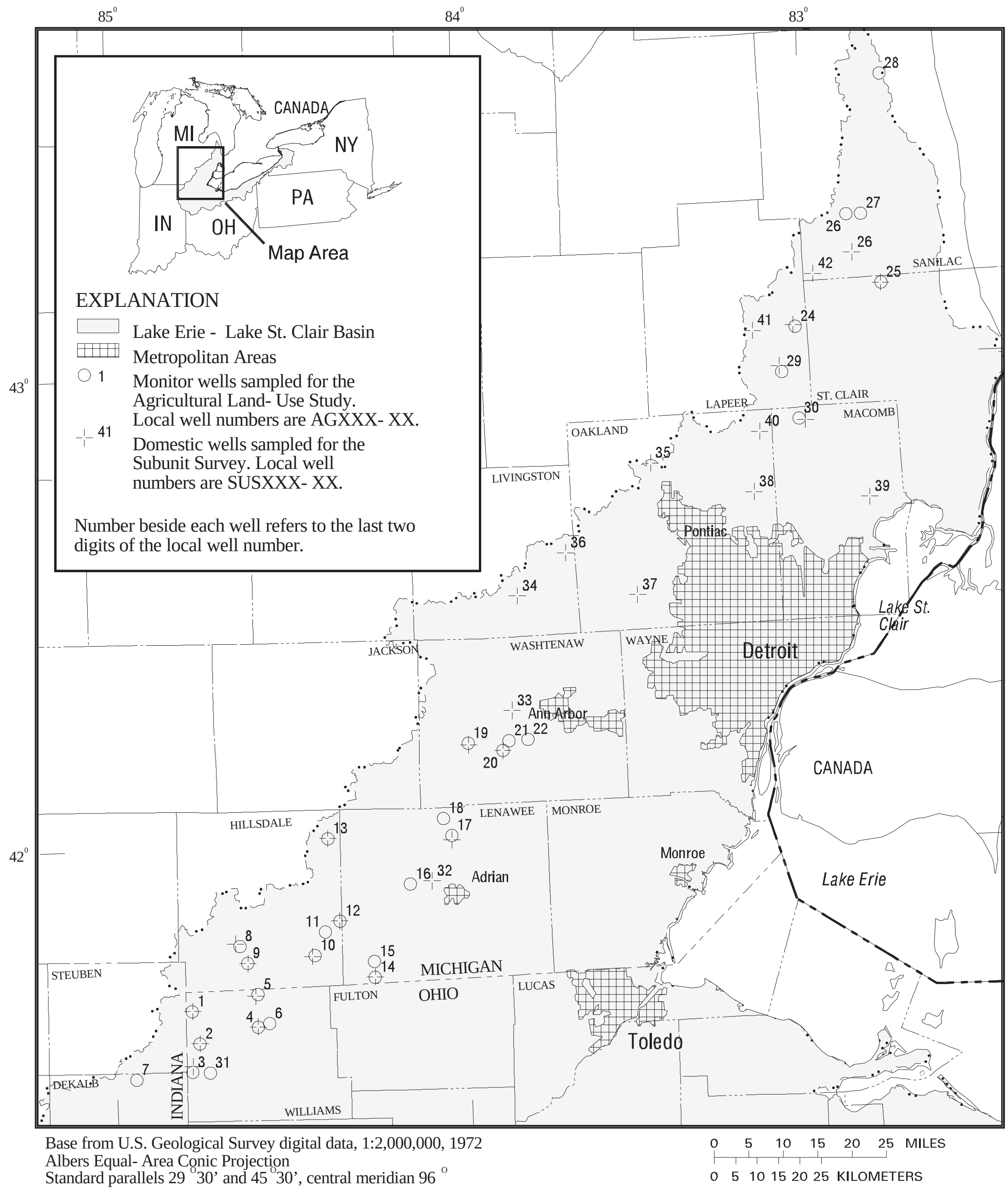


Figure 11. Location of wells sampled for NAWQA studies in the Lake Erie—Lake St. Clair Basin.

Columbus Well Field, Southern Franklin County

The following tables contain ground-water-level measurements and chemical analyses from a network of wells and two 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 present estimates of ground-water traveltimes and flow paths under transient flow to determine the zone of contribution to the City of Columbus' South Well Field. The five-digit parameter codes (in parentheses) in the water-quality reports are defined in WATSTORE.

03229500 - BIG WALNUT C AT REES OH

LOCATION.--Lat 39°51'24", long 82°57'26", in NE 1/4 sec. 26, T.4 N., R.22 W., Franklin County, Hydrologic Unit 05060001, on right bank at downstream side of bridge on Reese Road, 0.5 mi southwest of Rees, 4.2 mi downstream from Alum Creek, and 10.5 mi upstream from mouth.

PERIOD OF RECORD.--Discharge - Aug. 1921 to Dec. 1935, Oct. 1938 to current year. Monthly discharge only for some periods, published in WSP 1305. Chemical-quality sampling only as part of a cooperative study with the City of Columbus - beginning Dec. 15, 1995.

REMARKS.--Flow regulated by Hoover Reservoir 26 mi upstream (see station 03228400) and Alum Creek Lake 30 mi upstream since August 1973. Beginning June 15, 1956, diversion at Morse Road Treatment Plant, 21 mi upstream from station, for municipal water supply for the city of Columbus.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
DEC										
16...	0840	502	560	7.3	2.0	11.7	320	82	28	50

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
DEC									
16...	5.9	193	158	150	61	0.57	4.3	490	0.022

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
DEC									
16...	1.55	<0.020	0.39	0.049	46	<1.0	<8.0	<12	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
DEC									
16...	13	<100	10	11	<60	2600	<10	<20	4.4

1

394957083002900. SCIOTO RIVER AT ROUTE 665 AT SHADEVILLE.
LOCATION.--Lat 39°49'57", long 83°00'29", Hydrologic Unit 05060001, north side of Rt. 665 bridge over the Scioto River, 0.1 mi west of Shadeville.
PERIOD OF RECORD.--Aug. 1987 intermittently 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 1997 TO SEPTEMBER 1998

DATE	TIME	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
DEC										
16...	1145	637	786	7.6	5.5	13.5	250	65	21	26

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
DEC									
16...	3.4	205	168	70	45	0.26	4.7	352	0.019

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
DEC									
16...	2.76	0.031	0.69	0.694	63	<1.0	<8.0	<12	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
DEC									
16...	64	<100	4	28	<60	457	<10	<20	5.4

395037082581900. Local number, FR-36
LOCATION.--Lat 39°50'37", long 82°58'19", Hydrologic Unit 05060001.
Owner.--J.P. Sand and Gravel
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, diameter 4 in., depth 31 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 715 ft above sea level. Measuring point: Top of casing, 1.3 ft above land-surface datum
PERIOD OF RECORD.--Oct. 1974 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.03 ft below land-surface datum, Oct. 17, 1979; lowest measured, 21.69 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	15.81
APR 02	16.97
JUN 17	14.72

394927082595800. Local number, FR-70.
LOCATION.--Lat 39°49'27", long 82°59'58", Hydrologic Unit 05060001.
Owner.-St. Joseph Cemetery.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, depth 59 ft; 4-in. casing.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 705 ft above sea level. Measuring point: Top of concrete base, 0.35 ft above land-surface datum.
PERIOD OF RECORD.--Apr. 1975 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.24 ft below land-surface datum, Mar. 18, 1991; lowest measured, 27.60 ft below land-surface datum, June 12, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	18.05
APR 02	18.37
JUN 17	15.86

395217083002300. Local number FR-72
LOCATION.--Lat 39°52'17", long 83°00'23", Hydrologic Unit 05060001.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, depth 34.6 ft, 3-in. casing.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 715 ft above sea level. Measuring point: Top of casing inside pit, 3.5 ft below land-surface datum.
PERIOD OF RECORD.--May 1975 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 23.01 ft below land-surface datum, June 27, 1990; lowest measured, dry on dates in 1992, 1995, 1996 and May 15 and Sept. 14 of this water year.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	DRY
APR 02	DRY
JUN 17	36.00

395019083003300. Local number, FR-104 (TH-A)
LOCATION.--Lat 39°50'19", long 83°00'33", Hydrologic Unit 05060001.
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 79.3 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 683 ft above sea level. Measuring point: Top of casing, 3.89 ft above land-surface datum
PERIOD OF RECORD.--Dec. 1989 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.51 ft below land-surface datum, Mar. 17, 1995; lowest measured, 53.59 ft below land-surface datum, Dec. 11, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	28.69
APR 02	29.52
JUN 17	19.81

395157083003500. Local number, FR-109
LOCATION.--Lat 39°51’57”, long 83°00’35”, Hydrologic Unit 05060001.
Owner.--City of Columbus.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, diameter 6 in., depth 92 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 702.2 ft above sea level. Measuring point: Top of outer steel casing, 30.8 ft above land-surface datum.
PERIOD OF RECORD.--June 1975 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.47 ft above land-surface datum, Sept. 5, 1990; lowest measured, 30.56 ft below land-surface datum, Aug. 5, 1988.

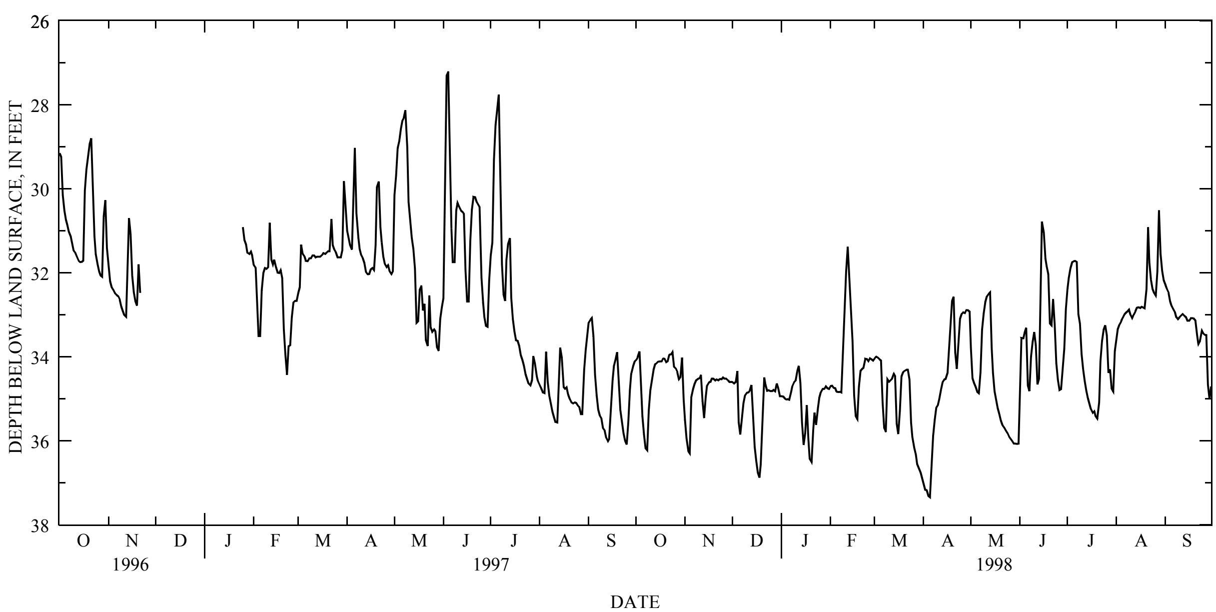
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	10.47
APR 02	12.91
JUN 17	9.11

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.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 116 ft.
INSTRUMENTATION - Data logger -- 60-minute record.
DATUM.--Elevation of land-surface datum is 721 ft above sea level. Measuring point: Floor of instrument shelter, 2.10 ft above land-surface datum.
PERIOD OF RECORD.--Aug. 1982 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 48.15 ft below land-surface datum, Feb. 28 and 29, 1992; minimum daily low, 27.21 ft below land-surface datum, May 3, 1984.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.08	35.49	34.61	34.94	34.70	34.03	37.02	33.79	34.81	32.38	33.56	32.28
2	34.01	35.94	34.64	34.95	34.69	34.00	37.17	34.51	33.55	32.12	33.35	32.40
3	33.87	36.26	34.60	34.99	34.74	34.02	37.18	34.63	33.56	31.90	33.22	32.48
4	34.69	36.31	34.34	35.02	34.75	34.06	37.31	34.72	33.43	31.74	33.15	32.69
5	35.41	34.96	35.55	35.01	34.83	34.09	37.34	34.83	33.31	31.73	33.07	32.79
6	35.85	34.78	35.85	35.03	34.84	35.09	36.65	34.87	34.68	31.72	33.00	32.86
7	36.18	34.65	35.40	34.83	34.83	35.71	35.88	34.38	34.82	31.74	32.95	32.95
8	36.23	34.56	35.10	34.69	34.85	35.79	35.50	33.35	34.00	32.98	32.92	33.06
9	35.28	34.53	34.91	34.61	33.69	34.54	35.20	32.97	33.65	33.21	32.88	33.11
10	34.79	34.51	34.86	34.57	32.68	34.60	35.14	32.70	33.41	33.93	33.01	33.06
11	34.54	34.43	34.85	34.35	31.96	34.57	35.01	32.56	33.72	34.30	33.08	33.02
12	34.31	35.05	34.80	34.22	31.38	34.53	34.77	32.50	34.66	34.58	32.99	32.98
13	34.17	35.46	34.67	34.62	32.03	34.41	34.59	32.47	34.52	34.81	32.92	33.02
14	34.15	34.96	35.43	35.57	32.91	34.46	34.55	33.78	32.01	34.99	32.83	33.05
15	34.12	34.68	36.14	36.10	33.63	35.59	34.53	34.38	30.78	35.13	32.82	33.14
16	34.11	34.61	36.48	35.82	34.92	35.84	34.39	34.82	31.04	35.25	32.84	33.14
17	34.11	34.60	36.76	35.15	35.42	35.29	33.87	35.07	31.66	35.34	32.81	33.08
18	34.04	34.52	36.88	35.97	35.49	34.47	33.24	35.23	31.85	35.30	32.83	33.08
19	34.05	34.52	36.56	36.43	34.71	34.37	32.68	35.37	32.03	35.42	32.85	33.09
20	34.13	34.56	35.46	36.51	34.33	34.33	32.57	35.53	33.21	35.47	32.39	33.14
21	34.10	34.54	34.49	35.76	34.29	34.31	33.90	35.63	33.26	35.09	30.92	33.47
22	33.95	34.56	34.67	35.33	34.26	34.31	34.29	35.69	32.63	34.11	31.76	33.69
23	33.94	34.53	34.81	35.62	34.05	34.54	33.65	35.76	33.23	33.62	32.17	33.62
24	33.88	34.54	34.80	35.21	34.06	35.57	33.10	35.82	34.15	33.36	32.39	33.38
25	34.24	34.49	34.82	34.98	34.10	35.91	32.98	35.90	34.55	33.25	32.49	33.44
26	34.28	34.52	34.82	34.83	34.03	36.17	32.95	35.95	34.79	33.49	32.55	33.48
27	34.36	34.52	34.79	34.77	34.06	36.33	32.96	36.01	34.77	34.39	31.97	33.49
28	34.53	34.56	34.82	34.77	34.09	36.56	32.89	36.07	34.25	34.30	30.51	34.66
29	34.48	34.61	34.64	34.71	---	36.65	32.89	36.07	33.81	34.77	31.55	35.01
30	34.02	34.60	34.76	34.75	---	36.76	32.92	36.08	32.86	34.83	31.95	34.71
31	35.02	---	34.94	34.77	---	36.88	---	36.07	---	33.86	32.18	---
MEAN	34.48	34.83	35.17	35.13	34.08	35.09	34.57	34.76	33.43	33.84	32.58	33.25
MAX	36.23	36.31	36.88	36.51	35.49	36.88	37.34	36.08	34.82	35.47	33.56	35.01



395016083010300. Local number, FR-117, (M-2)
LOCATION.--Lat 39°50'16", long 83°01'03", Hydrologic Unit 05060001.
Owner.--Jackson Township.
AQUIFER.--Clay, sand, and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 45 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 700 ft above sea level. Measuring point: Top of 2-inch steel pipe, 3.08 ft above land-surface datum.
PERIOD OF RECORD.--Oct. 1979 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.02 ft below land-surface datum, June 17, 1981; lowest measured, 24.15 ft below land-surface datum, Dec. 10, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

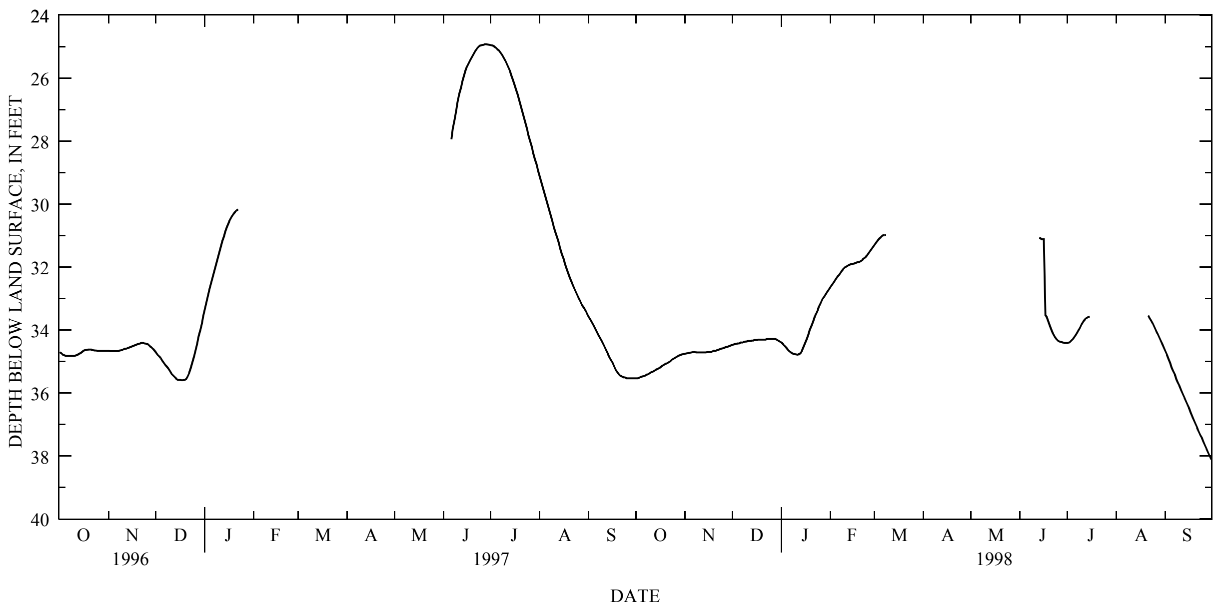
Date	Water Level
DEC 16	18.35
APR 02	18.72
JUN 17	16.19

395058083002400. Local number, FR-119, (M-5)
LOCATION.--Lat 39°51'11", long 83°00'26", Hydrologic Unit 05060001.
Owner.--Franklin County.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation well, diameter 2 in., depth 85 ft.
INSTRUMENTATION - Data logger -- 60-minute record.
DATUM.--Elevation of land-surface datum is 700 ft above sea level. Measuring point: Top of plywood, 2.48 ft above land-surface datum.
PERIOD OF RECORD.--Oct. 1979 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 52.34 ft below land-surface datum, Mar. 4-7, 1992; minimum daily low, 11.10 ft below land-surface datum, June 17, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35.54	34.75	34.47	34.40	32.62	31.28	30.97	---	---	34.41	---	34.68
2	35.53	34.74	34.46	34.46	32.55	31.21	31.06	---	---	34.40	---	34.79
3	35.51	34.73	34.44	34.51	32.47	31.15	---	---	---	34.36	---	34.93
4	35.49	34.72	34.43	34.57	32.40	31.09	---	---	---	34.30	---	35.05
5	35.48	34.71	34.42	34.62	32.33	31.04	---	---	---	34.24	---	35.18
6	35.46	34.70	34.40	34.67	32.26	31.00	---	---	---	34.17	---	35.30
7	35.43	34.70	34.39	34.71	32.19	30.98	---	---	---	34.09	---	35.42
8	35.41	34.71	34.38	34.74	32.13	30.97	---	---	---	34.00	---	35.55
9	35.38	34.71	34.37	34.76	32.07	---	---	---	---	33.92	---	35.67
10	35.35	34.71	34.36	34.77	32.01	---	---	---	---	33.81	---	35.78
11	35.33	34.71	34.35	34.78	31.98	---	---	---	---	33.73	---	35.91
12	35.30	34.71	34.35	34.77	31.95	---	---	---	---	33.66	---	36.03
13	35.27	34.71	34.33	34.73	31.93	---	---	---	---	33.62	---	36.15
14	35.25	34.71	34.33	34.65	31.91	---	---	---	---	33.58	---	36.27
15	35.22	34.70	34.32	34.53	31.90	---	---	---	---	33.57	---	36.38
16	35.19	34.70	34.32	34.41	31.89	---	---	---	---	---	---	36.48
17	35.15	34.70	34.31	34.28	31.87	---	---	---	33.53	---	---	36.62
18	35.12	34.68	34.31	34.14	31.85	---	---	---	33.59	---	---	36.74
19	35.09	34.66	34.30	34.00	31.83	---	---	---	33.73	---	---	36.85
20	35.06	34.66	34.30	33.86	31.81	---	---	---	33.87	---	---	36.98
21	35.03	34.64	34.30	33.73	31.78	---	---	---	34.00	---	33.53	37.10
22	35.00	34.63	34.30	33.60	31.73	---	---	---	34.12	---	33.61	37.21
23	34.97	34.61	34.29	33.47	31.68	---	---	---	34.21	---	33.69	37.32
24	34.93	34.59	34.29	33.34	31.62	---	---	---	34.28	---	33.79	37.43
25	34.90	34.58	34.29	33.22	31.56	---	---	---	34.33	---	33.90	37.54
26	34.87	34.56	34.29	33.11	31.49	---	---	---	34.36	---	34.01	37.66
27	34.84	34.54	34.29	33.01	31.42	---	---	---	34.38	---	34.11	37.77
28	34.81	34.53	34.29	32.93	31.35	---	---	---	34.39	---	34.22	37.89
29	34.79	34.51	34.31	32.85	---	---	---	---	34.41	---	34.33	38.00
30	34.77	34.49	34.34	32.77	---	---	---	---	34.41	---	34.44	38.11
31	34.76	---	34.36	32.70	---	---	---	---	---	---	34.56	---
MEAN	35.17	34.66	34.34	34.04	31.95	---	---	---	---	---	---	36.43
MAX	35.54	34.75	34.47	34.78	32.62	---	---	---	---	---	---	38.11

395058083002400. Local number, FR-119, (M-5)—Continued



395117083011600. Local number, FR-120, (M-6)
LOCATION.--Lat 39°51'17", long 83°01'16", Hydrologic Unit 05060001, near Columbus.
Owner.--Franklin County.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 72 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 685 ft above sea level. Measuring point: Floor of instrument shelter, 7.14 ft above land-surface datum.
PERIOD OF RECORD.--Oct. 1979 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 3.36 ft below land-surface datum, Mar. 21, 1984; lowest measured, 35.24 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	15.87
APR 02	16.13
JUN 17	13.38

395123083003301. Local number, FR-121A
LOCATION.--Lat 39°51'23", long 83°00'33", Hydrologic Unit 05060001.
Owner.--City of Columbus.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 60 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 690.99 ft above sea level. Measuring point: Top of outer steel casing, 3.16 ft above land-surface datum.
PERIOD OF RECORD.--Mar. 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.53 ft below land-surface datum, Mar. 26, 1993; lowest measured, 32.94 ft below land-surface datum, Dec 8, 1995.

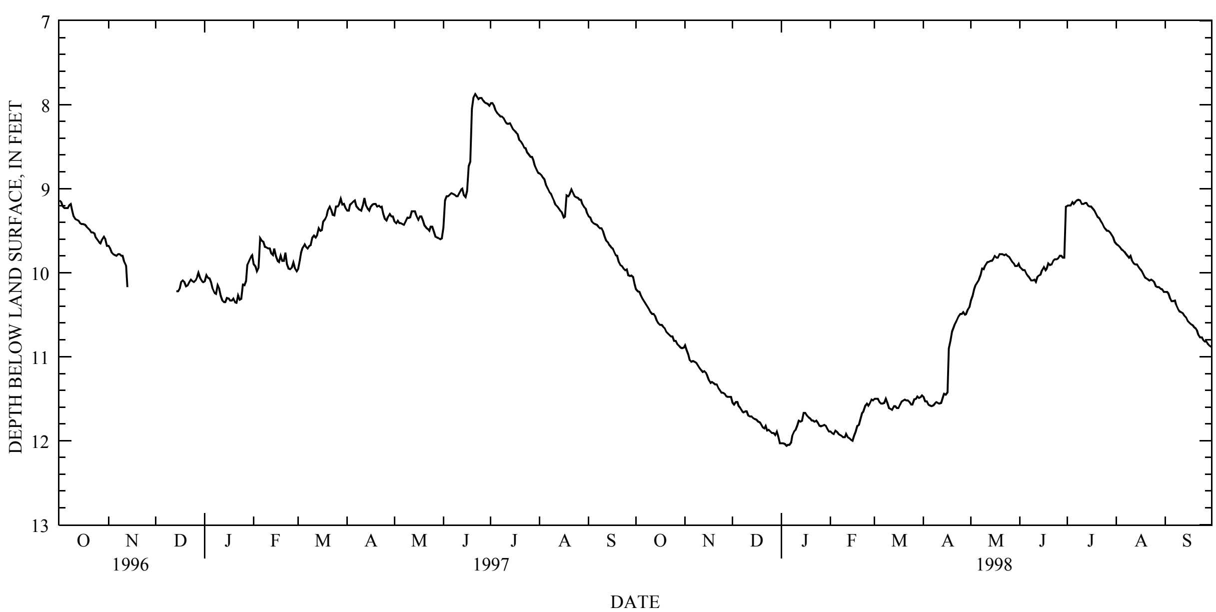
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	24.15
APR 02	25.25
JUN 17	21.37

395131082592400. Local number, FR-123, (M-9)
LOCATION.--Lat 39°51'31", long 82°59'24", Hydrologic Unit 05060001, near Hamilton Meadows.
Owner.--Franklin County.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 36.5 ft.
INSTRUMENTATION - Data logger -- 60-minute record.
DATUM.--Elevation of land-surface datum is 710 ft above sea level. Measuring point: Floor of shelter, 2.25 ft above land-surface datum.
PERIOD OF RECORD.--Apr. 1982 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 18.55 ft below land-surface datum, May 12, 1992; minimum daily low, 6.87 ft below land-surface datum, Apr. 1, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.20	10.86	11.55	12.03	11.89	11.50	11.48	10.33	9.93	9.20	9.66	10.23
2	10.22	10.92	11.57	12.03	11.91	11.50	11.53	10.28	9.95	9.20	9.67	10.23
3	10.23	10.98	11.54	12.04	11.92	11.50	11.53	10.20	9.97	9.20	9.69	10.25
4	10.27	11.04	11.54	12.06	11.88	11.54	11.57	10.14	9.97	9.16	9.72	10.31
5	10.31	11.06	11.59	12.05	11.89	11.56	11.58	10.11	10.01	9.18	9.73	10.34
6	10.34	11.05	11.61	12.05	11.92	11.56	11.59	10.08	10.04	9.16	9.75	10.34
7	10.37	11.06	11.65	12.02	11.93	11.55	11.58	10.03	10.06	9.14	9.78	10.33
8	10.40	11.07	11.66	11.93	11.94	11.50	11.56	9.95	10.09	9.13	9.80	10.39
9	10.43	11.10	11.65	11.89	11.96	11.55	11.54	9.96	10.09	9.14	9.82	10.43
10	10.47	11.13	11.65	11.87	11.96	11.61	11.55	9.91	10.08	9.18	9.80	10.46
11	10.49	11.16	11.70	11.82	11.92	11.62	11.56	9.88	10.11	9.18	9.86	10.47
12	10.49	11.18	11.71	11.76	11.96	11.63	11.55	9.87	10.05	9.17	9.89	10.48
13	10.52	11.17	11.71	11.77	11.97	11.59	11.49	9.86	10.03	9.17	9.90	10.51
14	10.57	11.19	11.73	11.76	11.99	11.59	11.44	9.86	10.02	9.20	9.90	10.53
15	10.60	11.22	11.74	11.67	12.00	11.61	11.45	9.84	9.97	9.21	9.93	10.57
16	10.62	11.28	11.75	11.67	11.94	11.61	11.42	9.80	9.93	9.21	9.96	10.59
17	10.62	11.31	11.77	11.70	11.89	11.57	10.90	9.82	9.97	9.24	9.98	10.61
18	10.64	11.30	11.78	11.72	11.82	11.53	10.81	9.82	9.95	9.26	10.02	10.62
19	10.66	11.31	11.80	11.73	11.81	11.52	10.70	9.78	9.89	9.29	10.05	10.64
20	10.70	11.33	11.84	11.76	11.74	11.51	10.65	9.78	9.91	9.33	10.07	10.66
21	10.72	11.33	11.85	11.76	11.67	11.52	10.60	9.78	9.90	9.35	10.08	10.69
22	10.74	11.37	11.82	11.77	11.65	11.52	10.56	9.79	9.86	9.38	10.09	10.74
23	10.76	11.40	11.88	11.76	11.58	11.54	10.52	9.78	9.84	9.41	10.08	10.77
24	10.76	11.43	11.87	11.79	11.56	11.57	10.49	9.80	9.84	9.45	10.09	10.77
25	10.81	11.43	11.89	11.82	11.58	11.57	10.49	9.81	9.83	9.48	10.11	10.80
26	10.81	11.44	11.91	11.83	11.55	11.51	10.47	9.84	9.80	9.50	10.16	10.82
27	10.85	11.47	11.91	11.82	11.51	11.50	10.50	9.87	9.80	9.50	10.17	10.82
28	10.87	11.48	11.93	11.81	11.52	11.47	10.49	9.89	9.82	9.52	10.17	10.85
29	10.89	11.48	11.89	11.82	---	11.49	10.43	9.92	9.82	9.55	10.19	10.87
30	10.90	11.48	11.95	11.86	---	11.48	10.40	9.92	9.21	9.58	10.20	10.88
31	10.89	---	12.03	11.89	---	11.46	---	9.89	---	9.64	10.23	---
MEAN	10.59	11.23	11.76	11.85	11.82	11.54	11.08	9.92	9.92	9.30	9.95	10.57
MAX	10.90	11.48	12.03	12.06	12.00	11.63	11.59	10.33	10.11	9.64	10.23	10.88



395008082593100. Local number, FR-126 (M-13)
LOCATION.--Lat 39°50'08", long 82°59'31", Hydrologic Unit 05060001, near Shadeville.
Owner.--Franklin County.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 122 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 703 ft above sea level. Measuring point: Top of PVC casing, 4.2 ft above land-surface datum.
PERIOD OF RECORD.--Oct. 1979 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.96 ft below land-surface datum, June 17, 1981; lowest measured, 51.42 ft below land-surface datum, Nov. 9, 1977.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	12.38
APR 02	13.02
JUN 17	11.33

395126083014000. Local number, FR-131 (M-18).
LOCATION.--Lat 39°51'26", long 83°01'40", Hydrologic Unit 05060001, near Columbus.
Owner.--Franklin County.
AQUIFER.--Clay, sand, and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 53 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 728 ft above sea level. Measuring point: Top of plastic coupling, 2.4 ft above land-surface datum.
PERIOD OF RECORD.--Oct. 1979 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 37.41 ft below land-surface datum, Sept 5, 1996; lowest measured, dry on Dec. 10, 1991; Mar. 16, June 12, July 28, 1992; and Apr. 11, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	47.38
APR 02	47.72
JUN 17	41.81

395218083023900. Local number, FR-133
LOCATION.--Lat 39°52'18", long 83°02'39", Hydrologic Unit 05060001, 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 78 ft, finished with 4.0 ft of 0.80 in. well screen.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 765 ft above sea level, from topographic map. Measuring point: Top of casing, 0.0 ft above land-surface datum.
PERIOD OF RECORD.--Apr. 1977 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.05 ft below land-surface datum, Apr. 1, 1981; lowest measured, 79.36 ft below land-surface datum, June 22, 1978.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	59.32
APR 02	59.51
JUN 17	57.12

395020083014400. Local number, FR-141
LOCATION.--Lat 39°50'20", long 83°01'44", Hydrologic Unit 05060001.
Owner.--John Lako.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled domestic water well, diameter 4.25 in., depth 64 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 720 ft above sea level. Measuring point: Top of casing, 0.6 ft above land-surface datum.
PERIOD OF RECORD.--Sept. 1987 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 25.60 ft below land-surface datum, June 3, 1996; lowest measured, 31.72 ft below land-surface datum, Dec. 10, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	31.35
APR 02	30.42
JUN 17	27.91

395027082592500. Local number, FR-151
LOCATION.--Lat 39°50'27", long 82°59'25", Hydrologic Unit 05060001, near Shadeville.
Owner.---City of Columbus.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, diameter 2 in., depth 60 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 718 ft above sea level. Measuring point: Top of plastic pipe, 2.50 ft above land-surface datum.
PERIOD OF RECORD.--July 1983 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 23.00 ft below land-surface datum, Mar. 26, 1986; lowest measured, 37.56 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 11	29.09
DEC 16	28.82
APR 02	28.42
JUN 17	26.72

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
DEC										
11...	1005	29.09	1060	6.8	13.0	0.5	600	160	50	4.2

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
DEC									
11...	1.5	427	350	190	14	0.17	13	645	<0.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
DEC									
11...	<0.050	<0.020	<0.10	0.020	30	<1.0	<8.0	<12	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
DEC									
11...	2600	<100	5	59	<60	288	<10	<20	1.1

395314083021900. Local number, FR-202
LOCATION.--Lat 39°53'14", long 83°02'19", Hydrologic Unit 05060001.
Owner.--Mr. Daniel Himes
AQUIFER.--Devonian limestone
WELL CHARACTERISTICS.--Drilled domestic water well, diameter 4 in., depth 220 ft, cased to 175 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 752 ft above sea level. 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 measured, 66.17 ft below land-surface datum, June 25, 1979; lowest measured, 96.50 ft below land-surface datum, July 19, 1984.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	94.07
APR 02	94.65
JUN 17	91.56

395206083014501. Local number, FR-209
LOCATION.--Lat 39°52'06", long 83°01'45", Hydrologic Unit 05060001.
Owner.--Mr. Martin Davis
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled domestic water well, diameter 4 in.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 704 ft above sea level. 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 measured, 12.51 ft below land-surface datum, May 23, 1984; lowest measured, 18.11 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	15.56
APR 02	16.02
JUN 17	16.69

395315083020002. Local number, FR-213
LOCATION.--Lat 39°53'15", long 83°02'00", Hydrologic Unit 05060001.
Owner.--Tom Cannon Co.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled commercial water well, diameter 5 in., depth 97 ft, cased to 97 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 730 ft above sea level. Measuring point: Top of casing, 0.80 ft above land-surface datum
PERIOD OF RECORD.--June 1982 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 71.38 ft below land-surface datum, June 8, 1982; lowest measured, 84.83 ft below land-surface datum, Mar. 16,1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	82.11
APY 02	82.64
JUN 17	80.41

395323083014000. Local number, FR-269
LOCATION.--Lat 39°53'23", long 83°01'40", Hydrologic Unit 05060001.
Owner.--Franklin County Waste to Energy Facility.
AQUIFER.--Devonian limestone.
WELL CHARACTERISTICS.--Drilled commercial water well, depth 90 ft; 75 ft of 6-in. casing.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 705 ft above sea level. Measuring point: Top of casing, 0.22 ft above land-surface datum.
PERIOD OF RECORD.--Aug. 1988 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 66.84 ft below land-surface datum, June 3 and Sept. 5, 1996; lowest measured, 71.79 ft below land-surface datum, Dec. 10, 1990.

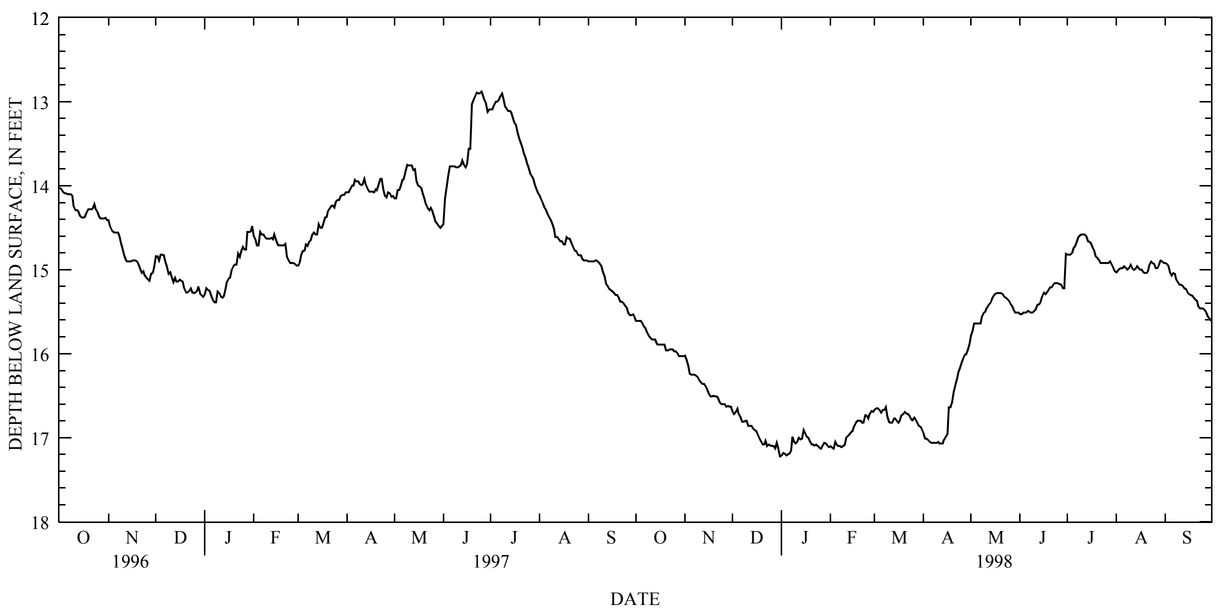
WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	67.60
APR 02	67.73
JUN 17	67.19

395055082592400. Local number, FR-271
LOCATION.--Lat 39°50'55", long 82°59'24", Hydrologic Unit 05060001, at Parsons Avenue Water Plant
Owner.--Franklin County
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, depth 91.8 ft; 76 ft of 2-in. casing.
INSTRUMENTATION - Data logger -- 60-minute record.
DATUM.--Elevation of land-surface datum is 710 ft above sea level. Measuring point: Top of PVC casing, 2.53 ft above land-surface datum.
PERIOD OF RECORD.--Sept. 1987 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 25.00 ft below land-surface datum, Apr. 25 - May 2, 1992; minimum daily low, 13.92 ft below land-surface datum, Mar. 18, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15.61	16.02	16.69	17.21	17.10	16.66	16.95	15.79	15.53	14.82	15.03	14.92
2	15.61	16.07	16.72	17.18	17.12	16.65	17.01	15.73	15.53	14.82	15.01	14.93
3	15.61	16.15	16.69	17.19	17.13	16.65	17.01	15.64	15.51	14.82	14.99	14.96
4	15.61	16.24	16.65	17.21	17.05	16.67	17.03	15.64	15.51	14.80	14.98	15.04
5	15.64	16.25	16.72	17.20	17.08	16.70	17.05	15.64	15.51	14.74	14.98	15.07
6	15.68	16.25	16.75	17.19	17.10	16.67	17.06	15.64	15.49	14.72	14.96	15.04
7	15.70	16.25	16.81	17.15	17.10	16.67	17.06	15.64	15.50	14.67	14.98	15.05
8	15.75	16.26	16.81	16.99	17.11	16.63	17.06	15.55	15.51	14.61	15.00	15.12
9	15.79	16.28	16.80	17.05	17.10	16.75	17.06	15.51	15.51	14.59	14.98	15.15
10	15.81	16.32	16.80	17.07	17.08	16.81	17.05	15.50	15.49	14.58	14.94	15.18
11	15.83	16.34	16.86	17.05	17.00	16.82	17.07	15.45	15.47	14.58	14.98	15.18
12	15.83	16.36	16.86	17.00	16.98	16.82	17.07	15.42	15.42	14.58	15.00	15.19
13	15.83	16.36	16.86	17.02	16.96	16.77	17.07	15.40	15.41	14.60	14.99	15.22
14	15.88	16.39	16.89	17.01	16.93	16.77	17.02	15.36	15.38	14.66	14.96	15.23
15	15.89	16.42	16.91	16.91	16.92	16.80	16.99	15.32	15.32	14.67	14.98	15.27
16	15.89	16.48	16.92	16.95	16.86	16.82	16.95	15.29	15.27	14.68	15.00	15.29
17	15.89	16.51	16.97	16.99	16.82	16.79	16.64	15.28	15.29	14.74	15.00	15.30
18	15.89	16.51	17.01	17.00	16.80	16.73	16.64	15.28	15.27	14.78	15.03	15.31
19	15.89	16.50	17.04	17.04	16.80	16.72	16.58	15.28	15.24	14.84	15.04	15.33
20	15.96	16.51	17.08	17.08	16.80	16.69	16.46	15.28	15.21	14.86	15.04	15.36
21	15.96	16.51	17.08	17.08	16.82	16.71	16.38	15.29	15.21	14.89	15.01	15.37
22	15.95	16.53	17.04	17.09	16.82	16.72	16.31	15.32	15.18	14.92	14.94	15.44
23	15.95	16.58	17.10	17.08	16.73	16.74	16.22	15.33	15.16	14.92	14.90	15.46
24	15.95	16.60	17.08	17.10	16.74	16.78	16.17	15.35	15.16	14.92	14.92	15.46
25	15.97	16.60	17.09	17.12	16.77	16.79	16.11	15.37	15.16	14.92	14.93	15.46
26	15.97	16.60	17.10	17.13	16.71	16.76	16.05	15.41	15.17	14.92	14.98	15.48
27	15.99	16.63	17.10	17.09	16.68	16.79	16.01	15.43	15.18	14.92	14.98	15.51
28	16.03	16.62	17.13	17.06	16.69	16.82	16.01	15.48	15.22	14.90	14.94	15.56
29	16.03	16.63	17.06	17.07	---	16.86	15.95	15.51	15.22	14.94	14.89	15.58
30	16.03	16.63	17.13	17.09	---	16.87	15.88	15.51	14.81	14.98	14.90	15.61
31	16.03	---	17.22	17.11	---	16.91	---	15.51	---	15.02	14.92	---
MEAN	15.85	16.41	16.93	17.08	16.92	16.75	16.66	15.46	15.33	14.79	14.97	15.27
MAX	16.03	16.63	17.22	17.21	17.13	16.91	17.07	15.79	15.53	15.02	15.04	15.61



395055082592400. Local number, FR-271—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
DEC										
03...	0931	16.66	971	6.9	12.5	1.8	540	140	45	6.3

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
DEC									
03...	1.5	395	324	170	38	0.29	16	613	<0.010

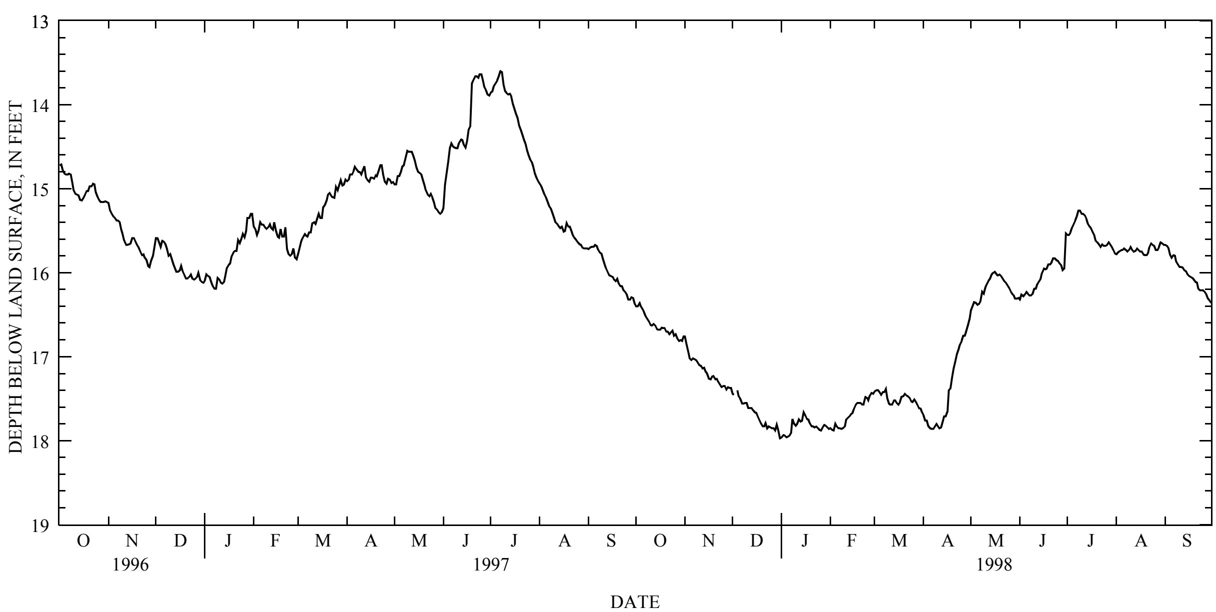
DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
DEC									
03...	<0.050	0.023	<0.10	<0.010	62	<1.0	<1.0	<3.0	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
DEC									
03...	3300	<10	4	46	<60	174	<6	<3.0	1.2

395055082592401. Local number FR-272
LOCATION.--Lat 39°50'55", long 82°59'24", Hydrologic Unit 05060001.
Owner.--City of Columbus.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, depth 45.95; 2-in. PVC.
INSTRUMENTATION - Data logger -- 60-minute record.
DATUM.--Elevation of land-surface datum is 710 ft above sea level. Measuring point: Top of outer steel casing, 2.36 ft above land-surface datum.
PERIOD OF RECORD.--Sept. 1987 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 25.45 ft below land-surface datum, Apr. 24, 1992; minimum daily low, 14.53 ft below land-surface datum, Mar. 18, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.40	16.76	17.44	17.96	17.85	17.41	17.70	16.45	16.32	15.55	15.78	15.67
2	16.40	16.85	17.45	17.93	17.87	17.40	17.76	16.40	16.26	15.55	15.76	15.68
3	16.36	16.95	17.42	17.94	17.88	17.40	17.76	16.35	16.28	15.52	15.74	15.71
4	16.40	17.02	17.40	17.96	17.80	17.42	17.83	16.36	16.26	15.45	15.73	15.79
5	16.43	17.04	17.47	17.95	17.83	17.45	17.85	16.38	16.23	15.42	15.73	15.82
6	16.47	17.02	17.50	17.94	17.85	17.42	17.86	16.37	16.25	15.38	15.71	15.79
7	16.52	17.03	17.56	17.90	17.85	17.42	17.86	16.33	16.27	15.33	15.73	15.80
8	16.55	17.04	17.56	17.74	17.86	17.38	17.83	16.23	16.27	15.26	15.75	15.87
9	16.58	17.07	17.55	17.80	17.85	17.50	17.80	16.25	16.25	15.26	15.73	15.90
10	16.62	17.10	17.55	17.82	17.83	17.56	17.83	16.18	16.19	15.30	15.69	15.93
11	16.63	17.11	17.61	17.80	17.75	17.57	17.85	16.13	16.19	15.30	15.73	15.93
12	16.61	17.14	17.61	17.75	17.73	17.57	17.84	16.09	16.13	15.32	15.75	15.94
13	16.63	17.13	17.61	17.77	17.71	17.52	17.77	16.07	16.10	15.36	15.74	15.97
14	16.67	17.18	17.64	17.76	17.68	17.52	17.71	16.02	16.07	15.42	15.71	15.98
15	16.68	17.20	17.66	17.66	17.67	17.55	17.71	16.00	16.00	15.45	15.73	16.02
16	16.68	17.26	17.67	17.70	17.61	17.57	17.65	15.99	15.95	15.47	15.75	16.04
17	16.65	17.27	17.72	17.74	17.57	17.54	17.40	16.02	15.96	15.52	15.75	16.05
18	16.66	17.24	17.76	17.75	17.55	17.48	17.38	16.03	15.95	15.56	15.78	16.06
19	16.66	17.23	17.79	17.79	17.55	17.47	17.25	16.02	15.90	15.62	15.79	16.08
20	16.70	17.27	17.83	17.83	17.55	17.44	17.14	16.04	15.90	15.64	15.79	16.11
21	16.70	17.26	17.83	17.83	17.57	17.46	17.06	16.07	15.88	15.67	15.76	16.12
22	16.73	17.30	17.79	17.84	17.57	17.47	16.97	16.10	15.83	15.69	15.69	16.19
23	16.71	17.33	17.85	17.83	17.48	17.49	16.92	16.12	15.83	15.66	15.65	16.21
24	16.69	17.36	17.83	17.85	17.49	17.53	16.85	16.15	15.85	15.68	15.67	16.21
25	16.75	17.35	17.84	17.87	17.52	17.54	16.81	16.18	15.86	15.68	15.68	16.21
26	16.73	17.35	17.85	17.88	17.46	17.51	16.75	16.22	15.89	15.67	15.73	16.23
27	16.78	17.39	17.85	17.84	17.43	17.54	16.75	16.25	15.91	15.64	15.73	16.26
28	16.81	17.36	17.88	17.81	17.44	17.57	16.70	16.27	15.97	15.66	15.69	16.31
29	16.80	17.37	17.81	17.82	---	17.61	16.62	16.31	15.95	15.69	15.64	16.33
30	16.81	17.37	17.88	17.84	---	17.62	16.55	16.31	15.53	15.73	15.65	16.36
31	16.76	---	17.97	17.86	---	17.66	---	16.30	---	15.77	15.67	---
MEAN	16.63	17.18	---	17.83	17.67	17.50	17.39	16.19	16.04	15.52	15.72	16.02
MAX	16.81	17.39	---	17.96	17.88	17.66	17.86	16.45	16.32	15.77	15.79	16.36



395055082592401. Local number FR-272—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
DEC										
03...	0801	17.38	1240	6.8	12.5	1.9	710	190	56	23

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
DEC									
03...	3.2	483	396	240	75	0.21	14	842	<0.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
DEC									
03...	<0.050	<0.020	<0.10	0.011	34	<0.50	<1.0	<3.0	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
DEC									
03...	4500	<100	8	105	<10	162	<6	<3.0	--

395224083000500. Local number, FR-273
LOCATION.--Lat 39°52'24", long 83°00'05", Hydrologic Unit 05060001, at County Water-Treatment Plant.
Owner.--Franklin County
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, depth 91.5 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 710 ft above sea level. Measuring point: Top of casing, 1.15 ft above land-surface datum.
PERIOD OF RECORD.--May 1990 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.5 ft below land-surface datum, June 27, 1990; lowest measured, 20.78 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 02	19.85
DEC 16	19.63
APR 02	20.07
JUN 17	17.89

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
DEC										
02...	1017	19.85	642	7.1	13.0	3.5	350	89	30	16

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
DEC									
02...	1.8	320	262	33	32	0.71	13	375	<0.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
DEC									
02...	0.508	<0.020	<0.10	<0.010	188	<0.50	<1.0	<3.0	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
DEC									
02...	<3.0	<10	4	<4.0	<10	442	<6	<3.0	2.4

395224083000501. Local number, FR-274
LOCATION.--Lat 39°52'24", long 83°00'05", Hydrologic Unit 05060001, at County Water-Treatment Plant.
Owner.--Franklin County
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, depth 25 ft; 4-in. casing.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 705 ft above sea level. Measuring point: Top of PVC casing, 2.44 ft above land-surface datum.
PERIOD OF RECORD.--May 1990 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.63 ft below land-surface datum, Mar. 18, 1991; lowest measured, 16.98 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 02	17.35
DEC 16	17.13
APR 02	16.99
JUN 17	15.19

394941083004400. Local number, FR-275
LOCATION.--Lat 39°49'41", long 83°00'44", Hydrologic Unit 05060001, near Shadeville.
Owner.--Franklin County
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, depth 25 ft; 2-in. casing.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 680 ft above sea level. Measuring point: Top of steel protective casing, 5.00 ft above land-surface datum.
PERIOD OF RECORD.--Apr. 1990 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 1.44 ft below land-surface datum, Mar. 26, 1993; lowest measured, 13.12 ft below land-surface datum, Apr. 18, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	11.52
APR 02	11.79
JUN 17	6.42

395239083021400. Local number, FR-276
LOCATION.--Lat 39°52'39", long 83°02'14", Hydrologic Unit 05060001
Owner.-Stanley and Betty Wray.
AQUIFER.--Devonian limestone
WELL CHARACTERISTICS.--Drilled domestic water well, depth 155 ft.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel. 1.25 ft above land-surface datum.
PERIOD OF RECORD.--June 1990 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 71.46 ft below land-surface datum, Mar. 18, 1991; lowest measured, 76.05 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	73.66
APR 02	73.78
JUN 17	72.16

394930083013100. Local number, FR-277
LOCATION.--Lat 39°49'30", long 83°01'31", Hydrologic unit 05060001
Owner.--Mr. and Mrs. Steve Doersam
AQUIFER.--Sand and gravel of Quaternary age
WELL CHARACTERISTICS.--Drilled domestic water well, depth 52 ft.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 713 ft above sea level. Measuring point: Top of casing, 1.5 ft above land-surface datum.
PERIOD OF RECORD.--Dec. 1989 to current year.
EXTREMES FOR PERIOD OF RECORD.-- Highest water level measured, 14.79 ft below land-surface datum, Feb 26, 1993; lowest measured, 21.33 ft below land-surface datum, Dec. 10, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	17.92
APR 02	18.38
JUN 17	16.73

395115083022600. Local number, FR-278
LOCATION.--Lat 39°51'15", long 83°02'26", Hydrologic Unit 05060001
Owner.--Mr. Brian Davis
AQUIFER.--Quaternary sand and gravel-primary; Devonian limestone-secondary
WELL CHARACTERISTICS.--Drilled domestic water well, diameter 5 in., depth 114 ft, 10-ft screen.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 735 ft above sea level. Measuring point: Top of casing, 0.95 ft above land-surface datum.
PERIOD OF RECORD.-- July 1990 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.07 ft below land-surface datum, Dec. 15, 1993; lowest measured, 35.11 ft below land-surface datum, Dec. 10, 1991.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	33.97
APR 02	34.47
JUN 17	30.53

394932083022700. Local number, FR-279
LOCATION.--Lat 39°49'32", long 83°02'27", Hydrologic unit 05060001
Owner.--Mr. Gerald Boggs
AQUIFER.--Devonian limestone
WELL CHARACTERISTICS.--Drilled domestic water well, diameter 5 in., depth 145 ft, cased to 102 ft.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 735 ft above sea level. Measuring point: Top of casing, 1.35 ft above land-surface datum.
PERIOD OF RECORD.-- Sept. 1990 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.85 ft below land-surface datum, Mar. 18, 1991; lowest measured, 31.54 ft below land-surface datum, Apr. 11, 1994.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	19.48
APR 02	19.89
JUN 17	16.68

395000082581700. Local number, FR-281
LOCATION.--Lat 39°50'00", long 82°58'17", Hydrologic Unit 05060001.
Owner.--Hamilton Township Trustees.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled domestic water-supply well, depth 83 ft, 4-in. steel.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 731 ft above sea level. Measuring point: top of casing, 1.40 ft above land-surface datum.
PERIOD OF RECORD.--Dec. 1991 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 35.21 ft below land-surface datum, May 31, 1996; lowest measured, 42.42 ft below land-surface datum, Mar. 16, 1992.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	38.83
APR 02	39.32
JUN 17	36.89

394921083004700. Local number, FR-282
LOCATION.--Lat 39°49'21", long 83°00'47", Hydrologic Unit 05060001.
Owner.--City of Columbus.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, depth 56 ft, 2-in. PVC.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 673 ft above sea level. Measuring point: top of casing, 3.00 ft above land-surface datum.
PERIOD OF RECORD.--June 1992 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.75 ft below land-surface datum, Mar. 26, 1993; lowest measured, 10.90 ft below land-surface datum, Sept. 13, 1993.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	10.29
APR 02	9.12
JUN 17	7.42

395131083003801. Local number FR-301
LOCATION.--Lat 39°51'31", long 83°00'38", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 8 in. diameter, 74 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 684 ft above sea level. Measuring point: Top of casing, 1.95 ft above land-surface datum
PERIOD OF RECORD.--Dec.15, 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.36 ft below land-surface datum, May 31, 1993; lowest measured, 31.95 ft below land-surface datum, Nov. 14, 1997.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	18.17
APR 02	18.47
JUN 17	16.87

395140083003901. Local number FR-302
LOCATION.--Lat 39°51'40", long 83°00'39", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 8 in. diameter, 56 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 684 ft above sea level. Measuring point: Top of casing, 1.40 ft above land-surface datum
PERIOD OF RECORD.--Dec.15, 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.92 ft below land-surface datum, May 31, 1996; lowest measured, 27.45 ft below land-surface datum, Dec. 5, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	18.02
APR 02	18.93
JUN 17	12.52

395150083004001. Local number FR-303
LOCATION.--Lat 39°51'50", long 83°00'40", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 8 in. diameter, 57 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 691 ft above sea level. Measuring point: Top of casing, 1.75 ft above land-surface datum
PERIOD OF RECORD.--Dec. 15, 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.32 ft below land-surface datum, May 31, 1996; lowest measured, 31.85 ft below land-surface datum, Dec. 15, 1994.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	20.92
APR 02	21.17
JUN 17	19.27

395157083004101. Local number FR-304
LOCATION.--Lat 39°51'57", long 83°00'41", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 8 in. diameter, 43 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 689 ft above sea level. Measuring point: Top of casing, 2.00 ft above land-surface datum
PERIOD OF RECORD.--Dec.15, 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.03 ft below land-surface datum, May 31, 1996; lowest measured, 32.12 ft below land-surface datum, Nov. 14, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	24.21
APR 02	24.82
JUN 17	20.40

395158083005401. Local number FR-305
LOCATION.--Lat 39°51'58", long 83°00'54", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 8 in. diameter, 78.50 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 688 ft above sea level. Measuring point: Top of casing, 1.70 ft above land-surface datum
PERIOD OF RECORD.--Dec. 15, 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.00 ft below land-surface datum, May 31, 1996; lowest measured, 47.75 ft below land-surface datum, Mar. 17, 1997.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	21.13
APR 02	21.72
JUN 17	17.51

395048083004500. Local number FR-310
LOCATION.--Lat 39°50’48", long 83°00’45", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 2-in. diameter PVC, 61 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 683.36 ft above sea level. Measuring point: top of outer steel protective casing, 4.25 ft above land-surface datum
PERIOD OF RECORD.--Mar. 1993 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.21 ft below land-surface datum, May 31, 1996; lowest measured, 23.66 ft below land-surface datum, Sept. 13, 1993.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	22.37
APR 02	22.27
JUN 17	17.93

395044083010500. Local number FR-311
LOCATION.--Lat 39°50’44", long 83°01’05", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 2-in. diameter PVC, 42 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 683.01 ft above sea level. Measuring point: top of outer steel protective casing, 4.10 ft above land-surface datum
PERIOD OF RECORD.--Mar. 1993 to current year
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 5.86 ft below land-surface datum, May 31, 1996; lowest measured, 16.13 ft below land-surface datum, Sept. 13, 1993.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	14.68
APR 02	14.01
JUN 17	12.38

395151082591700. Local number FR-312
LOCATION.--Lat 39°51'51", long 83°59'17", Hydrologic Unit 05060001
Owner.--Walter Kuhnwein
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 54.5 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 725.57 ft above sea level. Measuring point: Top of PVC casing, 0.20 ft below land-surface datum
PERIOD OF RECORD.--Sept. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.25 ft below land-surface datum, Nov. 19, 1996; lowest measured, 30.55 ft below land-surface datum, Dec. 7, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
NOV 25	28.55
DEC 16	27.51
APR 02	29.12
JUN 17	26.43

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
NOV										
25...	0913	28.55	738	6.9	12.5	1.5	410	110	35	3.1

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
NOV									
25...	1.3	351	288	86	25	0.30	14	446	<0.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
NOV									
25...	<0.050	<0.020	<0.10	0.012	123	<1.0	<1.0	<3.0	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
NOV									
25...	1700	<10	<4	73	<10	161	<6	<3.0	1.1

394948082583400. Local number FR-313
LOCATION.--Lat 39°49'48", long 83°58'34", Hydrologic Unit 05060001
Owner.--Jeanne Badders
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 79 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 744.53 ft above sea level. Measuring point: Top of PVC casing, 0.18 ft below land-surface datum
PERIOD OF RECORD.--Sept. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 51.58 ft below land-surface datum, May 31, 1996; lowest measured, 57.48 ft below land-surface datum, Dec. 7, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
NOV 25	54.91
DEC 16	54.26
APR 02	55.31
JUN 17	52.88

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
NOV										
25...	1032	54.91	757	7.0	13.5	0.8	360	100	23	30

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
NOV									
25...	2.6	339	278	68	53	0.20	10	458	<0.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
NOV									
25...	<0.050	0.076	0.13	<0.010	67	<1.0	<1.0	<3.0	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
NOV									
25...	2100	<10	5	89	<60	209	<6	3.8	1.9

395241082584500. Local number FR-314 (MW 32)
LOCATION.--Lat 39°52'41", long 83°58'45", Hydrologic Unit 05060001 Owner.--WTVN
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 72 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 733.40 ft above sea level. Measuring point: Top of PVC casing, 0.17 ft below land-surface datum
PERIOD OF RECORD.--Sept. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.97 ft below land-surface datum, May 31, 1996; lowest measured, 22.49 ft below land-surface datum, Dec. 7, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 09	21.44
DEC 16	20.79
APR 02	21.99
JUN 17	18.37

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
DEC										
09...	1204	21.44	705	7.2	13.5	1.2	350	90	31	3.3

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
DEC									
09...	1.9	317	290	59	11	0.26	15	370	0.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
DEC									
09...	<0.050	<0.020	<0.10	0.015	201	<1.0	<8.0	<12	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
DEC									
09...	1600	<100	6	352	<60	111	<10	<20	1.0

395100083015700. Local number FR-315 (MW 42)
LOCATION.--Lat 39°51'00", long 83°01'57", Hydrologic Unit 05060001
Owner.--SW Conservation Club.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 65 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 729.14 ft above sea level. Measuring point: Top of PVC casing, 0.22 ft below land-surface datum
PERIOD OF RECORD.--Sept. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.63 ft below land-surface datum, June 3, 1996; lowest measured, 28.16 ft below land-surface datum, Dec. 7, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 10	27.82
DEC 16	26.55
APR 02	28.04
JUN 17	25.04

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
DEC 10...	0851	27.82	704	7.1	12.5	0.4	370	92	33	3.1

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
DEC 10...	1.2	327	268	74	17	0.29	13	397	0.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
DEC 10...	<0.050	<0.020	<0.10	0.012	226	<1.0	<8.0	<12	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
DEC 10...	2300	<100	<4	66	<60	231	<10	<20	0.80

395035083014700. Local number FR-316 (MW 44A)
LOCATION.--Lat 39°50'35", long 83°01'47", Hydrologic Unit 05060001
Owner.--SW Conservation Club.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 62 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 725.72 ft above sea level. Measuring point: Top of PVC casing, 2.61 ft above land-surface datum
PERIOD OF RECORD.--Sept. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.68 ft below land-surface datum, Nov. 20, 1996; lowest measured, 39.41 ft below land-surface datum, Dec. 10, 1997.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 10	39.41
DEC 16	38.68
APR 02	39.20
JUN 17	34.62

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
DEC										
10...	1101	39.41	850	7.1	12.0	1.6	390	90	40	38

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
DEC									
10...	3.5	349	286	80	67	0.54	12	505	0.011

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
DEC									
10...	0.069	0.021	0.11	0.035	105	<1.0	<8.0	<12	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
DEC									
10...	1200	<100	10	103	<60	526	<10	<20	1.2

395153083014000. Local number FR-317 (MW 43)
LOCATION.--Lat 39°51'53", long 83°01'40", Hydrologic Unit 05060001
Owner.--Heimat Haus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 40 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 689.64 ft above sea level. Measuring point: Top of PVC casing, 0.24 ft below land-surface datum
PERIOD OF RECORD.--Sept. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 2.44 ft below land-surface datum, Feb. 28, 1996; lowest measured, 6.04 ft below land-surface datum, Oct. 25, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	5.86
APR 02	5.96
JUN 17	5.06

395042082585900. Local number FR-318 (MW 13)
LOCATION.--Lat 39°50'42", long 82°58'59", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 85 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 738.68 ft above sea level. Measuring point: Top of PVC casing, 3.11 ft above land-surface datum
PERIOD OF RECORD.--Sept. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 45.77 ft below land-surface datum, May 15, 1997; lowest measured, 55.19 ft below land-surface datum, Dec. 6, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	50.10
APR 02	50.70
JUN 17	43.38

395205083001500. Local number FR-319 (MW 45)
LOCATION.--Lat 39°52'05", long 83°00'15", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 55 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 721.80 ft above sea level. Measuring point: Top of PVC casing, 2.22 ft above land-surface datum
PERIOD OF RECORD.--Sept. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.75 ft below land-surface datum, June 3, 1996; lowest measured, 37.47 ft below land-surface datum, Sept. 14, 1997.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 04	35.38
DEC 16	31.70
APR 02	35.98
JUN 17	31.60

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
DEC										
04...	0945	35.38	1590	6.8	12.0	1.2	590	160	48	71

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
DEC									
04...	2.2	390	320	100	230	0.31	14	817	<0.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
DEC									
04...	<0.050	<0.020	<0.10	<0.010	60	<1.0	<1.0	<3.0	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
DEC									
04...	2800	<10	6	85	<60	143	<6	<3.0	1.1

394954083002801. Local number FR-320 (MW 34)
LOCATION.--Lat 39°49'54", long 83°00'28", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 70 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 690.64 ft above sea level. Measuring point: Top of PVC casing, 2.97 ft above land-surface datum.
PERIOD OF RECORD.--Sept. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 12.25 ft below land-surface datum, May 31, 1996; lowest measured, 24.55 ft below land-surface datum, Nov. 20, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 09	25.80
DEC 16	23.49
APR 02	25.46
JUN 17	18.01

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
DEC 09...	0830	25.80	920	7.0	12.5	0.1	440	110	38	21

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
DEC 09...	2.6	415	340	97	35	0.21	12	525	0.012

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
DEC 09...	<0.050	<0.020	<0.10	0.012	50	<1.0	<8.0	<12	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
DEC 09...	430	<100	6	105	<60	512	<10	<20	0.70

395038083002100. Local number FR-321 (MW 21)
LOCATION.--Lat 39°50'38", long 83°00'21", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 68 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 697.05 ft above sea level. Measuring point: Top of PVC casing, 2.50 ft above land-surface datum.
PERIOD OF RECORD.--Sept. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.41 ft below land-surface datum, Mar. 17, 1997; lowest measured, 47.13 ft below land-surface datum, Feb. 26, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 05	36.27
DEC 16	37.10
APR 02	36.98
JUN 17	32.53

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
DEC										
05...	1020	36.27	1150	6.8	12.5	1.3	580	160	43	9.6

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
DEC									
05...	2.6	412	338	180	28	0.22	12	639	<0.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
DEC									
05...	<0.050	<0.020	<0.10	0.037	37	<1.0	<8.0	<12	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
DEC									
05...	<10	<100	8	6.6	<60	598	<10	<20	1.2

395131083005200. Local number FR-322 (MW 22)
LOCATION.--Lat 39°51'31", long 83°00'52", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 60 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 686.42 ft above sea level. Measuring point: Top of PVC casing, 2.30 ft above land-surface datum.
PERIOD OF RECORD.--Sept. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.23 ft below land-surface datum, May 31, 1996; lowest measured, 28.35 ft below land-surface datum, Dec. 5, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	18.42
APR 02	18.88
JUN 17	15.97

395146082594300. Local number FR-323 (MW 19)
LOCATION.--Lat 39°51'45", long 82°59'44", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 59.5 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 714.29 ft above sea level. Measuring point: Top of PVC casing, 2.69 ft above land-surface datum.
PERIOD OF RECORD.--Feb. 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 16.69 ft below land-surface datum, May 31, 1996; lowest measured, 20.88 ft below land-surface datum, Feb. 29, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	20.73
APR 02	20.79
JUN 17	18.14

395010083000200. Local number FR-325 (MW 23)
LOCATION.--Lat 39°50'10", long 83°50'02", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 93 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 719.55 ft above sea level. Measuring point: Top of PVC casing, 2.51 ft above land-surface datum.
PERIOD OF RECORD.--Feb. 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 29.49 ft below land-surface datum, May 31, 1996; lowest measured, 35.99 ft below land-surface datum, Feb. 29, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 09	33.94
DEC 16	34.77
APR 02	34.89
JUN 17	31.94

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
DEC										
09...	1001	33.94	881	7.1	13.0	0.0	440	110	39	4.2

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
DEC									
09...	1.1	471	386	70	9.3	0.33	15	488	<0.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
DEC									
09...	<0.050	0.643	0.64	0.032	478	<1.0	<8.0	<12	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
DEC									
09...	4100	<100	6	38	<60	277	<10	<20	0.80

395254083000900. Local number FR-326 (MW 31)
LOCATION.--Lat 39°52'54", long 83°00'07", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 68.38 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 718.84 ft above sea level. Measuring point: Top of PVC casing, 2.58 ft above land-surface datum.
PERIOD OF RECORD.--Feb. 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 41.68 ft below land-surface datum, June 3, 1996; lowest measured, 47.67 ft below land-surface datum, Nov. 15, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 04	50.38
DEC 16	49.63
APR 02	49.14
JUN 17	44.91

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
DEC										
04...	1100	50.38	1070	7.0	13.0	1.1	480	120	41	21

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
DEC									
04...	2.1	444	364	100	54	0.29	13	577	<0.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
DEC									
04...	<0.050	<0.020	<0.10	<0.010	93	<1.0	<1.0	<3.0	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
DEC									
04...	2500	<10	4	52	<10	345	<6	<3.0	0.90

395133083001800. Local number FR-327 (MW 25)
LOCATION.--Lat 39°51'33", long 83°00'22", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 74.75 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 740.73 ft above sea level. Measuring point: Top of PVC casing, 2.76 ft above land-surface datum.
PERIOD OF RECORD.--Feb. 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 44.71 ft below land-surface datum, Aug. 10, 1996; lowest measured, 52.54 ft below land-surface datum, Oct. 25, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	49.16
APR 02	49.48
JUN 17	46.76

395059083000900. Local number, FR-328 US 23 south of Olen quarry (MW 26)
LOCATION.--Lat 39°50'59", long 83°00'09", Hydrologic Unit 05060002, near Shadeville.
Owner.--Franklin County.
AQUIFER.--Clay, sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, diameter 4 in., depth 70 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 730.38 ft above sea level. Measuring point: Top of 4-inch PVC casing, 2.61 ft above land-surface datum.
PERIOD OF RECORD.--Aug. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.69 ft below land-surface datum, Sept. 4, 1996; lowest measured, 44.99 ft below land-surface datum, Oct. 25, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	44.92
APR 02	44.87
JUN 17	43.21

395108082591100. Local number FR-329 (MW 15)
LOCATION.--Lat 39°51'08", long 83°59'12", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 69.19 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 733.26 ft above sea level. Measuring point: Top of PVC casing, 2.83 ft above land-surface datum.
PERIOD OF RECORD.--May 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 34.38 ft below land-surface datum, Mar. 17, 1997; lowest measured, 38.55 ft below land-surface datum, Feb. 18, 1997.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	37.38
APR 02	37.99
JUN 17	35.38

395054082585300. Local number FR-331 (MW 14)
LOCATION.--Lat 39°50'54", long 83°58'55", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 74.33 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 738.32 ft above sea level. Measuring point: Top of PVC casing, 2.60 ft above land-surface datum.
PERIOD OF RECORD.--Dec. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 42.40 ft below land-surface datum, May 31, 1996; lowest measured, 49.93 ft below land-surface datum, Dec. 6, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	46.18
APR 02	46.61
JUN 17	44.68

395031082590000. Local number FR-332 (MW 04)
LOCATION.--Lat 39°50'31", long 83°59'00", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 48.03 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 707.13 ft above sea level. Measuring point: Top of PVC casing, 2.81 ft above land-surface datum.
PERIOD OF RECORD.--Oct. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 15.46 ft below land-surface datum, May 7, 1997; lowest measured, 31.20 ft below land-surface datum, Oct. 25, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	29.01
APR 02	29.60
JUN 17	25.00

395139082581600. Local number FR-334 (MW 17)
LOCATION.--Lat 39°51'40", long 83°58'15", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 64.32 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 740.07 ft above sea level. Measuring point: Top of PVC casing, 0.20 ft below land-surface datum.
PERIOD OF RECORD.--Mar. 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 28.45 ft below land-surface datum, May 31, 1996; lowest measured, 32.62 ft below land-surface datum, Sept. 14, 1997.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	32.02
APR 02	32.40
JUN 17	30.30

395134082560600. Local number FR-335 (MW 18)
LOCATION.--Lat 39°51'35", long 83°59'05", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 56.86 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 734.68 ft above sea level. Measuring point: Top of PVC casing, 0.25 ft below land-surface datum.
PERIOD OF RECORD.--May 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 33.03 ft below land-surface datum, May 31, 1996; lowest measured, 36.17 ft below land-surface datum, Sept. 4, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	35.07
APR 02	35.67
JUN 17	33.69

395108083010601. Local number FR-336 (MW 33)
LOCATION.--Lat 39°51'05", long 83°01'06", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 59 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 685.90 ft above sea level. Measuring point: Top of PVC casing, 2.75 ft above land-surface datum.
PERIOD OF RECORD.--Dec. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.31 ft below land-surface datum, May 31, 1996; lowest measured, 31.75 ft below land-surface datum, Nov. 21, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 05	29.87
DEC 16	29.46
APR 02	28.73
JUN 17	23.97

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	TIME	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	TEMPER-ATURE WATER (DEG C) (00010)	OXYGEN, DIS-SOLVED (MG/L) (00300)	HARD-NESS TOTAL (MG/L AS CACO3) (00900)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
DEC										
05...	0945	29.87	970	6.9	12.5	0.9	400	110	28	36

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	BICAR-BONATE WATER DIS IT FIELD MG/L AS HCO3 (00453)	ALKA-LINITY WAT DIS TOT IT FIELD MG/L AS CACO3 (39086)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	SOLIDS, SUM OF CONSTI-TUENTS, DIS-SOLVED (MG/L) (70301)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
DEC									
05...	3.6	298	244	130	62	0.37	8.4	532	<0.010

DATE	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	BARIUM, DIS-SOLVED (UG/L AS BA) (01005)	BERYL-LIUM, DIS-SOLVED (UG/L AS BE) (01010)	CADMIUM DIS-SOLVED (UG/L AS CD) (01025)	COBALT, DIS-SOLVED (UG/L AS CO) (01035)	COPPER, DIS-SOLVED (UG/L AS CU) (01040)
DEC									
05...	<0.050	<0.020	0.15	0.013	54	<1.0	<8.0	<12	<10

DATE	IRON, DIS-SOLVED (UG/L AS FE) (01046)	LEAD, DIS-SOLVED (UG/L AS PB) (01049)	LITHIUM DIS-SOLVED (UG/L AS LI) (01130)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	MOLYB-DENUM, DIS-SOLVED (UG/L AS MO) (01060)	STRON-TIUM, DIS-SOLVED (UG/L AS SR) (01080)	VANA-DIUM, DIS-SOLVED (UG/L AS V) (01085)	ZINC, DIS-SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)
DEC									
05...	260	<100	9	235	<60	1180	<10	<20	1.7

395115083010601. Local number FR-337 (MW 01)
LOCATION.--Lat 39°51'13", long 83°01'05", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 60 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 687 ft above sea level. Measuring point: Top of PVC casing, 2.40 ft above land-surface datum.
PERIOD OF RECORD.--Sept. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.36 ft below land-surface datum, May 31, 1996; lowest measured, 27.40 ft below land-surface datum, Feb. 26, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	26.30
APR 02	27.08
JUN 17	17.79

395115083010602. Local number FR-338 (MW 01D)
LOCATION.--Lat 39°51'13", long 83°01'05", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Devonian limestone.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 105 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 686.83 ft above sea level. Measuring point: Top of PVC casing, 2.48 ft above land-surface datum.
PERIOD OF RECORD.--Feb. 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.35 ft below land-surface datum, May 31, 1996; lowest measured, 23.30 ft below land-surface datum, Feb. 26, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	21.34
APR 02	21.73
JUN 17	17.80

395046083003107. Local number FR-339 (MW 02)
LOCATION.--Lat 39°50'47", long 83°00'30", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 70 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 696.60 ft above sea level. Measuring point: Top of PVC casing, 2.35 ft above land-surface datum.
PERIOD OF RECORD.--Sept. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.11 ft below land-surface datum, Mar. 17, 1997; lowest measured, 51.00 ft below land-surface datum, Feb. 26, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	45.86
APR 02	46.36
JUN 17	38.92

395046083003107. Local number FR-340 (MW 02D)
LOCATION.--Lat 39°50'47", long 83°00'30", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Devonian limestone.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 138 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 697 ft above sea level. Measuring point: Top of PVC casing, 2.40 ft above land-surface datum.
PERIOD OF RECORD.--Feb. 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.95 ft below land-surface datum, Mar. 17, 1997; lowest measured, 50.16 ft below land-surface datum, Feb. 26, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	45.42
APR 02	45.80
JUN 17	37.41

395020083003406. Local number FR-341 (MW 03)
LOCATION.--Lat 39°50'24", long 83°00'28", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 75 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 683.43 ft above sea level. Measuring point: Top of PVC casing, 2.52 ft above land-surface datum.
PERIOD OF RECORD.--Feb. 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.79 ft below land-surface datum, May 31, 1996; lowest measured, 32.39 ft below land-surface datum, Feb. 26, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	30.68
APR 02	31.25
JUN 17	21.95

395020083003407. Local number FR-342 (MW 03D)
LOCATION.--Lat 39°50'24", long 83°00'28", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Devonian limestone.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 123 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 683 ft above sea level. Measuring point: Top of PVC casing, 2.50 ft above land-surface datum.
PERIOD OF RECORD.--Feb. 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.86 ft below land-surface datum, Mar. 17, 1997; lowest measured, 20.46 ft below land-surface datum, Feb. 26, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	19.05
APR 02	19.90
JUN 17	15.77

395031082585400. Local number FR-343 (MW 35)
LOCATION.--Lat 39°50'20", long 83°58'54", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 52 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 708.30 ft above sea level. Measuring point: Top of PVC casing, 2.61 ft above land-surface datum.
PERIOD OF RECORD.--Oct. 1995 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 18.61 ft below land-surface datum, May 31, 1996; lowest measured, 26.09 ft below land-surface datum, Oct. 25, 1995.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	24.49
APR 02	24.11
JUN 17	20.90

395236083004201. Local number FR-345 (MW 41)
LOCATION.--Lat 39°52'36", long 83°00'42", Hydrologic Unit 05060001
Owner.--City of Columbus
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Drilled observation water well, 4 in. diameter, 45 ft deep.
INSTRUMENTATION.--Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 688.90 ft above sea level. Measuring point: Top of PVC casing, 2.53 ft above land-surface datum.
PERIOD OF RECORD.--Aug. 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.25 ft below land-surface datum, Sept. 14, 1997; lowest measured, 24.09 ft below land-surface datum, Sept. 4, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
DEC 16	20.58
APR 02	21.19
JUN 17	20.45

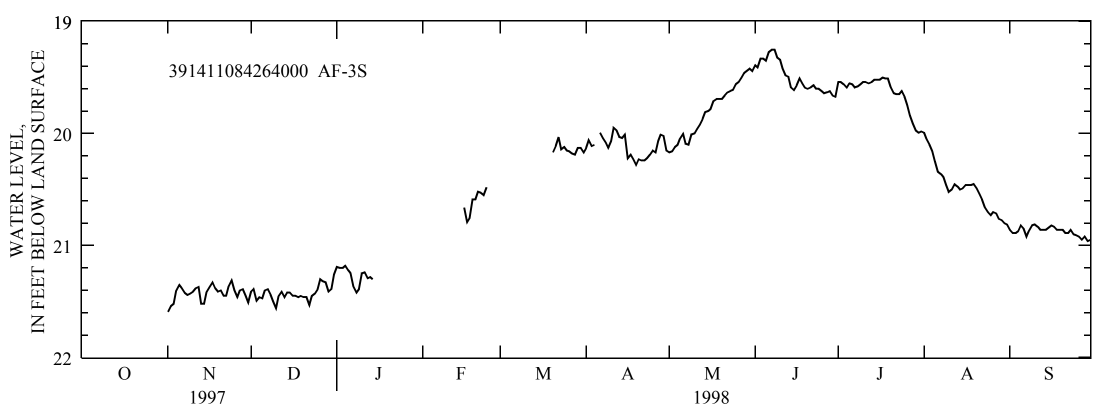
Ground-Water Records for Former Air Force Plant 36

The following tables contain ground-water-level measurements and water-quality data from a network of monitoring wells on former Air Force Plant 36 in Evendale, Ohio, These data were collected as part of a cooperative study with U.S. Air Force Aeronautical Systems Center headquartered at Wright-Patterson Air Force Base. The purpose of the study is to provide technical support for ongoing remedial actions at the plant.

391411084264000. Local number, AF-3S.
LOCATION.--LATITUDE 39°14'11", LONGITUDE 084°26'40", hydrologic unit 05090203.
AQUIFER.--Shallow part of glacial outwash. Geologic Unit 112OTSH.
WELL CHARACTERISTICS.--Drilled observation water well, depth 52.0 ft.
DATUM.--Altitude of land surface is 560.40 feet above National Geodetic Vertical Datum of 1929. Measuring point is top of inner casing, 1.39 ft above land-surface datum.
PERIOD OF RECORD.--Nov. 1997 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 21.59 ft below land-surface datum, Nov. 1, 1997; minimum daily low, 19.25 ft below land-surface datum, June 7 and 8, 1998.

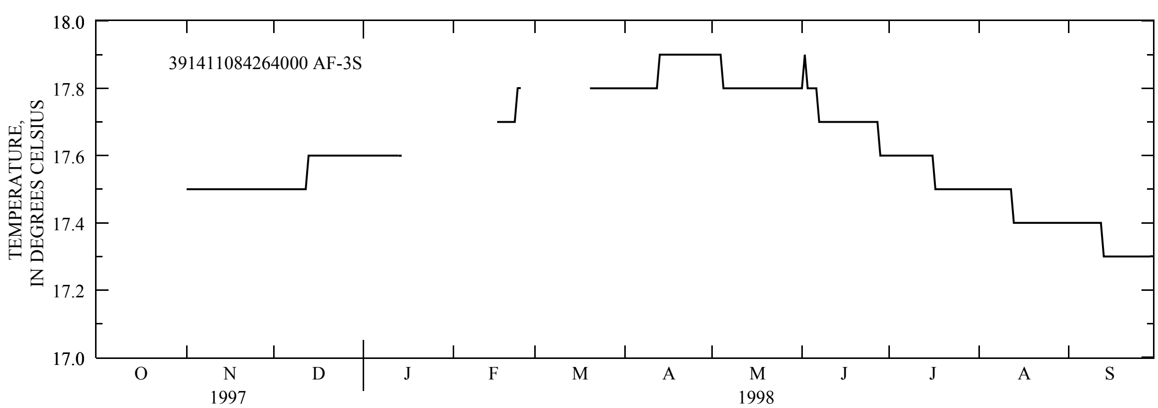
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	21.59	21.41	21.19	---	---	20.13	20.17	19.39	19.54	19.99	20.86
2	---	21.54	21.39	21.20	---	---	20.06	20.16	19.41	19.54	20.05	20.89
3	---	21.52	21.49	21.20	---	---	20.11	20.12	19.33	19.56	20.10	20.89
4	---	21.40	21.46	21.18	---	---	20.10	20.10	19.33	19.59	20.16	20.87
5	---	21.35	21.47	21.22	---	---	---	20.04	19.35	19.55	20.25	20.82
6	---	21.38	21.40	21.25	---	---	19.99	20.00	19.27	19.56	20.34	20.85
7	---	21.42	21.39	21.37	---	---	20.04	20.09	19.25	19.59	20.36	20.92
8	---	21.44	21.44	21.42	---	---	20.08	20.10	19.25	19.58	20.39	20.86
9	---	21.43	21.50	21.39	---	---	20.13	20.01	19.32	19.56	20.46	20.82
10	---	21.41	21.56	21.25	---	---	20.07	20.00	19.34	19.54	20.52	20.81
11	---	21.38	21.45	21.24	---	---	19.95	19.96	19.42	19.54	20.50	20.83
12	---	21.37	21.41	21.29	---	---	19.97	19.92	19.48	19.55	20.45	20.86
13	---	21.52	21.46	21.28	---	---	20.03	19.87	19.49	19.54	20.47	20.86
14	---	21.52	21.42	21.30	---	---	20.04	19.81	19.59	19.52	20.50	20.86
15	---	21.41	21.42	---	---	---	20.01	19.80	19.61	19.52	20.49	20.84
16	---	21.37	21.45	---	20.66	---	20.22	19.78	19.57	19.52	20.46	20.82
17	---	21.33	21.45	---	20.79	---	20.19	19.71	19.51	19.50	20.46	20.83
18	---	21.38	21.46	---	20.75	---	20.23	19.69	19.55	19.51	20.46	20.86
19	---	21.41	21.45	---	20.59	---	20.28	19.69	19.59	19.51	20.45	20.86
20	---	21.40	21.46	---	20.59	20.17	20.23	19.69	19.60	19.59	20.49	20.86
21	---	21.45	21.46	---	20.52	20.11	20.24	19.66	19.59	19.64	20.54	20.89
22	---	21.45	21.53	---	20.53	20.03	20.24	19.63	19.57	19.65	20.59	20.89
23	---	21.36	21.45	---	20.55	20.14	20.22	19.62	19.60	19.65	20.66	20.86
24	---	21.31	21.43	---	20.48	20.12	20.19	19.61	19.60	19.62	20.70	20.90
25	---	21.40	21.39	---	---	20.15	20.15	19.56	19.62	19.67	20.73	20.91
26	---	21.46	21.30	---	---	20.16	20.17	19.54	19.64	19.75	20.70	20.92
27	---	21.40	21.32	---	---	20.18	20.07	19.50	19.63	19.84	20.71	20.95
28	---	21.39	21.33	---	---	20.19	20.01	19.46	19.62	19.91	20.76	20.92
29	---	21.45	21.41	---	---	20.13	20.02	19.44	19.66	19.97	20.77	20.96
30	---	21.51	21.39	---	---	20.13	20.15	19.42	19.67	19.99	20.80	20.95
31	---	---	21.26	---	---	20.17	---	19.44	---	19.98	20.81	---
MAX	---	21.59	21.56	---	---	---	---	20.17	19.67	19.99	20.81	20.96



STATION NUMBER 391411084264000 AF-3S
TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

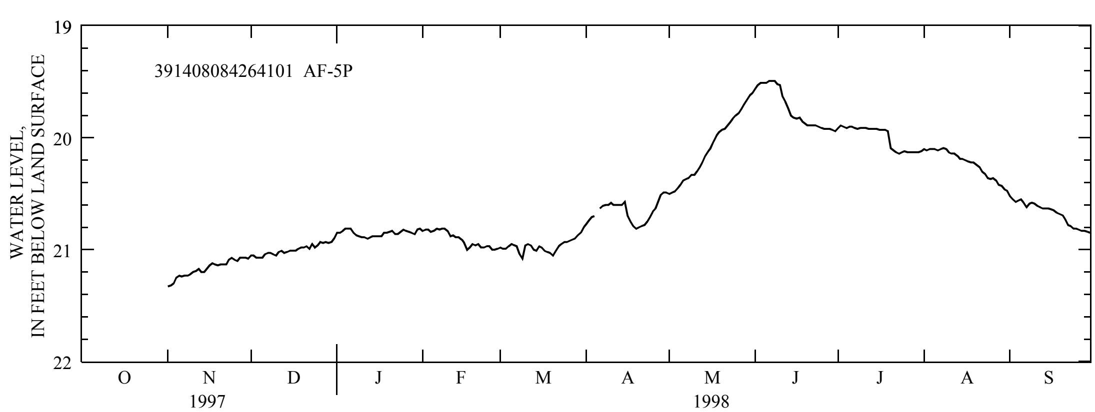
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	17.5	17.5	17.6	---	---	17.8	17.9	17.8	17.6	17.5	17.4
2	---	17.5	17.5	17.6	---	---	17.8	17.9	17.9	17.6	17.5	17.4
3	---	17.5	17.5	17.6	---	---	17.8	17.9	17.8	17.6	17.5	20.9
4	---	17.5	17.5	17.6	---	---	17.8	17.9	17.8	17.6	17.5	17.4
5	---	17.5	17.5	17.6	---	---	---	17.8	17.8	17.6	17.5	17.4
6	---	17.5	17.5	17.6	---	---	17.8	17.8	17.8	17.6	17.5	17.4
7	---	17.5	17.5	17.6	---	---	17.8	17.8	17.7	17.6	17.5	17.4
8	---	17.5	17.5	17.6	---	---	17.8	17.8	17.7	17.6	17.5	17.4
9	---	17.5	17.5	17.6	---	---	17.8	17.8	17.7	17.6	17.5	17.4
10	---	17.5	17.5	17.6	---	---	17.8	17.8	17.7	17.6	17.5	17.4
11	---	17.5	17.5	17.6	---	---	17.8	17.8	17.7	17.6	17.5	17.4
12	---	17.5	17.5	17.6	---	---	17.8	17.8	17.7	17.6	17.5	17.4
13	---	17.5	17.6	17.6	---	---	17.9	17.8	17.7	17.6	17.4	17.3
14	---	17.5	17.6	17.6	---	---	17.9	17.8	17.7	17.6	17.4	17.3
15	---	17.5	17.6	---	---	---	17.9	17.8	17.7	17.6	17.4	17.3
16	---	17.5	17.6	---	17.7	---	17.9	17.8	17.7	17.6	17.4	17.3
17	---	17.5	17.6	---	17.7	---	17.9	17.8	17.7	17.5	17.4	17.3
18	---	17.5	17.6	---	17.7	---	17.9	17.8	17.7	17.5	17.4	17.3
19	---	17.5	17.6	---	17.7	---	17.9	17.8	17.7	17.5	17.4	17.3
20	---	17.5	17.6	---	17.7	17.8	17.9	17.8	17.7	17.5	17.4	17.3
21	---	17.5	17.6	---	17.7	17.8	17.9	17.8	17.7	17.5	17.4	17.3
22	---	17.5	17.6	---	17.7	17.8	17.9	17.8	17.7	17.5	17.4	17.3
23	---	17.5	17.6	---	17.8	17.8	17.9	17.8	17.7	17.5	17.4	17.3
24	---	17.5	17.6	---	17.8	17.8	17.9	17.8	17.7	17.5	17.4	17.3
25	---	17.5	17.6	---	---	17.8	17.9	17.8	17.7	17.5	17.4	17.3
26	---	17.5	17.6	---	---	17.8	17.9	17.8	17.7	17.5	17.4	17.3
27	---	17.5	17.6	---	---	17.8	17.9	17.8	17.7	17.5	17.4	17.3
28	---	17.5	17.6	---	---	17.8	17.9	17.8	17.6	17.5	17.4	17.3
29	---	17.5	17.6	---	---	17.8	17.9	17.8	17.6	17.5	17.4	17.3
30	---	17.5	17.6	---	---	17.8	17.9	17.8	17.6	17.5	17.4	17.3
31	---	---	17.6	---	---	17.8	---	17.8	---	17.5	17.4	---
MAX	---	17.5	17.6	---	---	---	---	17.9	17.9	17.6	17.5	20.9



391408084264101. Local number, AF-5P.
LOCATION.--LATITUDE 39°14’08”, LONGITUDE 084°26’41”, hydrologic unit 05090203.
AQUIFER.--Perched part of glacial outwash. Geologic Unit 112OTSH.
WELL CHARACTERISTICS.--Drilled observation water well, depth 33.0 ft.
DATUM.--Altitude of land surface is 559.90 feet above National Geodetic Vertical Datum of 1929. Measuring point is top of inner casing, 1.33 ft above land-surface datum.
PERIOD OF RECORD.--Nov. 1997 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 21.33 ft below land-surface datum, Nov. 1, 1997; minimum daily low, 19.49 ft below land-surface datum, June 6-8, 1998.

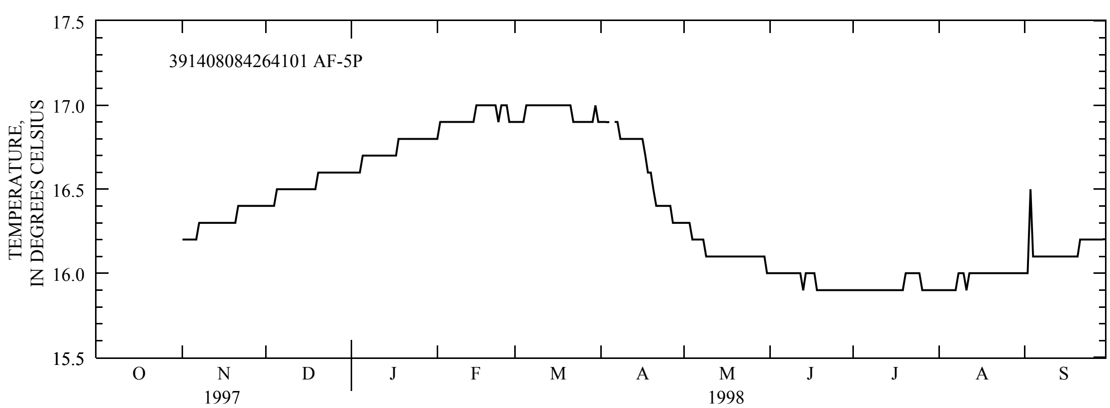
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	21.33	21.05	20.85	20.83	20.98	20.77	20.50	19.56	19.91	20.10	20.52
2	---	21.32	21.05	20.85	20.82	20.99	20.74	20.49	19.53	19.89	20.11	20.55
3	---	21.30	21.07	20.83	20.82	20.99	20.71	20.48	19.51	19.90	20.10	20.57
4	---	21.25	21.07	20.81	20.84	20.97	20.70	20.45	19.51	19.91	20.10	20.56
5	---	21.23	21.07	20.81	20.83	20.95	---	20.42	19.51	19.90	20.10	20.55
6	---	21.24	21.04	20.81	20.81	20.96	20.63	20.38	19.49	19.90	20.11	20.58
7	---	21.23	21.03	20.85	20.82	20.97	20.61	20.37	19.49	19.91	20.10	20.62
8	---	21.23	21.03	20.87	20.81	21.04	20.60	20.36	19.49	19.92	20.09	20.59
9	---	21.22	21.04	20.88	20.81	21.08	20.60	20.33	19.52	19.91	20.10	20.58
10	---	21.20	21.05	20.89	20.83	20.96	20.58	20.33	19.53	19.91	20.13	20.59
11	---	21.19	21.02	20.89	20.88	20.95	20.60	20.30	19.63	19.91	20.14	20.61
12	---	21.17	21.01	20.90	20.87	20.96	20.60	20.26	19.68	19.92	20.14	20.62
13	---	21.20	21.03	20.89	20.89	21.00	20.60	20.21	19.74	19.92	20.16	20.63
14	---	21.20	21.02	20.88	20.89	21.01	20.60	20.16	19.80	19.92	20.19	20.63
15	---	21.17	21.01	20.88	20.91	20.97	20.57	20.12	19.82	19.92	20.19	20.63
16	---	21.14	21.01	20.88	20.94	20.98	20.70	20.09	19.83	19.93	20.20	20.64
17	---	21.12	21.01	20.88	21.00	21.01	20.75	20.03	19.82	19.93	20.21	20.65
18	---	21.13	20.99	20.85	20.98	21.02	20.79	19.98	19.85	19.93	20.22	20.67
19	---	21.14	20.98	20.85	20.95	21.03	20.81	19.95	19.87	19.94	20.22	20.68
20	---	21.13	20.98	20.84	20.96	21.05	20.80	19.93	19.89	20.09	20.24	20.69
21	---	21.13	20.97	20.83	20.95	21.01	20.79	19.92	19.89	20.11	20.26	20.73
22	---	21.13	20.99	20.86	20.98	20.97	20.78	19.89	19.89	20.13	20.30	20.78
23	---	21.09	20.95	20.86	20.98	20.95	20.75	19.86	19.89	20.14	20.32	20.79
24	---	21.07	20.98	20.84	20.97	20.93	20.71	19.83	19.90	20.13	20.36	20.81
25	---	21.09	20.96	20.82	20.97	20.93	20.66	19.80	19.91	20.12	20.37	20.81
26	---	21.10	20.93	20.83	21.00	20.92	20.63	19.78	19.92	20.13	20.36	20.82
27	---	21.07	20.94	20.84	21.00	20.91	20.57	19.74	19.92	20.13	20.38	20.83
28	---	21.07	20.93	20.85	20.99	20.90	20.51	19.70	19.92	20.13	20.42	20.83
29	---	21.07	20.94	20.86	---	20.87	20.49	19.66	19.93	20.13	20.43	20.84
30	---	21.08	20.93	20.82	---	20.85	20.49	19.62	19.94	20.13	20.46	20.85
31	---	---	20.90	20.81	---	20.80	---	19.60	---	20.12	20.47	---
MAX	---	21.33	21.07	20.90	21.00	21.08	---	20.50	19.94	20.14	20.47	20.85



STATION NUMBER 391408084264101 AF-5P
TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

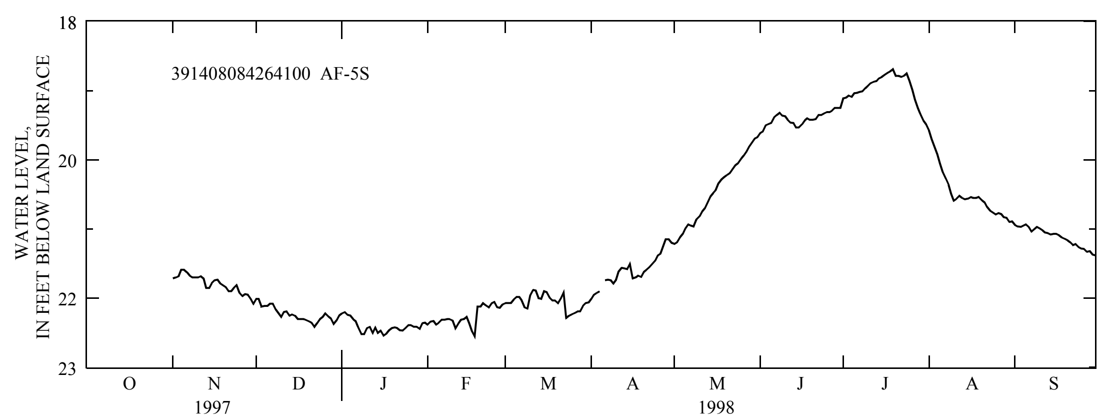
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	16.2	16.4	16.6	16.8	16.9	16.9	16.3	16.0	15.9	15.9	16.0
2	---	16.2	16.4	16.6	16.9	16.9	16.9	16.3	16.0	15.9	15.9	16.0
3	---	16.2	16.4	16.6	16.9	16.9	16.9	16.3	16.0	15.9	15.9	16.5
4	---	16.2	16.4	16.6	16.9	16.9	16.9	16.2	16.0	15.9	15.9	16.1
5	---	16.2	16.5	16.7	16.9	17.0	---	16.2	16.0	15.9	15.9	16.1
6	---	16.2	16.5	16.7	16.9	17.0	16.9	16.2	16.0	15.9	15.9	16.1
7	---	16.3	16.5	16.7	16.9	17.0	16.9	16.2	16.0	15.9	15.9	16.1
8	---	16.3	16.5	16.7	16.9	17.0	16.8	16.2	16.0	15.9	16.0	16.1
9	---	16.3	16.5	16.7	16.9	17.0	16.8	16.1	16.0	15.9	16.0	16.1
10	---	16.3	16.5	16.7	16.9	17.0	16.8	16.1	16.0	15.9	16.0	16.1
11	---	16.3	16.5	16.7	16.9	17.0	16.8	16.1	16.0	15.9	15.9	16.1
12	---	16.3	16.5	16.7	16.9	17.0	16.8	16.1	16.0	15.9	16.0	16.1
13	---	16.3	16.5	16.7	16.9	17.0	16.8	16.1	15.9	15.9	16.0	16.1
14	---	16.3	16.5	16.7	16.9	17.0	16.8	16.1	16.0	15.9	16.0	16.1
15	---	16.3	16.5	16.7	17.0	17.0	16.8	16.1	16.0	15.9	16.0	16.1
16	---	16.3	16.5	16.7	17.0	17.0	16.8	16.1	16.0	15.9	16.0	16.1
17	---	16.3	16.5	16.7	17.0	17.0	16.7	16.1	16.0	15.9	16.0	16.1
18	---	16.3	16.5	16.8	17.0	17.0	16.6	16.1	15.9	15.9	16.0	16.1
19	---	16.3	16.5	16.8	17.0	17.0	16.6	16.1	15.9	15.9	16.0	16.1
20	---	16.3	16.6	16.8	17.0	17.0	16.5	16.1	15.9	16.0	16.0	16.1
21	---	16.4	16.6	16.8	17.0	17.0	16.4	16.1	15.9	16.0	16.0	16.2
22	---	16.4	16.6	16.8	17.0	16.9	16.4	16.1	15.9	16.0	16.0	16.2
23	---	16.4	16.6	16.8	16.9	16.9	16.4	16.1	15.9	16.0	16.0	16.2
24	---	16.4	16.6	16.8	17.0	16.9	16.4	16.1	15.9	16.0	16.0	16.2
25	---	16.4	16.6	16.8	17.0	16.9	16.4	16.1	15.9	16.0	16.0	16.2
26	---	16.4	16.6	16.8	17.0	16.9	16.4	16.1	15.9	15.9	16.0	16.2
27	---	16.4	16.6	16.8	16.9	16.9	16.3	16.1	15.9	15.9	16.0	16.2
28	---	16.4	16.6	16.8	16.9	16.9	16.3	16.1	15.9	15.9	16.0	16.2
29	---	16.4	16.6	16.8	---	16.9	16.3	16.1	15.9	15.9	16.0	16.2
30	---	16.4	16.6	16.8	---	17.0	16.3	16.1	15.9	15.9	16.0	16.2
31	---	---	16.6	16.8	---	16.9	---	16.0	---	15.9	16.0	---
MAX	---	16.4	16.6	16.8	17.0	17.0	---	16.3	16.0	16.0	16.0	16.5



391408084264100. Local number, AF-5S.
LOCATION.--LATITUDE 39°14'08", LONGITUDE 084°26'41", hydrologic unit 05090203.
AQUIFER.--Shallow part of glacial outwash. Geologic Unit 112OTSH.
WELL CHARACTERISTICS.--Drilled observation water well, depth 51.0 ft.
DATUM.--Altitude of land surface is 559.90 feet above National Geodetic Vertical Datum of 1929. Measuring point is top of inner casing, 1.66 ft above land-surface datum.
PERIOD OF RECORD.--Nov. 1997 to current year.
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 22.55 ft below land-surface datum, Feb. 18, 1998; minimum daily low, 18.69 ft below land-surface datum, July 19, 1998.

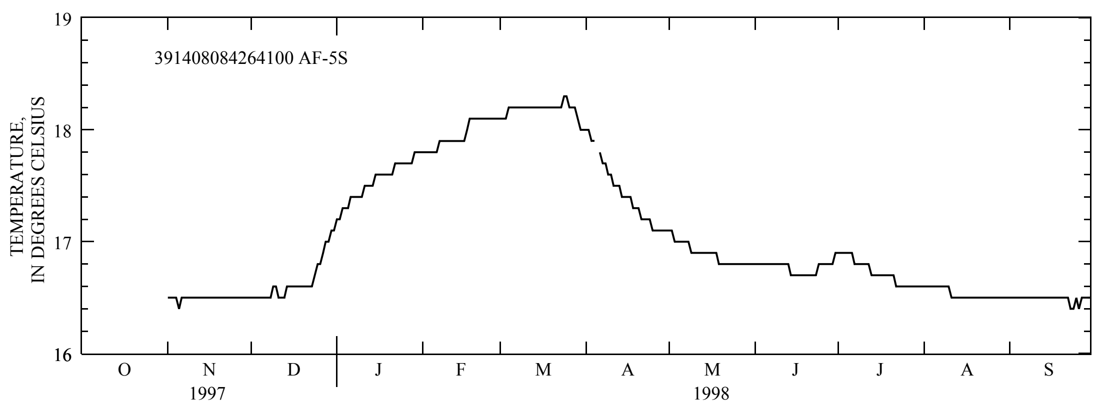
DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	21.71	22.01	22.22	22.38	22.07	22.01	21.21	19.61	19.11	19.58	20.94
2	---	21.70	22.01	22.20	22.34	22.07	21.95	21.19	19.59	19.10	19.70	20.96
3	---	21.68	22.12	22.24	22.33	22.07	21.92	21.12	19.50	19.07	19.81	20.97
4	---	21.59	22.11	22.25	22.38	22.02	21.90	21.07	19.48	19.09	19.92	20.95
5	---	21.59	22.11	22.30	22.35	21.98	---	20.99	19.47	19.04	20.05	20.93
6	---	21.62	22.08	22.33	22.31	21.98	21.74	20.93	19.39	19.03	20.18	20.97
7	---	21.67	22.08	22.43	22.31	22.03	21.73	20.95	19.35	19.02	20.27	21.04
8	---	21.70	22.16	22.52	22.30	22.13	21.74	20.96	19.32	19.01	20.36	21.00
9	---	21.70	22.21	22.52	22.30	22.15	21.79	20.86	19.36	18.96	20.49	20.97
10	---	21.70	22.27	22.43	22.32	21.95	21.73	20.82	19.37	18.93	20.59	20.99
11	---	21.68	22.20	22.41	22.43	21.88	21.61	20.75	19.42	18.89	20.56	21.02
12	---	21.71	22.19	22.50	22.36	21.89	21.56	20.70	19.46	18.87	20.52	21.05
13	---	21.85	22.25	22.42	22.31	22.00	21.57	20.61	19.47	18.86	20.55	21.06
14	---	21.85	22.23	22.50	22.30	22.01	21.58	20.53	19.53	18.82	20.57	21.08
15	---	21.78	22.25	22.47	22.27	21.90	21.50	20.48	19.53	18.80	20.56	21.07
16	---	21.74	22.30	22.54	22.36	21.91	21.71	20.44	19.49	18.77	20.54	21.07
17	---	21.73	22.30	22.51	22.48	21.99	21.70	20.34	19.43	18.74	20.55	21.09
18	---	21.78	22.30	22.46	22.55	22.03	21.67	20.28	19.40	18.72	20.55	21.12
19	---	21.81	22.31	22.43	22.12	22.03	21.69	20.25	19.42	18.69	20.54	21.14
20	---	21.84	22.33	22.42	22.12	22.07	21.62	20.22	19.42	18.79	20.58	21.16
21	---	21.90	22.35	22.43	22.07	22.00	21.59	20.19	19.41	18.79	20.61	21.19
22	---	21.90	22.41	22.46	22.10	21.91	21.55	20.13	19.35	18.80	20.68	21.23
23	---	21.85	22.36	22.47	22.13	22.28	21.51	20.08	19.35	18.78	20.73	21.22
24	---	21.81	22.30	22.43	22.07	22.25	21.46	20.05	19.33	18.75	20.76	21.26
25	---	21.92	22.27	22.39	22.05	22.23	21.38	19.99	19.31	18.86	20.79	21.28
26	---	21.97	22.22	22.39	22.13	22.21	21.35	19.94	19.31	18.99	20.77	21.29
27	---	21.94	22.26	22.41	22.14	22.19	21.25	19.88	19.29	19.13	20.78	21.33
28	---	21.95	22.29	22.41	22.09	22.19	21.15	19.81	19.25	19.25	20.83	21.32
29	---	22.01	22.37	22.44	---	22.11	21.15	19.75	19.25	19.35	20.84	21.37
30	---	22.08	22.32	22.36	---	22.07	21.20	19.69	19.25	19.44	20.90	21.38
31	---	---	22.25	22.35	---	22.06	---	19.67	---	19.49	20.89	---
MAX	---	22.08	22.41	22.54	22.55	22.28	---	21.21	19.61	19.49	20.90	21.38



STATION NUMBER 391408084264100 AF-5S
TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	16.5	16.5	17.2	17.8	18.1	18.0	17.1	16.8	16.9	16.6	16.5
2	---	16.5	16.5	17.2	17.8	18.1	18.0	17.1	16.8	16.9	16.6	16.5
3	---	16.5	16.5	17.3	17.8	18.1	17.9	17.0	16.8	16.9	16.6	16.5
4	---	16.5	16.5	17.3	17.8	18.2	17.9	17.0	16.8	16.9	16.6	16.5
5	---	16.4	16.5	17.3	17.8	18.2	---	17.0	16.8	16.9	16.6	16.5
6	---	16.5	16.5	17.4	17.8	18.2	17.8	17.0	16.8	16.9	16.6	16.5
7	---	16.5	16.5	17.4	17.9	18.2	17.7	17.0	16.8	16.8	16.6	16.5
8	---	16.5	16.5	17.4	17.9	18.2	17.7	17.0	16.8	16.8	16.6	16.5
9	---	16.5	16.6	17.4	17.9	18.2	17.6	16.9	16.8	16.8	16.6	16.5
10	---	16.5	16.6	17.4	17.9	18.2	17.6	16.9	16.8	16.8	16.6	16.5
11	---	16.5	16.5	17.5	17.9	18.2	17.5	16.9	16.8	16.8	16.5	16.5
12	---	16.5	16.5	17.5	17.9	18.2	17.5	16.9	16.8	16.8	16.5	16.5
13	---	16.5	16.5	17.5	17.9	18.2	17.5	16.9	16.8	16.7	16.5	16.5
14	---	16.5	16.6	17.5	17.9	18.2	17.4	16.9	16.7	16.7	16.5	16.5
15	---	16.5	16.6	17.6	17.9	18.2	17.4	16.9	16.7	16.7	16.5	16.5
16	---	16.5	16.6	17.6	17.9	18.2	17.4	16.9	16.7	16.7	16.5	16.5
17	---	16.5	16.6	17.6	18.0	18.2	17.4	16.9	16.7	16.7	16.5	16.5
18	---	16.5	16.6	17.6	18.1	18.2	17.3	16.9	16.7	16.7	16.5	16.5
19	---	16.5	16.6	17.6	18.1	18.2	17.3	16.8	16.7	16.7	16.5	16.5
20	---	16.5	16.6	17.6	18.1	18.2	17.3	16.8	16.7	16.7	16.5	16.5
21	---	16.5	16.6	17.6	18.1	18.2	17.2	16.8	16.7	16.7	16.5	16.5
22	---	16.5	16.6	17.7	18.1	18.2	17.2	16.8	16.7	16.6	16.5	16.5
23	---	16.5	16.6	17.7	18.1	18.2	17.2	16.8	16.7	16.6	16.5	16.4
24	---	16.5	16.7	17.7	18.1	18.3	17.2	16.8	16.8	16.6	16.5	16.4
25	---	16.5	16.8	17.7	18.1	18.3	17.1	16.8	16.8	16.6	16.5	16.5
26	---	16.5	16.8	17.7	18.1	18.2	17.1	16.8	16.8	16.6	16.5	16.4
27	---	16.5	16.9	17.7	18.1	18.2	17.1	16.8	16.8	16.6	16.5	16.5
28	---	16.5	17.0	17.7	18.1	18.2	17.1	16.8	16.8	16.6	16.5	16.5
29	---	16.5	17.0	17.8	---	18.1	17.1	16.8	16.8	16.6	16.5	16.5
30	---	16.5	17.1	17.8	---	18.0	17.1	16.8	16.9	16.6	16.5	16.5
31	---	---	17.1	17.8	---	18.0	---	16.8	---	16.6	16.5	---
MAX	---	16.5	17.1	17.8	18.1	18.3	---	17.1	16.9	16.9	16.6	16.5



Water levels in wells on former Air Force Plant 36, Evendale, Ohio, in January 1998
[ft, feet; MP, measuring point; asl, above sea level]

Well	Latitude	Longitude	Well depth (ft)	Altitude at MP (ft asl)	Date and time	Depth to water (ft below MP)
AF-1D	39°14′17.60″	84°26′38.08″	118.00	559.658	1998/01/05 16:34	22.63
AF-1P	39°14′17.60″	84°26′38.22″	29.00	559.381	1998/01/05 16:39	19.24
					1998/01/07 17:30	19.19
AF-1S	39°14′17.55″	84°26′38.08″	49.50	559.447	1998/01/05 16:37	20.51
					1998/01/07 16:50	20.20
AF-2P	39°14′12.19″	84°26′37.53″	33.00	563.212	1998/01/05 15:03	23.69
					1998/01/08 12:50	23.57
AF-2S	39°14′12.15″	84°26′37.57″	51.50	562.470	1998/01/05 15:01	24.10
					1998/01/08 12:50	23.59
AF-3P	39°14′11.36″	84°26′39.09″	32.00	561.621	1998/01/05 14:56	22.23
					1998/01/08 14:48	22.12
AF-3S	39°14′11.35″	84°26′39.15″	55.00	561.792	1998/01/05 14:58	23.54
					1998/01/08 14:48	23.06
AF-4P	39°14′10.21″	84°26′39.15″	34.50	561.718	1998/01/05 14:53	22.56
					1998/01/08 14:53	22.43
AF-4S	39°14′10.23″	84°26′39.12″	54.00	562.070	1998/01/05 14:51	24.02
					1998/01/08 14:54	23.57
AF-5D	39°14′07.32″	84°26′39.62″	111.00	561.648	1998/01/05 14:31	25.94
					1998/01/08 15:01	25.34
AF-5P	39°14′07.25″	84°26′39.65″	34.00	561.230	1998/01/05 14:30	22.58
					1998/01/08 15:00	22.38
AF-5S	39°14′07.29″	84°26′39.64″	55.00	561.561	1998/01/05 14:30	23.90
					1998/01/08 15:00	24.37
AF-6P	39°14′08.91″	84°26′45.15″	33.00	561.598	1998/01/05 14:20	24.72
					1998/01/08 15:22	22.58
AF-6S	39°14′08.88″	84°26′45.16″	51.00	562.589	1998/01/05 14:22	22.74
					1998/01/08 15:22	24.26
AF-7D	39°14′03.30″	84°26′42.76″	120.00	561.100	1998/01/05 11:50	26.10
					1998/01/08 15:03	25.44
AF-7P	39°14′03.20″	84°26′42.77″	38.00	561.077	1998/01/05 12:00	23.41
					1998/01/08 15:02	23.04
AF-7S	39°14′03.24″	84°26′42.78″	55.00	561.901	1998/01/05 11:55	24.43
					1998/01/08 15:03	23.98
AF-8D	39°14′03.49″	84°26′48.94″	101.00	560.757	1998/01/05 12:17	26.40
					1998/01/08 15:06	25.75
AF-8S	39°14′03.56″	84°26′49.00″	60.00	561.067	1998/01/05 12:19	25.95
					1998/01/06 14:40	25.85
					1998/01/08 15:07	25.38
AF-9D	39°14′06.16″	84°26′52.90″	91.00	563.811	1998/01/05 13:20	29.64
					1998/01/08 15:32	29.04
AF-9S	39°14′06.13″	84°26′52.82″	60.00	564.080	1998/01/05 13:18	29.90
					1998/01/07 07:30	29.64
					1998/01/08 15:32	29.30
AF-10P	39°14′09.49″	84°26′50.56″	23.80	561.414	1998/01/05 12:53	21.85
					1998/01/06 12:50	21.88
					1998/01/08 15:19	21.83
AF-10S	39°14′09.55″	84°26′50.54″	71.00	561.898	1998/01/05 12:56	27.21
					1998/01/06 12:50	27.16
					1998/01/08 15:20	26.99

Well	Latitude	Longitude	Well depth (ft)	Altitude at MP (ft asl)	Date and time	Depth to water (ft below MP)
AF-11D	39°14′09.01″	84°26′55.57″	106.00	566.075	1998/01/05 14:15	32.03
					1998/01/08 08:35	31.40
					1998/01/08 15:26	31.42
AF-11S	39°14′09.08″	84°26′55.63″	64.00	564.991	1998/01/05 14:13	30.94
					1998/01/08 15:27	30.33
AF-12D	39°14′11.02″	84°27′00.59″	115.00	575.144	1998/01/05 13:29	41.57
					1998/01/08 15:39	40.94
AF-12P	39°14′10.99″	84°27′00.71″	20.00	574.766	1998/01/05 13:25	12.62
					1998/01/08 15:38	12.26
AF-12S	39°14′10.99″	84°27′00.68″	74.00	575.116	1998/01/05 13:27	41.46
					1998/01/08 15:38	40.87
AF-13P	39°14′13.02″	84°26′56.39″	15.40	567.27	1998/01/09 12:45	7.05
AF-15D	39°14′18.00″	84°26′52.39″	116.00	561.50	1998/01/05 15:25	25.42
					1998/01/08 14:47	24.86
					1998/01/14 13:30	25.55
AF-15S	39°14′17.98″	84°26′52.40″	56.00	561.96	1998/01/05 15:23	25.49
					1998/01/08 14:45	24.98
					1998/01/14 15:00	25.56
AF-16D	39°14′18.21″	84°26′46.95″	101.00	562.42	1998/01/05 15:20	25.65
					1998/01/08 14:54	25.12
AF-16P	39°14′18.27″	84°26′46.95″	32.50	562.51	1998/01/05 15:17	21.53
					1998/01/06 16:35	21.52
					1998/01/08 14:52	21.48
AF-17D	39°14′13.12″	84°26′44.43″	100.00	561.162	1998/01/05 15:37	25.32
					1998/01/08 16:15	24.78
AF-17P	39°14′13.11″	84°26′44.36″	32.80	560.955	1998/01/05 15:34	21.40
					1998/01/06 15:50	21.40
					1998/01/08 16:15	21.33
AF-18D	39°14′18.26″	84°27′03.61″	80.00	578.489	1998/01/05 13:34	45.49
					1998/01/08 15:47	43.88
AF-18P	39°14′18.32″	84°27′03.60″	30.00	577.974	1998/01/05 13:32	13.80
					1998/01/08 15:47	13.33
AF-19D	39°14′06.45″	84°26′49.70″	91.50	564.019	1998/01/05 12:39	29.46
					1998/01/08 15:11	28.85
AF-19S	39°14′06.50″	84°26′49.72″	62.50	563.788	1998/01/05 12:36	29.07
					1998/01/06 11:40	29.04
					1998/01/08 15:10	28.47
AF-20D	39°14′07.57″	84°26′50.98″	91.50	562.416	1998/01/05 12:25	27.96
					1998/01/08 15:13	27.32
AF-20S	39°14′07.51″	84°26′50.98″	69.00	562.380	1998/01/05 12:20	27.93
					1998/01/06 07:40	27.87
					1998/01/08 15:14	27.30
AF-21D	39°14′07.60″	84°26′53.06″	90.50	559.99	1998/01/05 13:06	25.28
					1998/01/07 10:00	25.04

Ground-Water Records for Former Air Force Plant 36

Results of water-quality analyses at former Air Force Plant 36, Evendale, OH. Volatile organic compounds were determined by U.S. Environmental Protection Agency method SW8260. Samples were placed in labeled, pre-preserved, laboratory-cleaned sample containers and shipped on ice to Quanterra Environmental Services, Arvada, Col., for analysis. Total petroleum hydrocarbons (sampled only at AF-13P) were determined by U.S. Environmental Protection Agency method E418.1. Samples were collected by use of a bottom-filling teflon bailer. Values presented are the detected quantities of the constituent if not accompanied by a "U" qualifier *or* the detection limit for the constituent if accompanied by a "U" qualifier. Well locations are presented in a previous table.

[µg/L, micrograms per liter; mg/L, milligrams per liter; µs/cm, microsiemens per centimeter; C, degrees Celsius; WG, ground water; U, undetected at the detection limit given; J, estimated; R, analysis rejected because of quality-control violations; --, not applicable.]

Well	AF-10P		AF-10S		AF-11D		AF-13P		AF-13P	
Sample Matrix	WG		WG		WG		WG		WG	
Date	01/06/98		01/06/98		01/08/98		01/09/98		01/09/98	
Sample Type	Normal		Normal		Normal		Duplicate		Normal	
VOLATILE ORGANIC COMPOUNDS (µg/L)										
Acetone	10	UR	25	UR	10	U	100	U	10	U
Benzene	1.0	U	2.5	U	1.0	U	10	U	1.0	U
Bromodichloromethane	1.0	U	2.5	U	1.0	U	10	U	1.0	U
Bromoform	1.0	U	2.5	U	1.0	U	10	U	1.0	U
Bromomethane	2.0	U	5.0	U	2.0	U	20	U	2.0	U
2-Butanone	5.0	UJ	12	UJ	5.0	U	50	U	5.0	U
Carbon disulfide	1.0	U	2.5	U	1.0	U	10	U	1.0	U
Carbon tetrachloride	1.0	U	2.5	U	1.0	U	10	U	1.0	U
Chlorobenzene	1.0	U	2.5	U	1.0	U	10	U	1.0	U
Chloroethane	2.0	U	5.0	U	2.0	U	20	U	2.0	U
Chloroform	1.0	U	2.5	U	1.0	U	10	U	1.0	U
Chloromethane	2.0	U	5.0	U	2.0	UJ	20	U	2.0	UJ
Dibromochloromethane	1.0	U	2.5	U	1.0	U	10	U	1.0	U
1,1-Dichloroethane	1.0	U	31		1.9		10	U	1.0	U
1,2-Dichloroethane	1.0	U	2.5	U	1.0	U	10	U	1.0	U
1,1-Dichloroethene	1.0	U	2.8		0.37	J	10	U	1.0	U
trans-1,2-Dichloroethene	0.50	U	17		1.6		5.0	U	0.50	U
cis-1,2-Dichloroethene	0.50	U	110		8.4		5.0	U	0.50	U
1,2-Dichloropropane	1.0	U	2.5	U	1.0	U	10	U	1.0	U
cis-1,3-Dichloropropene	1.0	U	2.5	U	1.0	U	10	U	1.0	U
trans-1,3-Dichloropropene	1.0	U	2.5	U	1.0	U	10	U	1.0	U
Ethylbenzene	1.0	U	2.5	U	1.0	U	10	U	0.83	J
2-Hexanone	5.0	UJ	12	UJ	5.0	U	50	U	5.0	U
4-Methyl-2-pentanone	5.0	U	12	U	5.0	U	50	U	5.0	U
Methylene chloride	1.0	U	0.52	U	1.0	U	10	U	1.0	U
Styrene	1.0	U	2.5	U	1.0	U	10	U	1.0	U
1,1,2,2-Tetrachloroethane	1.0	U	2.5	U	1.0	U	10	U	1.0	U
Tetrachloroethene (Tetrachloroethylene)	1.0	U	2.5	U	1.0	U	10	U	1.0	U
Toluene	1.0	U	2.5	U	1.0	U	10	U	1.0	U
1,1,1-Trichloroethane	1.0	U	2.5	U	1.0	U	10	U	1.0	U
1,1,2-Trichloroethane	1.0	U	2.5	U	1.0	U	10	U	1.0	U
Trichloroethene (Trichloroethylene)	1.0	U	2.5	U	1.6		10	U	1.0	U
Vinyl chloride	2.0	U	12		6.2		20	U	2.0	U
o-Xylene (1,2-dimethylbenzene)	0.50	U	1.2	U	0.50	U	5.0	U	0.50	U
m,p-Xylene (sum of isomers)	0.50	U	1.2	U	0.50	U	5.0	U	1.0	
TOTAL PETROLEUM HYDROCARBONS										
Petroleum hydrocarbons (mg/L)	--	--	--	--	--	--	23.4		16.4	
FIELD MEASUREMENTS										
Specific conductance (µs/cm)	1,680		1,017		940		510		510	
Water temperature (C)	18.9		17.7		17.5		11.7		11.7	
pH (standard units)	7.7		7.4		6.9		7.0		7.0	

Well	AF-15D		AF-15S		AF-16P		AF-17P		AF-19S	
Sample Matrix	WG		WG		WG		WG		WG	
Date	01/14/98		01/14/98		01/06/98		01/06/98		01/06/98	
Sample Type	Normal		Normal		Normal		Normal		Normal	
VOLATILE ORGANIC COMPOUNDS (µg/L)										
Acetone	10	U	250	U	10	UR	50	UR	27	U
Benzene	1.0	U	25	U	1.0	UJ	5.0	U	1.5	
Bromodichloromethane	1.0	U	25	U	1.0	UJ	5.0	U	1.0	U
Bromoform	1.0	U	25	U	1.0	UJ	5.0	U	1.0	U
Bromomethane	2.0	U	50	U	2.0	UJ	10	U	2.0	U
2-Butanone	5.0	U	120	U	5.0	UJ	25	UJ	5.0	UJ
Carbon disulfide	1.0	U	25	U	1.0	UJ	5.0	U	1.0	U
Carbon tetrachloride	1.0	U	25	U	1.0	UJ	5.0	U	1.0	U
Chlorobenzene	1.0	U	25	U	1.0	UJ	5.0	U	1.0	U
Chloroethane	0.71	J	720		2.0	UJ	10	U	2.0	U
Chloroform	1.0	U	25	U	1.0	UJ	5.0	U	1.0	U
Chloromethane	2.0	U	50	U	2.0	UJ	10	U	2.0	U
Dibromochloromethane	1.0	U	25	U	1.0	UJ	5.0	U	1.0	U
1,1-Dichloroethane	0.73	J	25	U	3.2	J	18		3.8	
1,2-Dichloroethane	1.0	U	25	U	1.0	UJ	5.0	U	1.0	U
1,1-Dichloroethene	1.0	U	25	U	3.9	J	8.3		0.29	J
trans-1,2-Dichloroethene	0.36	J	31		0.50	UJ	6.4		7.7	
cis-1,2-Dichloroethene	10		610		0.85	J	44		18	
1,2-Dichloropropane	1.0	U	25	U	1.0	UJ	5.0	U	0.27	J
cis-1,3-Dichloropropene	1.0	U	25	U	1.0	UJ	5.0	U	1.0	U
trans-1,3-Dichloropropene	1.0	U	25	U	1.0	UJ	5.0	U	1.0	U
Ethylbenzene	1.0	U	25	U	1.0	UJ	5.0	U	1.0	U
2-Hexanone	5.0	U	120	U	5.0	UJ	25	UJ	5.0	UJ
4-Methyl-2-pentanone	5.0	U	120	UJ	5.0	UJ	25	U	5.0	U
Methylene chloride	1.0	U	25	U	1.0	UJ	5.0	U	0.44	U
Styrene	1.0	U	25	U	1.0	UJ	5.0	U	1.0	U
1,1,2,2-Tetrachloroethane	1.0	U	25	U	1.0	UJ	5.0	U	1.0	U
Tetrachloroethene (Tetrachloroethylene)	1.0	U	25	U	0.60	J	4.4	J	1.0	U
Toluene	1.0	U	25	U	1.0	UJ	5.0	U	0.27	U
1,1,1-Trichloroethane	1.0	U	25	U	30	J	130		1.0	U
1,1,2-Trichloroethane	1.0	U	25	U	1.0	UJ	5.0	U	1.0	U
Trichloroethene (Trichloroethylene)	1.0	U	25	U	37	J	210		1.0	U
Vinyl chloride	2.2		50	U	2.0	UJ	10	U	24	
o-Xylene (1,2-dimethylbenzene)	0.50	U	12	U	0.50	UJ	2.5	U	0.50	U
m,p-Xylene (sum of isomers)	0.50	U	12	U	0.50	UJ	2.5	U	0.50	U
FIELD MEASUREMENTS										
Specific conductance (µs/cm)	1,014		948		4,580		710		1,113	
Water temperature (C)	17.2		16.9		19.1		20.9		19.0	
pH (standard units)	7.1		7.0		6.7		7.1		7.1	

Well	AF-1P		AF-1S		AF-20S		AF-21D		AF-2P	
Sample Matrix	WG		WG		WG		WG		WG	
Date	01/07/98		01/07/98		01/06/98		01/07/98		01/08/98	
Sample Type	Normal		Normal		Normal		Normal		Normal	
VOLATILE ORGANIC COMPOUNDS (µg/L)										
Acetone	20	U	20	U	33	U	83	UR	10	U
Benzene	2.0	UJ	2.0	U	0.83	J	8.3	U	1.0	U
Bromodichloromethane	2.0	U	2.0	U	1.0	U	8.3	U	1.0	U
Bromoform	2.0	U	2.0	U	1.0	U	8.3	U	1.0	U
Bromomethane	4.0	U	4.0	U	2.0	U	17	U	2.0	U
2-Butanone	10	U	10	U	5.0	UJ	42	UJ	5.0	U
Carbon disulfide	2.0	U	2.0	U	1.0	U	8.3	U	1.0	U
Carbon tetrachloride	2.0	U	2.0	U	1.0	U	8.3	U	1.0	U
Chlorobenzene	2.0	UJ	2.0	U	1.0	U	8.3	U	1.0	U
Chloroethane	4.0	U	4.0	U	2.4		17	U	2.0	U
Chloroform	2.0	U	2.0	U	1.0	U	8.3	U	1.0	U
Chloromethane	4.0	U	4.0	U	2.0	U	17	U	2.0	UJ
Dibromochloromethane	2.0	U	2.0	U	1.0	U	8.3	U	1.0	U
1,1-Dichloroethane	2.0	U	23		14		22		0.93	J
1,2-Dichloroethane	2.0	U	2.0	U	1.0	U	8.3	U	1.0	U
1,1-Dichloroethene	2.0	U	1.8	J	0.24	J	5.1	J	1.0	U
trans-1,2-Dichloroethene	1.0	U	0.57	J	9.4		19		0.50	U
cis-1,2-Dichloroethene	1.0	U	67		6.1		300		0.20	J
1,2-Dichloropropane	2.0	U	2.0	U	1.0	U	8.3	U	1.0	U
cis-1,3-Dichloropropene	2.0	U	2.0	U	1.0	U	8.3	U	1.0	U
trans-1,3-Dichloropropene	2.0	U	2.0	U	1.0	U	8.3	U	1.0	U
Ethylbenzene	2.0	UJ	2.0	U	0.20	J	8.3	U	1.0	U
2-Hexanone	10	U	10	U	5.0	UJ	42	UJ	5.0	U
4-Methyl-2-pentanone	10	U	10	U	5.0	U	42	U	5.0	U
Methylene chloride	2.0	U	2.0	U	1.0	U	8.3	U	1.0	U
Styrene	2.0	UJ	2.0	U	1.0	U	8.3	U	1.0	U
1,1,2,2-Tetrachloroethane	2.0	U	2.0	U	1.0	U	8.3	U	1.0	U
Tetrachloroethene (Tetrachloroethylene)	1.0	J	2.0	U	1.0	U	8.3	U	1.0	U
Toluene	2.0	UJ	2.0	U	1.3		8.3	U	1.0	U
1,1,1-Trichloroethane	45		6.7		1.0	U	8.3	U	8.5	
1,1,2-Trichloroethane	2.0	U	2.0	U	1.0	U	8.3	U	1.0	U
Trichloroethene (Trichloroethylene)	67		2.1		1.0	U	13		31	
Vinyl chloride	4.0	U	13		25		6.0	J	2.0	U
o-Xylene (1,2-dimethylbenzene)	1.0	UJ	1.0	U	0.33	J	4.2	U	0.50	U
m,p-Xylene (sum of isomers)	1.0	UJ	1.0	U	0.20	J	4.2	U	0.50	U
FIELD MEASUREMENTS										
Specific conductance (µs/cm)	438		859		1,075		936		1,750	
Water temperature (C)	19.2		18.1		18.3		17.9		16.8	
pH (standard units)	8.2		7.4		7.2		7.0		6.9	

Well	AF-2S		AF-8S		AF-8S		AF-9S	
Sample Matrix	WG		WG		WG		WG	
Date	01/08/98		01/06/98		01/06/98		01/07/98	
Sample Type	Normal		Duplicate		Normal		Normal	
VOLATILE ORGANIC COMPOUNDS (µg/L)								
Acetone	50	U	17	U	13	U	11	U
Benzene	5.0	U	2.3	J	2.2	J	0.63	J
Bromodichloromethane	5.0	U	2.5	U	2.5	U	2.5	U
Bromoform	5.0	U	2.5	U	2.5	U	2.5	U
Bromomethane	10	U	5.0	U	5.0	U	5.0	U
2-Butanone	25	U	12	UJ	12	UJ	12	UJ
Carbon disulfide	5.0	U	2.5	U	2.5	U	2.5	U
Carbon tetrachloride	5.0	U	2.5	U	2.5	U	2.5	U
Chlorobenzene	5.0	U	2.5	U	2.5	U	2.5	U
Chloroethane	10	U	6.4		6.2		5.0	U
Chloroform	5.0	U	2.5	U	2.5	U	2.5	U
Chloromethane	10	UJ	5.0	U	5.0	U	5.0	U
Dibromochloromethane	5.0	U	2.5	U	2.5	U	2.5	U
1,1-Dichloroethane	63		7.9		8.2		17	
1,2-Dichloroethane	5.0	U	2.5	U	2.5	U	2.5	U
1,1-Dichloroethene	4.9	J	2.5	U	0.76	J	1.1	J
trans-1,2-Dichloroethene	5.5		13		14		12	
cis-1,2-Dichloroethene	210		77		79		93	
1,2-Dichloropropane	5.0	U	2.5	U	2.5	U	2.5	U
cis-1,3-Dichloropropene	5.0	U	2.5	U	2.5	U	2.5	U
trans-1,3-Dichloropropene	5.0	U	2.5	U	2.5	U	2.5	U
Ethylbenzene	5.0	U	2.5	U	2.5	U	2.5	U
2-Hexanone	25	U	12	UJ	12	UJ	12	UJ
4-Methyl-2-pentanone	25	U	12	U	12	U	12	U
Methylene chloride	5.0	U	2.5	U	2.5	U	2.5	U
Styrene	5.0	U	2.5	U	2.5	U	2.5	U
1,1,2,2-Tetrachloroethane	5.0	U	2.5	U	2.5	U	2.5	U
Tetrachloroethene (Tetrachloroethylene)	5.0	U	2.5	U	2.5	U	2.5	U
Toluene	5.0	U	2.5	U	2.5	U	2.5	U
1,1,1-Trichloroethane	5.0	J	2.5	U	2.5	U	2.5	U
1,1,2-Trichloroethane	5.0	U	2.5	U	2.5	U	2.5	U
Trichloroethene (Trichloroethylene)	11		2.5	U	2.5	U	2.5	U
Vinyl chloride	2.8	J	44		47		39	
o-Xylene (1,2-dimethylbenzene)	2.5	U	1.2	U	1.2	U	1.2	U
m,p-Xylene (sum of isomers)	2.5	U	1.2	U	1.2	U	1.2	U
FIELD MEASUREMENTS								
Specific conductance (µs/cm)	1,375		1,051		1,051		1,053	
Water temperature (C)	16.8		18.9		18.9		18.8	
pH (standard units)	7.1		7.2		7.2		7.0	

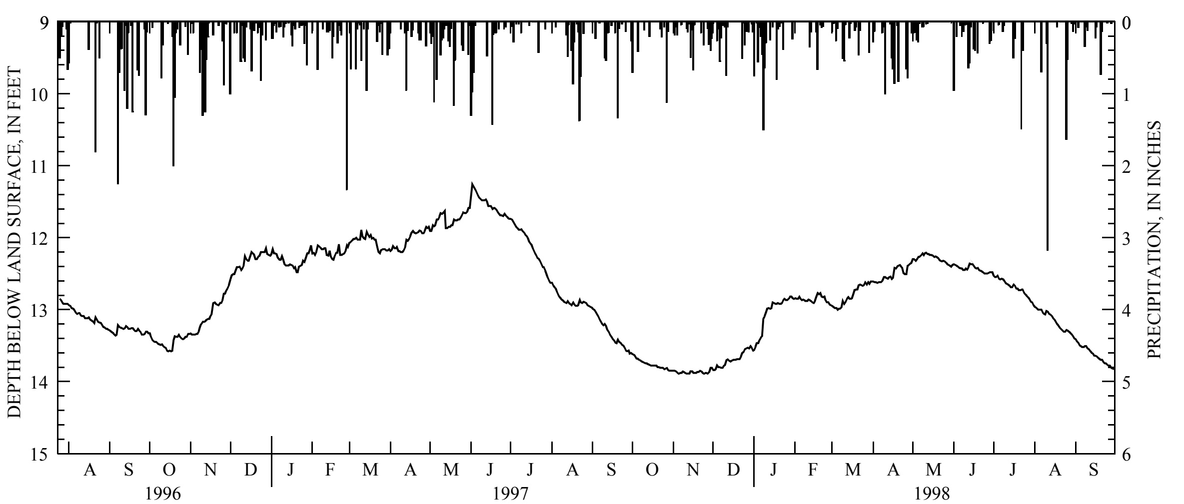
The following tables contain ground-water-level measurements from the 32 wells that comprise the long-term ground-water monitoring network in Geauga County. The data were collected as part of a cooperative study with the Geauga County Planning Commission and Board of County Commissioners. The purpose of the study is to determine whether fluctuations in water levels represent consistent, long-term trends caused by human activity or are predominantly the result of seasonal and annual variations in recharge. Precipitation data presented in this section were obtained from National Weather Service station 331458 in Chardon, Ohio. Land-surface datums are accurate within ± 5 ft. Water levels known to have been measured after a well had been recently pumped are designated with an asterisk (*).

412331081123000. Local number GE-22
LOCATION.--Lat 41° 23'31", long 81°12'30"; west of Valley View Road by La Due Reservoir at old Sugar House; Auburn Township.
Owner.--City of Akron.
AQUIFER.--Pottsville Formation (sandstone) of Pennsylvanian age.
WELL CHARACTERISTICS.--Water-supply well located in pit, not currently in use; diameter 6.25 in.; depth 80 ft.
INSTRUMENTATION - Pressure transducer and CR10 data logger (records hourly) with SM192 storage module.
DATUM.--Elevation of land-surface datum is 1,160 ft above sea level. Measuring point: Mark on wooden base of instrument shelter; changed from 3.96 ft below land-surface datum to 3.20 ft above land-surface datum on May 13, 1997.
PERIOD OF RECORD.--Periodic water-level measurements from June 8, 1978 through September 8, 1994. Continuous water-level data from July 24, 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 11.26 ft below land-surface datum, June 2, 1997; lowest measured, 14.34 ft below land-surface datum, November 12, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.62	13.85	13.84	13.56	12.84	12.95	12.61	12.30	12.37	12.53	12.96	13.41
2	13.63	13.85	13.84	13.52	12.85	12.96	12.62	12.30	12.38	12.55	12.97	13.44
3	13.65	13.86	13.83	13.47	12.85	12.98	12.62	12.32	12.39	12.55	12.99	13.46
4	13.68	13.88	13.78	13.47	12.82	12.98	12.63	12.30	12.40	12.53	13.00	13.50
5	13.68	13.89	13.80	13.42	12.85	13.00	12.62	12.27	12.42	12.57	13.00	13.51
6	13.70	13.88	13.80	13.39	12.87	12.99	12.62	12.27	12.43	12.58	13.00	13.52
7	13.71	13.88	13.81	13.37	12.86	12.99	12.62	12.25	12.43	12.57	13.04	13.52
8	13.72	13.86	13.81	13.12	12.87	12.97	12.60	12.22	12.45	12.58	13.06	13.51
9	13.73	13.87	13.78	13.09	12.88	12.88	12.55	12.24	12.45	12.60	13.07	13.51
10	13.74	13.88	13.77	13.04	12.88	12.92	12.55	12.22	12.43	12.63	13.02	13.54
11	13.75	13.89	13.70	12.99	12.86	12.89	12.56	12.21	12.44	12.64	13.03	13.55
12	13.75	13.89	13.69	12.98	12.87	12.85	12.57	12.23	12.41	12.65	13.06	13.58
13	13.76	13.89	13.71	12.99	12.88	12.83	12.55	12.23	12.36	12.67	13.07	13.60
14	13.77	13.86	13.72	12.98	12.90	12.85	12.54	12.24	12.37	12.69	13.09	13.61
15	13.78	13.86	13.71	12.90	12.91	12.85	12.58	12.24	12.37	12.69	13.12	13.64
16	13.78	13.88	13.70	12.91	12.88	12.84	12.56	12.25	12.39	12.65	13.14	13.64
17	13.78	13.88	13.70	12.92	12.83	12.79	12.42	12.27	12.42	12.67	13.17	13.65
18	13.78	13.88	13.70	12.92	12.77	12.73	12.43	12.26	12.43	12.71	13.20	13.67
19	13.78	13.87	13.69	12.91	12.79	12.72	12.40	12.27	12.42	12.71	13.23	13.68
20	13.80	13.87	13.69	12.92	12.77	12.72	12.39	12.28	12.45	12.73	13.25	13.70
21	13.80	13.85	13.69	12.92	12.82	12.66	12.38	12.31	12.46	12.73	13.27	13.70
22	13.81	13.86	13.65	12.91	12.83	12.65	12.40	12.32	12.47	12.72	13.29	13.73
23	13.81	13.88	13.60	12.87	12.82	12.66	12.42	12.33	12.48	12.72	13.31	13.75
24	13.81	13.89	13.59	12.85	12.87	12.67	12.49	12.32	12.50	12.77	13.31	13.75
25	13.83	13.88	13.55	12.87	12.90	12.66	12.51	12.33	12.50	12.79	13.28	13.77
26	13.82	13.88	13.54	12.87	12.90	12.62	12.51	12.35	12.50	12.81	13.29	13.78
27	13.81	13.89	13.53	12.85	12.93	12.65	12.39	12.37	12.49	12.83	13.31	13.78
28	13.84	13.87	13.54	12.82	12.94	12.62	12.38	12.38	12.48	12.85	13.33	13.81
29	13.85	13.81	13.51	12.82	---	12.64	12.36	12.39	12.48	12.89	13.34	13.82
30	13.85	13.81	13.53	12.84	---	12.61	12.35	12.40	12.48	12.90	13.37	13.83
31	13.85	---	13.57	12.85	---	12.61	---	12.38	---	12.94	13.40	---
MEAN	13.76	13.87	13.69	13.04	12.86	12.80	12.51	12.29	12.43	12.69	13.16	13.63
MAX	13.85	13.89	13.84	13.56	12.94	13.00	12.63	12.40	12.50	12.94	13.40	13.83
MIN	13.62	13.81	13.51	12.82	12.77	12.61	12.35	12.21	12.36	12.53	12.96	13.41

CAL YR 1997 MEAN 12.63 HIGH 11.26 LOW 13.89
WTR YR 1998 MEAN 13.06 HIGH 12.21 LOW 13.89



412309081202400. Local number GE-23
LOCATION.--Lat 41°23'09", long 81°20'24"; Alltel building on Bainbridge Rd., west of S.R. 306; Bainbridge Township. Owner.--Alltel Telephone Company.
AQUIFER.--Pottsville Formation (sandstone) of Pennsylvanian age.
WELL CHARACTERISTICS.--Commercial water-supply well; diameter 5.63 in.; depth 42.5 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,162 ft above sea level. Measuring point: Top of casing, 1.32 ft above land-surface datum.
PERIOD OF RECORD.--April 26,1978 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 10.46 ft below land-surface datum, April 26, 1978; lowest measured, 19.37 ft below land-surface datum, January 16, 1996.

WATER LEVELS IN FEET BELOW LAND-SURFACE DATUM

Date	Water Level
10-08-97	18.43
12-10-97	18.73
02-24-98	17.35
04-20-98	16.28
06-16-98	16.31
08-25-98	17.24

413138081152000. Local number, GE-76
LOCATION.--Lat 41°31'38", long 81°15'20"; 10755 Mayfield Road; Munson Township. Owner.--Fowler’s Mill Christian Church.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Private water-supply well; diameter 6.0 in.; depth 150 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,170 ft above sea level. Measuring point: Top of casing, 1.68 ft above land-surface datum.
PERIOD OF RECORD.--June 15, 1978 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 21.19 ft below land-surface datum, June 15, 1978; lowest measured, 24.50 ft below land-surface datum, May 9, 1986 and August 21, 1986.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-09-97	22.37
12-09-97	22.52
02-25-98	22.27
04-20-98	21.98
06-17-98	22.12*
08-27-98	22.66*

412627081075400. Local number, GE-83
LOCATION.--Lat 41°26'27", long 81°07'54"; 15776 Jug Street; Burton Township. Owner.--Privately owned.
AQUIFER.--Pottsville Formation (sandstone) of Pennsylvanian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 6.0 in.; depth 70 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,220 ft above sea level. Measuring point: Top of casing, 1.00 ft above land-surface datum.
PERIOD OF RECORD.--June 14,1978 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.59 ft below land-surface datum, August 14, 1985; lowest measured, 33.95 ft below land-surface datum, November 12, 1980.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-09-97	31.64
12-10-97	32.03
02-25-98	32.74
04-21-98	31.27
06-18-98	30.54
08-26-98	31.73

412748081143900. Local number, GE-91
LOCATION.--Lat 41°27'48", long 81°14'39"; northeast corner of Auburn Rd. and S.R. 87 intersection; Newbury Township. Owner.--Dairy Mart.
AQUIFER.--Pottsville Formation (sandstone) of Pennsylvanian age.
WELL CHARACTERISTICS.--Commercial water-supply well; diameter 5.63 in.; depth 85 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,250 ft above sea level. Measuring point: Top of casing, 1.16 ft above land-surface datum.
PERIOD OF RECORD.--October 19, 1978 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 40.10 ft below land-surface datum, October 19, 1978; lowest measured, 45.66 ft below land-surface datum, March 27, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-07-97	43.33
12-09-97	43.71
02-24-98	44.05
04-20-98	43.67
06-18-98	43.35
08-28-98	44.58

413757081122300. Local number, GE-101
LOCATION.--Lat 41°37'57", long 81°12'23"; 12080 Clark Road; Chardon Township.
Owner.--Privately owned.
AQUIFER.--Sand and gravel of Quaternary age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 6.25 in.; depth 48 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 990 ft above sea level. Measuring point: Top of casing, 0.90 ft above land-surface datum.
PERIOD OF RECORD.--May 7, 1980 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.81 ft below land-surface datum, March 17, 1997; lowest measured, 25.08 ft below land-surface datum, August 21, 1986.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-09-97	24.17
12-09-97	23.41
02-25-98	22.52
04-21-98	21.63
06-17-98	23.55
08-26-98	24.72

413755081101200. Local number, GE-103
LOCATION.--Lat 41°37'55", long 81°10'12"; 8755 Old State Road (S.R. 608); Hambden Township.
Owner.--Privately owned.
AQUIFER.--Berea Sandstone of Mississippian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 5.63 in.; depth 136 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,159 ft above sea level. Measuring point: Top of casing, 0.40 ft above land-surface datum.
PERIOD OF RECORD.--May 7, 1980 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 79.44 ft below land-surface datum, May 7, 1980; lowest measured, 91.85 ft below land-surface datum, March 27, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-09-97	91.01
12-09-97	90.73
02-25-98	91.01
04-21-98	91.08
06-17-98	90.78
08-26-98	90.97

413456081035600. Local number, GE-106
LOCATION.--Lat 41°34'56", long 81°03'56"; 10691 Clay Street; Montville Township.
Owner.--Privately owned.
AQUIFER.--Cuyahoga Group (interbedded shales and sandstones) of Mississippian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 5.63 in.; depth 72 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,255 ft above sea level. Measuring point: Top of casing, 1.20 ft above land-surface datum.
PERIOD OF RECORD.--May 7, 1980 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 30.84 ft below land-surface datum, May 7, 1980; lowest measured, 37.44 ft below land-surface datum, May 29, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-09-97	35.03
12-09-97	35.25
02-25-98	35.48
04-21-98	35.59
06-17-98	35.29
08-26-98	35.41

413207081044400. Local number GE-112
LOCATION.--Lat 41°32'07", long 81°04'44"; by golf course maintenance building at 15900 Mayfield Road; Huntsburg Township.
Owner.--Rolling Green Golf Course.
AQUIFER.--Pottsville Formation (sandstone)of Pennsylvanian age.
WELL CHARACTERISTICS.--Commercial water-supply well for shop and house (not used for irrigation); diameter 5.63 in.; depth 80 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,265 ft above sea level. Measuring point: Top of casing, 1.30 ft above land-surface datum.
PERIOD OF RECORD.--May 8, 1980 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.86 ft below land-surface datum, May 5, 1980; lowest measured, 48.77 ft below land-surface datum, March 27, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-09-97	46.33
12-09-97	46.42
02-24-98	46.59
04-20-98	46.76
06-17-98	46.60
08-26-98	46.48

412657081040500. Local number GE-119
LOCATION.--Lat 41° 26'57", long 81° 03'57"; 15400 S.R. 608; Middlefield Township.
Owner.--Geauga County Airport.
AQUIFER.--Pottsville Formation (sandstone) of Pennsylvanian age.
WELL CHARACTERISTICS.--Commercial water-supply well; diameter 5.63 in.; depth 79 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,170 ft above sea level. Measuring point: Top of casing, 1.50 ft above land-surface datum.
PERIOD OF RECORD.--August 20, 1980 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.96 ft below land-surface datum, August 20, 1980; lowest measured, 15.31 ft below land-surface datum, March 28, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-08-97	14.21
12-09-97	13.80
02-25-98	13.37
04-20-98	12.78
06-16-98	12.58
08-25-98	13.39

412841081023200. Local number, GE-136
LOCATION.--Lat 41°28'41", long 81°02'32"; 16826 Nauvoo Road; Middlefield Township.
Owner.--Privately owned.
AQUIFER.--Cuyahoga Group (interbedded shales and sandstones) of Mississippian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 5.63 in.; depth 58 ft; water level not static in spring and summer months (pump removes approximately 1 gal/min of water from well during the growing season).
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,130 ft above sea level. Measuring point: Top of casing 1.20 ft above land-surface datum.
PERIOD OF RECORD.--August 8, 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 13.31 ft below land-surface datum, May 8, 1986; lowest measured, 24.27 ft below land-surface datum, May 28, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-08-97	21.11*
12-10-97	17.15
02-25-98	15.97
04-20-98	16.18*
06-16-98	16.72*
08-25-98	18.15*

412138081072000. Local number GE-139
LOCATION.--Lat 41° 21'38", long 81° 07'20"; 14515 Hoover Road; Troy Township.
Owner.--Privately owned.
AQUIFER.--Pottsville Formation (sandstone) of Pennsylvanian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 5.63 in.; depth 90 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,171 ft above sea level. Measuring point: Top of casing, 0.37 ft above land-surface datum.
PERIOD OF RECORD.--August 15, 1985 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 32.85 ft below land-surface datum, May 14, 1997; lowest measured, 37.14 ft below land-surface datum, August 25, 1998.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-08-97	37.01*
12-10-97	37.06*
02-25-98	35.84
04-20-98	33.56
06-16-98	34.44
08-25-98	37.14

413155081214900. Local number GE-150
LOCATION.--Lat 41° 31'55", long 81° 21'49"; 12390 Caves Road; Chester Township.
Owner.--Privately owned.
AQUIFER.--Pottsville Formation (sandstone) of Pennsylvanian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 6.63 in.; depth 90 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,220 ft above sea level. Measuring point: Top of casing, 1.55 ft above land-surface datum.
PERIOD OF RECORD.--February 13, 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 22.07 ft below land-surface datum, May 14, 1997; lowest measured, 26.20 ft below land-surface datum, September 11, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-08-97	24.42
12-10-97	25.01
02-25-98	24.93
04-21-98	23.46
06-18-98	24.72
08-27-98	26.01

412415081033500. Local number GE-163
LOCATION.--Lat 41° 24'15", long 81° 03'35"; 17115 Madison Road; Parkman Township.
Owner.--Privately owned.
AQUIFER.--Pottsville Formation (sandstone) of Pennsylvanian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 5.63 in.; depth 60 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,182 ft above sea level. Measuring point: Top of casing, 1.10 ft above land-surface datum.
PERIOD OF RECORD.--February 5, 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 8.17 ft below land-surface datum, February 5, 1986; lowest measured, 15.81 ft below land-surface datum, September 9, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-08-97	15.41
12-10-97	14.64
02-25-98	14.31
04-20-98	13.78
06-16-98	14.18*
08-25-98	15.64

412454081162400. Local number GE-166
LOCATION.--Lat 41° 24'54", long 81° 16'24"; 16725 Munn Road; Auburn Township.
Owner.--Privately owned.
AQUIFER.--Pottsville Formation (sandstone) of Pennsylvanian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 5.63 in.; depth 155 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,260 ft above sea level. Measuring point: Top of casing, 1.88 ft above land-surface datum.
PERIOD OF RECORD.--February 4, 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 49.37 ft below land-surface datum, July 16, 1997; lowest measured, 69.18* ft below land-surface datum, March 27, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-07-97	50.56
12-10-97	65.64*
02-24-98	54.20
04-20-98	51.28
06-18-98	49.49
08-25-98	52.10 ($\pm$0.5 ft)

412311081213000. Local number, GE-170
LOCATION.--Lat 41° 23'11", long 81°21'30"; 7956 Bainbridge Road; Bainbridge Township.
Owner.--Privately owned.
AQUIFER.--Cuyahoga Group (interbedded shales and sandstones) of Mississippian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 5.63 in.; depth 92 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,110 ft above sea level. Measuring point: Top of casing, 1.47 ft above land-surface datum
PERIOD OF RECORD.--February 4, 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 43.82 ft below land-surface datum, November 19, 1996; lowest measured, 50.00 ft below land-surface datum, August 18, 1986.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-08-97	46.63
12-10-97	46.24
02-24-98	48.31
04-20-98	44.30
06-16-98	45.77
08-25-98	47.62

413630081145000. Local number, GE-185A
LOCATION.--Lat 41° 36'30", long 81°14'50"; 9673 Mentor Road; Chardon Township.
Owner.--Privately owned.
AQUIFER.--Cuyahoga Group (interbedded shales and sandstones) of Mississippian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 5.5 in.; depth 90 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,260 ft above sea level. Measuring point: Top of casing 0.84 ft above land-surface datum
PERIOD OF RECORD.--January 1, 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 32.39 ft below land-surface datum, November 21, 1996; lowest measured, 36.05 ft* below land-surface datum, August 26, 1998.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-09-97	35.68
12-09-97	35.43
02-25-98	34.42
04-21-98	33.36
06-17-98	34.31
08-26-98	36.05*

413607081032500. Local number, GE-202
LOCATION.--Lat 41°36'07", long 81° 03'25"; 9999 Plank Road; Montville Township.
Owner.--Privately owned.
AQUIFER.--Pottsville Formation (sandstone) of Pennsylvanian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 5.63 in.; depth 74 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,247 ft above sea level. Measuring point: Top of casing, 1.60 ft above land-surface datum.
PERIOD OF RECORD.--February 10, 1986 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 27.60 ft below land-surface datum, February 10, 1986; lowest measured, 30.30 ft below land-surface datum, September 6, 1994.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-09-97	29.67
12-09-97	29.59
02-25-98	29.53
04-21-98	29.37
06-17-98	29.55
08-27-98	29.95

413357081214800. Local number, GE-255
LOCATION.--Lat 41°33'57", long 81° 21'48"; 11240 Caves Road; Chester Township.
Owner.--Privately owned.
AQUIFER.--Berea Sandstone of Mississippian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 5.63 in.; depth 123 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,075 ft above sea level. Measuring point: Top of casing, 2.08 ft above land-surface datum.
PERIOD OF RECORD.--September 8, 1994 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 51.32 ft below land surface datum, May 14, 1997; lowest maeasured, 54.04 ft below land-surface datum, January 17, 1996 and July 16, 1997.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-08-97	53.77*
12-09-97	52.43
02-25-98	52.25
04-21-98	52.32
06-17-98	52.60
08-27-98	52.96

413634081103500. Local number, GE-262
LOCATION.--Lat 41° 36'34", long 81°10'35"; 9593 Wildwood Road; Hambden Township.
Owner.--Privately owned.
AQUIFER.--Cuyahoga Group (interbedded shales and sandstones) of Mississippian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 6 in.; depth 100 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,200 ft above sea level. Measuring point: Top of casing 1.60 ft above land-surface datum
PERIOD OF RECORD.--September 7, 1994 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 34.19 ft below land-surface datum, September 10, 1996; lowest measured, 40.26 ft below land-surface datum, March 27, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-09-97	34.30
12-09-97	36.37
02-25-98	37.26
04-21-98	36.78
06-17-98	35.82*
08-26-98	36.85

413127081025900. Local number, GE-280
LOCATION.--Lat 41° 31'27", long 81°02'59"; 12972 Madison Road; Huntsburg Township.
Owner.--Privately owned.
AQUIFER.--Cuyahoga Group (interbedded shales and sandstones) of Mississippian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 6 in.; depth 162 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,145 ft above sea level. Measuring point: Top of casing 1.45 ft above land-surface datum
PERIOD OF RECORD.--September 8, 1994 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 32.26 ft below land-surface datum, April 20, 1998; lowest measured, 35.05 ft below land-surface datum, September 8, 1994.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-09-97	34.01
12-09-97	33.33
02-24-98	32.61
04-20-98	32.26
06-17-98	33.65
08-26-98	34.13

413350081163500. Local number, GE-303
LOCATION.--Lat 41°33'50", long 81°16'35"; 10250 Mulberry Road; Munson Township.
Owner.--Privately owned.
AQUIFER.--Cuyahoga Group (interbedded shales and sandstones) of Mississippian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 6 in.; depth 95 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,230 ft above sea level. Measuring point: Top of casing 1.60 ft above land-surface datum
PERIOD OF RECORD.--September 7, 1994 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 57.23 ft below land-surface datum, May 14, 1997; lowest measured, 62.63 ft below land-surface datum, September 10, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-09-97	62.32
12-09-97	62.47
02-25-98	62.14
04-21-98	59.85
06-17-98	61.92
08-27-98	62.50

413315081134200. Local number, GE-308
LOCATION.--Lat 41°33'15", long 81°13'42"; 11675 Chestnutdale Drive; Munson Township.
Owner.--Privately owned.
AQUIFER.--Cuyahoga Group (interbedded shales and sandstones) of Mississippian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 6 in.; depth 98 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,165 ft above sea level. Measuring point: Top of casing 1.68 ft above land-surface datum
PERIOD OF RECORD.--September 7, 1994 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 20.06 ft below land-surface datum, April 20, 1998; lowest measured, 24.80 ft below land-surface datum, July 15, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
12-10-97	20.94
02-25-98	20.21
04-20-98	20.06
06-17-98	20.45
08-27-98	22.41

412558081184200. Local number GE-332
LOCATION.--Lat 41°25'58", long 81°18'42"; 103 Silver Springs; Russell Township.
Owner.--Privately owned.
AQUIFER.--Pottsville Formation (sandstone)of Pennsylvanian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 5.63 in.; depth 104 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,180 ft above sea level. Measuring point: Top of casing, 1.14 ft above land-surface datum.
PERIOD OF RECORD.--September 8, 1994 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 33.83 ft below land-surface datum, May 14,1997; lowest measured, 34.89 ft below land-surface datum, September 9, 1996.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-07-97	34.06
12-09-97	34.25*
02-25-98	34.06
04-20-98	33.91
06-16-98	33.86
08-28-98	34.27

412743081195700. Local number, GE-338
LOCATION.--Lat 41°27'43", long 81°19'57"; 14940 Surrey Downs; Russell Township.
Owner.--Privately owned.
AQUIFER.--Berea Sandstone of Mississippian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 5.56 in.; depth 160 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,078 ft above sea level. Measuring point: Top of casing, 1.38 ft above land-surface datum.
PERIOD OF RECORD.--September 8, 1994 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 58.84 ft below land-surface datum, September 8, 1994; lowest measured, 73.29 ft below land-surface datum, January 22, 1997.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-08-97	59.99
12-10-97	61.36*
02-25-98	59.53
04-20-98	59.87
06-18-98	59.80*
08-26-98	60.82

414121081030800. Local number, GE-341
LOCATION.--Lat 41°41'21", long 81°03'08"; 6758 Madison Road; Thompson Township.
Owner.--Thompson United Methodist Church.
AQUIFER.--Cuyahoga Group (interbedded shales and sandstones) of Mississippian age.
WELL CHARACTERISTICS.--Private water-supply well; diameter 6.63 in.; depth 120 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,267 ft above sea level. Measuring point: Top of casing 2.00 ft above land-surface datum
PERIOD OF RECORD.--September 7, 1994 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 4.12 ft below land-surface datum, November 20, 1996; lowest measured, 10.11 ft below land-surface datum, September 7, 1994.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

Date	Water Level
10-09-97	7.26
12-10-97	6.01
02-25-98	5.02
04-21-98	4.37
06-17-98	6.44
08-26-98	8.12

413957081052100. Local number, GE-343
LOCATION.--Lat 41°39'57", long 81°05'21"; 15554 Valentine Road; Thompson Township.
Owner.--Privately owned.
AQUIFER.--Berea Sandstone of Mississippian age.
WELL CHARACTERISTICS.--Domestic water-supply well; diameter 5.63 in.; depth 120 ft.
INSTRUMENTATION - Periodic measurement with steel or electric tape by USGS personnel.
DATUM.--Elevation of land-surface datum is 1,145 ft above sea level. Measuring point: Top of casing, 1.60 ft above land-surface datum.
PERIOD OF RECORD.--September 7, 1994 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 69.40 ft below land-surface datum, May 14, 1997; lowest measured, 72.93 ft below land-surface datum, September 7, 1994.

WATER LEVELS IN FEET BELOW LAND SURFACE DATUM

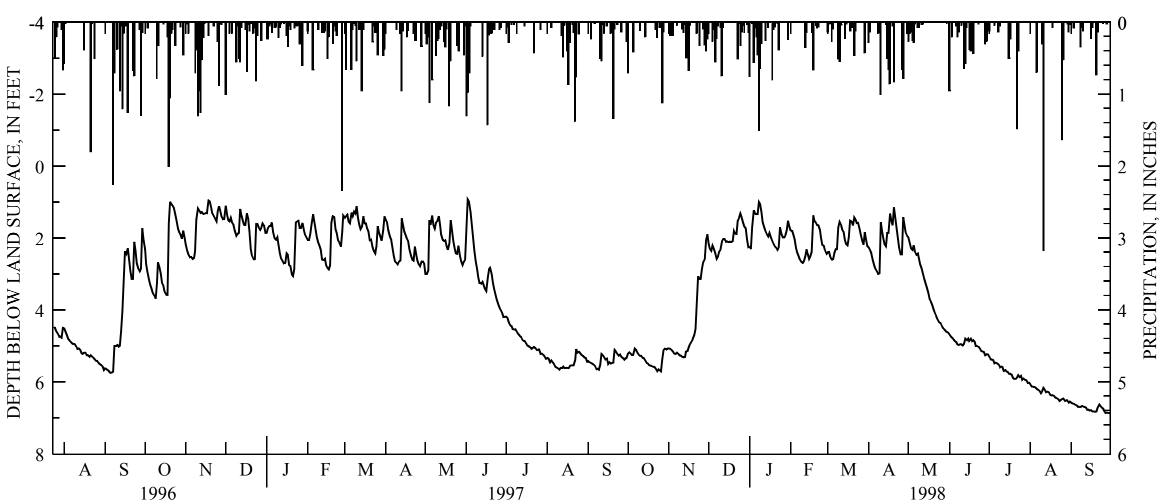
Date	Water Level
10-09-97	72.42
12-10-97	70.83
02-25-98	70.44
04-21-98	70.13
06-17-98	72.92
08-26-98	72.19 ($\pm$1 ft)

414125081031500. Local number GE-348
LOCATION.--Lat 41° 41'25", long 81° 03'15"; 66506 W. Thompson Road; Thompson Township.
Owner.--Privately owned.
AQUIFER.--Pottsville Formation (sandstone) of Pennsylvanian age.
WELL CHARACTERISTICS.--Domestic water-supply well, not currently in use; diameter 6.0 in.; depth 53 ft.
INSTRUMENTATION - Pressure transducer and CR10 data logger (records hourly) with SM192 storage module.
DATUM.--Elevation of land-surface datum is 1,265 ft above sea level. Measuring point: Mark on wooden base of instrument shelter, 2.55 ft above land-surface datum.
PERIOD OF RECORD.--July 23, 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 0.93 ft below land-surface datum, June 2, 1997; lowest measured, 6.88 ft below land-surface datum, September 30, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.21	5.07	2.16	2.24	1.79	2.40	2.28	1.98	4.69	5.30	6.07	6.57
2	5.18	5.08	2.31	2.31	1.80	2.39	2.35	2.12	4.74	5.38	6.13	6.60
3	5.21	5.12	2.36	1.69	1.92	2.55	2.41	2.30	4.77	5.37	6.13	6.61
4	5.26	5.17	2.21	1.23	2.05	2.60	2.62	2.33	4.82	5.39	6.15	6.64
5	5.25	5.21	2.30	1.32	2.27	2.58	2.75	2.20	4.87	5.48	6.16	6.65
6	5.07	5.22	2.43	1.34	2.41	2.41	2.86	2.40	4.89	5.46	6.21	6.70
7	5.11	5.19	2.57	1.34	2.50	2.32	2.92	2.48	4.96	5.48	6.22	6.70
8	5.17	5.22	2.51	1.00	2.60	2.32	3.00	2.43	4.97	5.52	6.25	6.70
9	5.24	5.27	2.37	1.06	2.65	1.70	2.98	2.60	4.96	5.60	6.32	6.67
10	5.28	5.27	2.32	1.28	2.69	1.55	1.56	2.73	4.96	5.57	6.26	6.68
11	5.28	5.30	2.08	1.57	2.64	1.65	1.81	2.86	4.98	5.59	6.17	6.70
12	5.33	5.32	2.02	1.71	2.51	1.78	2.01	3.00	4.94	5.69	6.22	6.72
13	5.34	5.31	2.02	1.83	2.32	1.84	2.18	3.14	4.80	5.67	6.29	6.78
14	5.41	5.16	2.10	1.91	2.46	2.07	2.24	3.27	4.84	5.71	6.27	6.77
15	5.47	5.14	2.09	1.96	2.58	2.17	1.86	3.38	4.80	5.72	6.29	6.80
16	5.49	5.04	2.11	1.86	2.50	2.21	1.85	3.54	4.86	5.78	6.36	6.79
17	5.54	4.94	2.09	2.00	2.39	1.98	1.32	3.71	4.80	5.77	6.38	6.82
18	5.54	4.88	2.11	2.08	1.37	1.52	1.52	3.78	4.87	5.80	6.37	6.82
19	5.56	4.81	2.09	2.16	1.53	1.54	1.65	3.87	4.84	5.89	6.40	6.83
20	5.58	4.70	1.81	2.24	1.58	1.65	1.14	3.99	4.88	5.92	6.44	6.82
21	5.59	4.53	1.87	2.27	1.65	1.43	1.42	4.09	5.01	5.92	6.45	6.70
22	5.64	3.81	1.89	2.33	1.65	1.49	1.67	4.17	5.01	5.88	6.48	6.63
23	5.70	3.06	1.51	2.25	1.78	1.59	1.94	4.26	5.03	5.82	6.53	6.67
24	5.65	3.14	1.44	1.70	1.99	1.58	2.25	4.34	5.08	5.87	6.50	6.71
25	5.68	3.13	1.32	1.90	2.18	1.72	2.46	4.36	5.15	5.84	6.48	6.74
26	5.71	2.86	1.43	1.99	2.22	1.89	2.46	4.44	5.15	5.94	6.46	6.81
27	5.37	2.66	1.59	1.99	2.36	2.08	1.42	4.50	5.17	5.91	6.53	6.87
28	5.12	2.57	1.69	1.92	2.44	2.18	1.65	4.54	5.26	5.94	6.51	6.85
29	5.08	2.06	1.74	1.79	---	1.84	1.86	4.58	5.23	5.96	6.51	6.87
30	5.10	1.90	2.04	1.52	---	2.05	1.94	4.61	5.24	6.03	6.57	6.88
31	5.07	---	2.25	1.68	---	2.23	---	4.63	---	6.02	6.55	---
MEAN	5.36	4.40	2.03	1.79	2.17	1.98	2.08	3.44	4.95	5.72	6.34	6.74
MAX	5.71	5.32	2.57	2.33	2.69	2.60	3.00	4.63	5.26	6.03	6.57	6.88
MIN	5.07	1.90	1.32	1.00	1.37	1.43	1.14	1.98	4.69	5.30	6.07	6.57

CAL YR 1997 MEAN 3.41 HIGH .93 LOW 5.71
WTR YR 1998 MEAN 3.92 HIGH 1.00 LOW 6.88



413247081103300. Local number GE-349

LOCATION.--Lat 41°32'47", long 81°10'33"; 121 Bershire Drive, Aquilla Village; Claridon Township.
Owner.--Privately owned.

AQUIFER.--Pottsville Formation (sandstone) of Pennsylvanian age.

WELL CHARACTERISTICS.--Domestic water-supply well, not currently in use; diameter 5.63 in.; depth 58.19 ft.

INSTRUMENTATION - Pressure transducer and CR10 data logger (records hourly) with SM192 storage module.

DATUM.--Elevation of land-surface datum is 1,190 ft above sea level. Measuring point: Mark on wooden base of instrument shelter, 1.05 ft above land-surface datum.

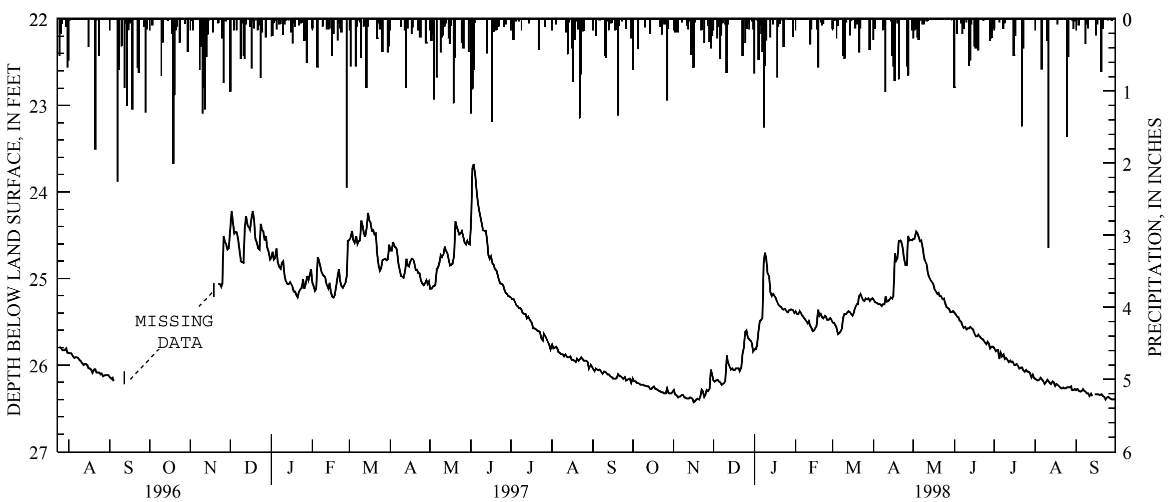
PERIOD OF RECORD.--July 24, 1996 to current year.

EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 23.68 ft below land-surface datum, June 3, 1997; lowest measured, 26.43 ft below land-surface datum, November 16, 1997.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.16	26.29	26.18	25.82	25.38	25.51	25.25	24.54	25.40	25.81	26.16	26.29
2	26.19	26.34	26.19	25.82	25.41	25.51	25.28	24.54	25.42	25.84	26.17	26.28
3	26.19	26.35	26.18	25.78	25.41	25.54	25.28	24.46	25.44	25.83	26.18	26.30
4	26.21	26.38	26.17	25.60	25.38	25.58	25.29	24.48	25.45	25.83	26.17	26.31
5	26.21	26.37	26.19	25.49	25.40	25.64	25.30	24.52	25.49	25.93	26.15	26.30
6	26.22	26.37	26.20	25.48	25.43	25.63	25.30	24.57	25.50	25.86	26.17	26.28
7	26.23	26.35	26.23	25.45	25.45	25.61	25.32	24.56	25.54	25.90	26.19	26.30
8	26.23	26.35	26.22	24.81	25.47	25.58	25.30	24.65	25.57	25.88	26.22	26.31
9	26.23	26.38	26.21	24.70	25.49	25.46	25.30	24.76	25.56	25.93	26.20	26.33
10	26.24	26.38	26.18	24.77	25.52	25.41	25.21	24.80	25.59	25.92	26.17	26.33
11	26.24	26.39	25.89	24.94	25.49	25.41	25.27	24.84	25.58	25.94	26.19	26.36
12	26.25	26.39	25.97	24.98	25.55	25.39	25.26	24.94	25.58	25.97	26.21	26.33
13	26.25	26.38	26.01	25.16	25.57	25.38	25.24	24.99	25.56	25.95	26.22	26.36
14	26.28	26.38	26.05	25.20	25.61	25.39	25.22	25.02	25.58	25.97	26.19	---
15	26.28	26.39	26.04	25.18	25.60	25.41	25.23	25.04	25.59	25.96	26.20	26.34
16	26.26	26.43	26.06	25.20	25.57	25.43	25.20	25.07	25.63	26.00	26.24	26.34
17	26.25	26.42	26.06	25.23	25.55	25.40	24.71	25.13	25.67	26.00	26.22	26.34
18	26.28	26.40	26.04	25.27	25.36	25.34	24.79	25.15	25.67	25.99	26.23	26.34
19	26.28	26.39	26.04	25.30	25.43	25.30	24.76	25.18	25.65	26.01	26.25	26.35
20	26.29	26.40	26.04	25.32	25.41	25.30	24.57	25.17	25.67	26.04	26.26	26.34
21	26.30	26.37	26.07	25.33	25.45	25.20	24.56	25.21	25.69	26.03	26.27	26.36
22	26.31	26.29	26.03	25.35	25.46	25.18	24.58	25.21	25.70	26.03	26.26	26.37
23	26.32	26.31	25.87	25.36	25.43	25.22	24.64	25.24	25.72	26.06	26.27	26.40
24	26.32	26.37	25.80	25.35	25.44	25.25	24.76	25.23	25.74	26.08	26.27	26.38
25	26.33	26.34	25.62	25.38	25.48	25.26	24.85	25.29	25.76	26.06	26.26	26.37
26	26.33	26.29	25.60	25.39	25.48	25.23	24.85	25.33	25.73	26.08	26.26	26.38
27	26.27	26.30	25.69	25.37	25.46	25.24	24.51	25.34	25.75	26.08	26.26	26.39
28	26.32	26.27	25.71	25.36	25.48	25.23	24.56	25.35	25.81	26.09	26.25	26.40
29	26.33	26.05	25.72	25.36	---	25.26	24.55	25.39	25.79	26.14	26.29	26.40
30	26.33	26.11	25.75	25.37	---	25.24	24.56	25.39	25.79	26.11	26.29	26.40
31	26.31	---	25.84	25.40	---	25.23	---	25.38	---	26.15	26.28	---
MEAN	26.27	26.34	26.00	25.31	25.47	25.38	24.98	24.99	25.62	25.98	26.22	26.34
MAX	26.33	26.43	26.23	25.82	25.61	25.64	25.32	25.39	25.81	26.15	26.29	26.40
MIN	26.16	26.05	25.60	24.70	25.36	25.18	24.51	24.46	25.40	25.81	26.15	26.28

CAL YR 1997 MEAN 25.41 HIGH 23.68 LOW 26.43
WTR YR 1998 MEAN 25.74 HIGH 24.46 LOW 26.43

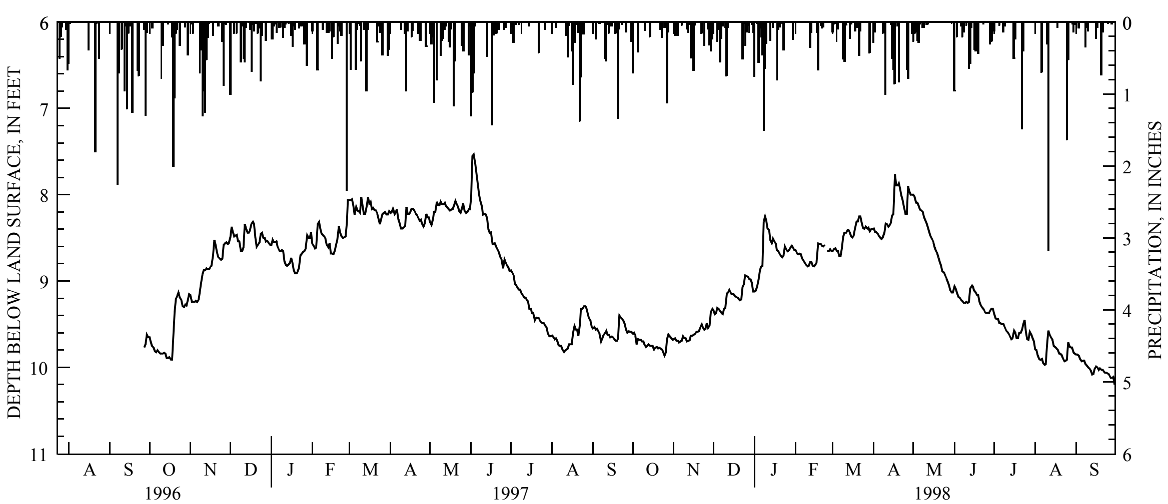


412322081190000. Local number GE-350
LOCATION.--Lat 41°23'32", long 81°19'00"; 9100 Bainbridge Road; Bainbridge Township.
Owner.--Privately owned.
AQUIFER.--Pottsville Formation (sandstone) of Pennsylvanian age.
WELL CHARACTERISTICS.--Domestic water-supply well, not currently in use; diameter 6.0 in.; depth 59.87 ft.
INSTRUMENTATION - Pressure transducer and CR10X data logger (records hourly).
DATUM.--Elevation of land-surface datum is 1,120 ft above sea level. Measuring point: Mark on wooden base of instrument shelter, 0.77 ft above land-surface datum.
PERIOD OF RECORD.--September 26, 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 7.53 ft below land-surface datum, June 3, 1997; lowest measured, 10.20 ft below land-surface datum, September 30, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.61	9.67	9.34	9.12	8.64	8.65	8.39	8.00	9.06	9.38	9.79	9.85
2	9.60	9.66	9.38	9.11	8.68	8.63	8.43	8.02	9.09	9.43	9.80	9.85
3	9.63	9.69	9.37	9.07	8.69	8.62	8.43	8.09	9.14	9.44	9.86	9.86
4	9.73	9.69	9.31	8.98	8.68	8.65	8.45	8.09	9.18	9.44	9.90	9.91
5	9.67	9.71	9.32	8.88	8.69	8.65	8.48	8.13	9.19	9.49	9.91	9.93
6	9.68	9.70	9.35	8.83	8.74	8.71	8.50	8.17	9.22	9.49	9.90	9.92
7	9.68	9.69	9.37	8.82	8.76	8.71	8.51	8.18	9.23	9.50	9.95	9.92
8	9.70	9.64	9.38	8.31	8.79	8.62	8.49	8.20	9.25	9.50	9.97	9.96
9	9.70	9.66	9.32	8.25	8.81	8.49	8.44	8.26	9.25	9.54	9.96	9.98
10	9.74	9.66	9.31	8.30	8.83	8.44	8.33	8.29	9.24	9.57	9.74	10.00
11	9.76	9.70	9.14	8.39	8.82	8.44	8.34	8.33	9.25	9.59	9.57	10.01
12	9.75	9.69	9.13	8.41	8.78	8.41	8.37	8.38	9.24	9.61	9.62	10.04
13	9.73	9.68	9.10	8.53	8.78	8.41	8.35	8.43	9.08	9.65	9.65	10.08
14	9.75	9.63	9.14	8.56	8.82	8.44	8.32	8.48	9.05	9.67	9.68	10.07
15	9.75	9.63	9.15	8.51	8.83	8.48	8.24	8.51	9.07	9.66	9.75	10.01
16	9.75	9.62	9.15	8.54	8.81	8.49	8.22	8.55	9.11	9.57	9.76	9.99
17	9.79	9.61	9.17	8.57	8.78	8.47	7.76	8.61	9.13	9.60	9.78	10.00
18	9.77	9.59	9.18	8.64	8.56	8.39	7.89	8.65	9.16	9.66	9.79	10.03
19	9.76	9.59	9.19	8.65	8.57	8.31	7.89	8.68	9.16	9.66	9.84	10.01
20	9.78	9.58	9.21	8.69	8.57	8.31	7.86	8.73	9.24	9.60	9.84	10.03
21	9.77	9.53	9.22	8.71	8.59	8.25	7.93	8.78	9.28	9.60	9.85	10.03
22	9.78	9.50	9.21	8.72	8.60	8.25	8.01	8.82	9.31	9.56	9.90	10.05
23	9.79	9.54	9.06	8.70	8.58	8.32	8.06	8.89	9.33	9.51	9.93	10.06
24	9.82	9.56	9.03	8.60	---	8.38	8.14	8.90	9.36	9.45	9.92	10.06
25	9.86	9.55	8.93	8.64	8.65	8.39	8.22	8.94	9.37	9.59	9.91	10.07
26	9.83	9.49	8.94	8.65	8.65	8.37	8.22	8.97	9.37	9.67	9.71	10.09
27	9.67	9.54	8.95	8.64	8.63	8.39	7.90	9.01	9.37	9.68	9.76	10.12
28	9.62	9.51	8.98	8.61	8.65	8.38	7.96	9.05	9.34	9.59	9.77	10.12
29	9.64	9.35	8.98	8.59	---	8.42	8.00	9.11	9.32	9.62	9.77	10.11
30	9.66	9.32	9.02	8.61	---	8.40	8.00	9.13	9.32	9.66	9.83	10.20
31	9.68	---	9.12	8.64	---	8.40	---	9.13	---	9.70	9.84	---
MEAN	9.72	9.60	9.18	8.65	8.70	8.46	8.20	8.56	9.22	9.57	9.81	10.01
MAX	9.86	9.71	9.38	9.12	8.83	8.71	8.51	9.13	9.37	9.70	9.97	10.20
MIN	9.60	9.32	8.93	8.25	8.56	8.25	7.76	8.00	9.05	9.38	9.57	9.85

CAL YR 1997 MEAN 8.93 HIGH 7.53 LOW 9.86
WTR YR 1998 MEAN 9.15 HIGH 7.76 LOW 10.20

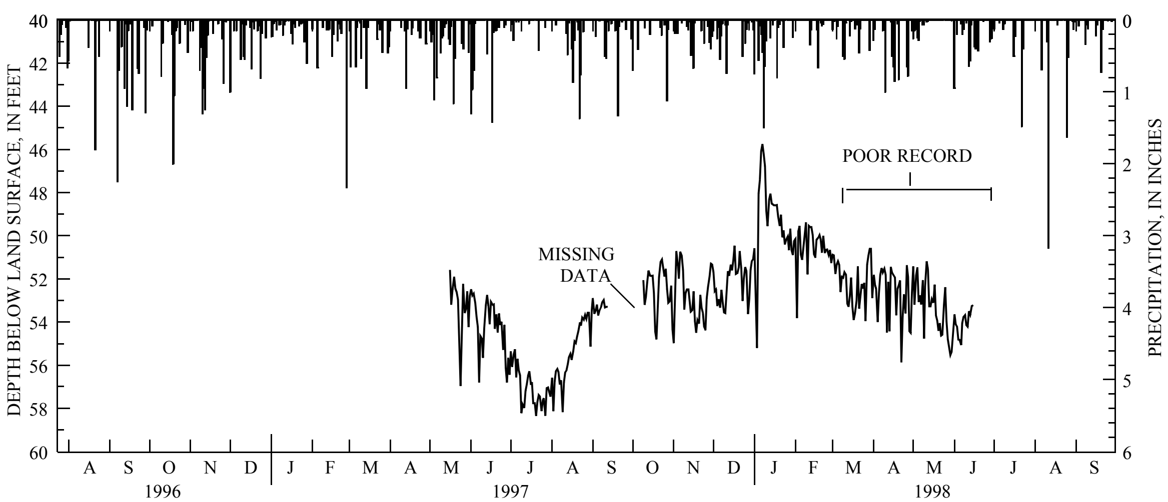


413119081213200. Local number, GE-351
LOCATION.--Lat 41°31'19", long 81°21'32"; south side of S.R. 322, east of intersection with Caves Road and west of Bloom Brothers Hardware; Chester Township.
Owner.--Privately owned.
AQUIFER.--Cuyahoga Group (interbedded shales and sandstones) of Mississippian age.
WELL CHARACTERISTICS.--Domestic water-supply well, not currently in use; diameter 6 in.; depth 126.5 ft.
INSTRUMENTATION - Pressure transducer and CR10X data logger (records hourly).
DATUM.--Elevation of land-surface datum is 1,135 ft above sea level. Measuring point: Mark on wooden base of instrument shelter, 1.25 ft above land-surface datum.
PERIOD OF RECORD.--May 15, 1997 through September 30, 1997.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 45.75 ft below land-surface datum, January 7, 1998; lowest measured, 58.35 ft below land-surface datum, July 20, 1997.
REMARKS.--Poor record between February 25, 1998 and June 16, 1998 due to slowly failing transducer.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	54.98	51.68	50.59	50.13	50.88	51.81	51.42	53.64	---	---	---
2	---	52.34	52.57	52.21	53.83	50.91	52.31	53.20	54.12	---	---	---
3	---	50.71	52.49	55.21	49.80	51.77	52.45	51.84	54.22	---	---	---
4	---	51.37	53.26	48.03	49.55	51.33	54.01	51.47	54.82	---	---	---
5	---	51.99	52.94	47.40	50.88	51.18	52.66	53.08	54.84	---	---	---
6	---	50.74	53.33	46.08	51.12	51.36	51.81	52.76	55.08	---	---	---
7	---	50.94	52.51	45.75	50.52	52.60	51.50	53.19	54.05	---	---	---
8	---	51.59	53.10	46.20	49.92	51.90	51.71	52.06	53.77	---	---	---
9	52.06	53.42	53.56	46.77	49.38	51.94	51.53	54.77	53.67	---	---	---
10	53.20	52.65	53.58	48.84	51.80	51.69	51.81	52.35	54.15	---	---	---
11	52.84	52.50	52.43	49.56	49.55	51.81	54.50	51.19	54.23	---	---	---
12	52.17	52.49	51.65	48.31	49.61	53.14	52.13	51.55	53.49	---	---	---
13	51.62	53.07	51.85	48.04	49.61	53.30	54.43	53.27	53.66	---	---	---
14	51.85	53.53	51.33	48.51	49.96	52.79	51.44	53.28	53.25	---	---	---
15	51.87	53.45	51.60	48.55	50.89	51.94	51.72	52.94	53.22	---	---	---
16	51.86	52.58	51.14	48.60	51.03	53.28	51.82	53.12	---	---	---	---
17	52.65	53.94	50.46	48.60	50.18	53.89	51.95	52.27	---	---	---	---
18	54.44	54.49	51.76	48.58	50.10	53.60	53.70	53.69	---	---	---	---
19	54.81	53.92	51.72	49.09	49.96	53.00	52.46	53.93	---	---	---	---
20	53.28	54.07	51.47	49.54	50.19	51.42	52.29	54.40	---	---	---	---
21	51.92	52.74	50.71	49.03	50.79	53.39	52.08	54.04	---	---	---	---
22	51.19	53.33	51.53	50.07	50.01	52.77	55.87	54.63	---	---	---	---
23	51.08	53.57	53.02	49.75	50.81	52.24	53.77	54.59	---	---	---	---
24	51.49	54.26	51.97	50.41	50.65	52.45	52.71	53.21	---	---	---	---
25	51.88	54.38	51.46	50.13	50.64	52.18	53.60	52.39	---	---	---	---
26	51.53	52.90	51.65	50.02	50.90	53.96	51.37	53.97	---	---	---	---
27	52.45	52.37	53.63	50.67	50.65	51.33	51.91	54.78	---	---	---	---
28	53.12	51.87	52.92	49.68	51.26	50.92	54.43	55.16	---	---	---	---
29	53.05	51.30	51.57	50.68	---	50.60	54.51	55.53	---	---	---	---
30	52.31	51.34	51.16	50.89	---	50.61	52.62	55.38	---	---	---	---
31	54.33	---	51.07	50.23	---	52.89	---	54.60	---	---	---	---
MEAN	52.48	52.76	52.10	49.23	50.49	52.16	52.70	53.36	54.01	---	---	---
MAX	54.81	54.98	53.63	55.21	53.83	53.96	55.87	55.53	55.08	---	---	---
MIN	51.08	50.71	50.46	45.75	49.38	50.60	51.37	51.19	53.22	---	---	---

CAL YR 1997 MEAN 53.96 HIGH 50.46 LOW 58.35
WTR YR 1998 MEAN 52.03 HIGH 45.75 LOW 55.87

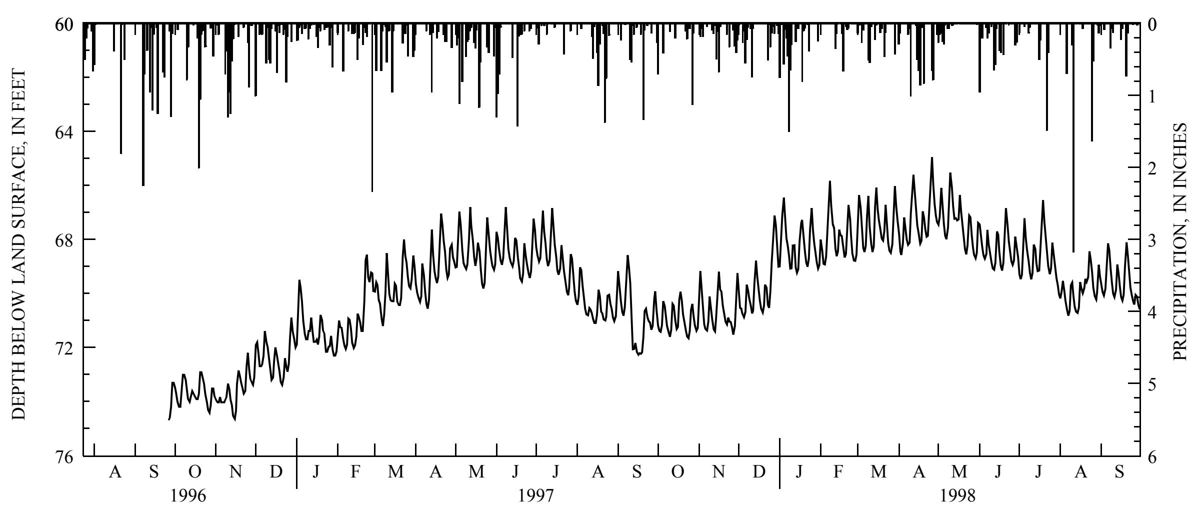


412851081045200. Local number, GE-352
LOCATION.--Lat 41°28'51", long 81°04'52"; west side of S.R. 608, north of Middlefield Village, by hunters' parking lot; Middlefield Township.
Owner.--City of Akron.
AQUIFER.--Glacial deposits of Quaternary age.
WELL CHARACTERISTICS.--Domestic water-supply well, not currently in use; diameter 6 in.; depth 122.3 ft.
INSTRUMENTATION - Pressure transducer and CR10X data logger (records hourly).
DATUM.--Elevation of land-surface datum is 1,140 ft above sea level. Measuring point: Mark on wooden base of instrument shelter, 1.15 ft above land-surface datum.
PERIOD OF RECORD.--September 25, 1996 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 64.96 ft below land-surface datum, April 26,1998; lowest measured, 74.80 ft below land-surface datum, September 25, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	71.20	70.39	69.89	69.00	68.01	67.43	67.79	67.46	67.45	69.28	70.19	69.65
2	71.38	69.17	70.53	67.99	68.42	66.36	68.44	67.17	67.84	69.48	69.93	69.95
3	71.42	69.89	70.56	67.11	68.90	66.83	68.57	66.10	68.29	69.31	69.53	70.08
4	71.18	70.65	70.79	66.45	68.93	67.62	68.14	66.73	68.60	68.20	69.86	69.82
5	70.29	71.13	70.90	67.22	68.65	68.31	67.18	67.41	68.72	67.22	70.27	69.03
6	70.49	71.33	70.68	67.96	67.58	68.46	67.62	67.86	68.54	67.95	70.61	68.14
7	70.92	71.38	69.67	68.21	66.63	68.23	68.00	67.99	67.65	68.40	70.82	68.40
8	71.22	71.04	69.88	68.59	65.83	67.13	68.19	67.55	68.17	68.81	70.65	69.06
9	71.44	70.11	70.20	69.08	66.76	66.39	68.11	66.45	68.54	69.24	69.67	69.58
10	71.61	70.55	70.41	69.07	67.45	67.52	66.98	65.53	68.86	69.48	69.58	70.01
11	71.35	70.96	70.74	68.23	67.57	68.16	66.24	66.06	69.08	69.25	70.10	70.14
12	70.39	71.34	70.64	68.21	68.32	68.46	65.61	66.77	69.13	68.20	70.51	69.86
13	70.46	71.42	69.63	69.03	68.62	68.25	66.31	67.24	68.85	68.38	70.67	68.93
14	71.02	70.95	68.78	69.24	68.44	66.79	66.94	67.21	67.71	68.85	70.72	69.25
15	71.31	69.95	69.39	69.11	67.64	66.08	67.49	67.29	67.84	69.18	70.52	69.75
16	71.23	69.20	69.80	68.09	67.84	66.87	67.75	67.25	68.42	69.16	69.58	70.14
17	70.24	69.87	70.27	67.41	67.88	67.29	68.16	66.36	68.99	68.26	69.83	70.27
18	69.94	69.95	70.56	67.28	68.31	67.57	68.05	66.97	69.15	67.32	69.99	70.04
19	70.26	70.44	70.71	67.79	68.67	67.98	66.96	67.42	68.85	66.55	69.80	69.02
20	70.77	70.79	70.46	68.46	68.54	68.06	67.18	67.91	67.70	67.33	69.46	68.11
21	71.04	71.06	69.67	68.85	67.52	67.68	67.63	68.36	66.85	67.95	69.58	68.60
22	71.38	71.16	69.79	69.02	66.72	66.72	67.89	68.55	67.46	68.51	69.41	69.23
23	71.61	70.90	70.42	68.71	67.24	67.34	67.86	68.21	68.07	68.98	68.44	69.78
24	71.67	71.05	70.54	67.61	67.88	68.12	66.86	67.11	68.46	69.28	68.75	70.05
25	71.38	71.06	69.90	66.85	68.51	68.43	65.84	67.18	68.81	69.07	69.18	70.31
26	70.60	71.25	68.85	67.66	68.79	68.50	64.96	67.82	68.94	68.12	69.78	70.41
27	70.38	71.53	67.95	68.14	68.80	68.18	65.99	68.30	68.79	68.54	70.13	70.06
28	70.85	71.21	67.12	68.50	68.56	67.06	66.68	68.61	67.89	68.96	70.25	70.14
29	71.19	70.24	67.47	68.85	---	66.02	67.12	68.71	68.24	69.44	69.94	70.44
30	71.38	69.25	68.21	69.09	---	66.76	67.38	68.49	68.66	69.69	68.94	70.59
31	71.28	---	69.02	68.95	---	67.27	---	67.39	---	70.04	69.38	---
MEAN	71.00	70.64	69.79	68.25	67.96	67.48	67.26	67.40	68.35	68.66	69.87	69.63
MAX	71.67	71.53	70.90	69.24	68.93	68.50	68.57	68.71	69.15	70.04	70.82	70.59
MIN	69.94	69.17	67.12	66.45	65.83	66.02	64.96	65.53	66.85	66.55	68.44	68.11

CAL YR 1997 MEAN 69.96 HIGH 66.81 LOW 72.31
WTR YR 1998 MEAN 68.86 HIGH 64.96 LOW 71.67

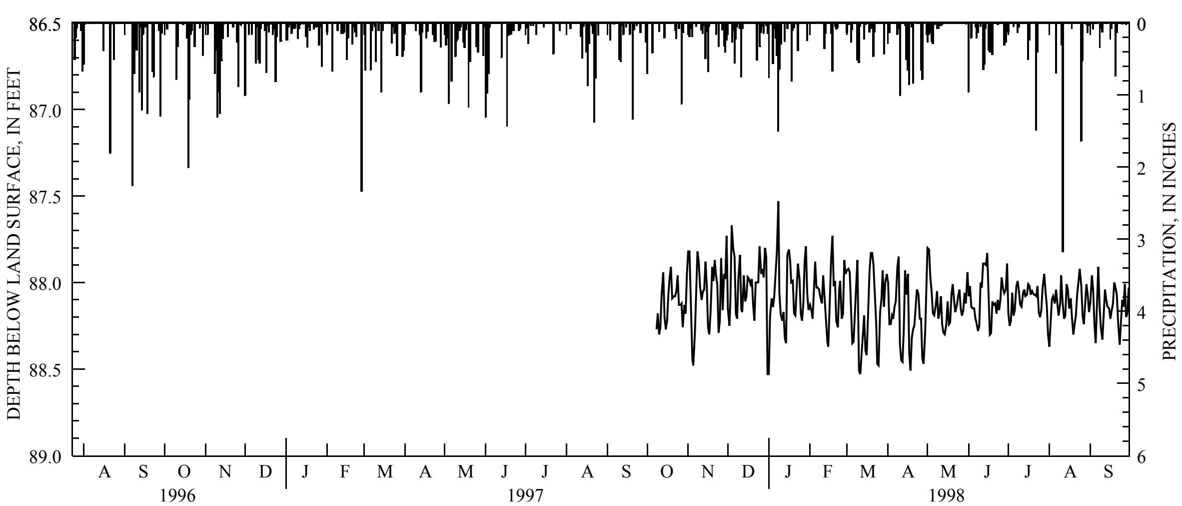


412748081172000. Local number GE-354
LOCATION.--Lat 41°27'48",long 81°17'20"; northwest corner of intersection of Sperry Rd. and S.R. 87; Newbury Township.
Owner.--Privately owned.
AQUIFER.--Pottsville Formation (sandstone) of Pennsylvanian age.
WELL CHARACTERISTICS.--Domestic water-supply well, not currently in use; diameter 6.0 in.; depth 113.9 ft.
INSTRUMENTATION - Pressure transducer and CR10X data logger (records hourly).
DATUM.--Elevation of land-surface datum is 1,275 ft above sea level. Measuring point: Mark on wooden base of instrument shelter, 4.15 ft above land-surface datum.
PERIOD OF RECORD.--October 7, 1997 to current year.
EXTREMES FOR PERIOD OF RECORD.--Highest water level measured, 87.53 ft below land-surface datum, January 8, 1998; lowest measured, 88.53 ft below land-surface datum, December 31-January 1, 1998 and March 11, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	87.82	88.15	88.53	88.13	87.93	88.00	87.80	88.08	88.18	88.37	88.12
2	---	87.82	88.25	88.19	88.16	87.92	88.24	87.81	88.02	88.25	88.24	87.96
3	---	88.20	88.10	88.09	88.21	87.94	88.24	87.97	88.14	88.22	88.10	88.04
4	---	88.44	87.67	88.14	88.02	88.17	88.19	88.05	88.15	88.06	88.08	88.24
5	---	88.48	87.81	88.08	87.88	88.35	88.21	88.18	88.15	88.19	88.12	88.35
6	---	88.29	87.85	87.95	88.03	88.34	88.14	88.19	88.21	88.16	88.04	88.17
7	---	88.01	88.18	87.83	88.03	88.21	88.11	88.13	88.23	88.02	88.12	87.91
8	88.27	87.82	88.21	87.53	88.04	88.04	87.91	88.05	88.28	87.99	88.19	88.13
9	88.18	87.88	87.97	88.06	88.09	87.87	87.85	88.21	88.25	88.05	88.12	88.26
10	88.30	88.02	87.84	88.18	88.12	88.51	88.36	88.17	88.00	88.13	87.96	88.33
11	88.26	88.10	88.16	88.22	87.96	88.53	88.45	88.08	88.03	88.14	88.10	88.20
12	88.07	88.05	88.17	88.17	88.07	88.43	88.46	88.24	87.89	88.06	88.21	88.04
13	87.94	88.04	87.96	88.32	88.18	88.32	88.27	88.29	87.89	88.04	88.19	88.10
14	88.20	87.88	88.11	88.35	88.34	88.19	87.93	88.30	87.90	88.08	88.01	88.14
15	88.27	88.01	88.08	87.84	88.37	88.39	88.07	88.24	87.83	88.07	88.04	88.15
16	88.22	88.26	87.97	87.81	88.15	88.42	87.95	88.11	88.09	88.01	88.15	88.21
17	88.07	88.30	87.98	87.88	87.86	88.24	88.41	88.24	88.30	88.02	88.09	88.17
18	87.97	88.17	88.01	88.00	87.73	87.93	88.51	88.23	88.29	88.07	88.21	88.12
19	87.91	87.91	87.98	87.99	88.02	87.83	88.32	88.07	88.11	88.05	88.30	88.00
20	88.09	87.99	88.13	88.18	87.99	87.83	88.27	88.01	88.13	88.07	88.24	88.03
21	88.08	87.87	88.22	88.19	88.22	87.89	88.25	88.10	88.12	88.07	88.19	88.07
22	88.08	87.96	88.00	88.06	88.26	88.07	88.15	88.17	88.18	88.08	88.07	88.23
23	88.05	88.01	88.00	87.89	88.04	88.25	88.04	88.13	88.10	88.02	87.99	88.36
24	87.96	88.29	88.00	87.98	87.99	88.47	88.07	88.08	88.16	88.17	87.92	88.23
25	88.13	88.22	87.79	88.18	88.21	88.48	88.21	88.04	88.10	88.20	88.02	88.10
26	88.13	87.86	87.95	88.22	88.18	88.17	88.21	88.15	87.97	88.16	88.19	88.14
27	88.12	88.16	87.92	88.12	87.87	88.10	88.44	88.19	88.03	88.03	88.24	88.01
28	88.26	87.95	87.97	87.88	87.95	87.93	88.47	88.16	88.06	87.95	88.13	88.20
29	88.13	87.98	87.80	87.79	---	88.14	88.28	88.06	88.04	88.05	88.01	88.18
30	88.18	87.73	87.85	88.06	---	88.00	88.04	88.12	87.89	88.13	88.07	88.03
31	87.95	---	88.53	88.16	---	87.95	---	87.94	---	88.30	88.17	---
MEAN	88.12	88.05	88.02	88.06	88.08	88.16	88.20	88.11	88.09	88.10	88.13	88.14
MAX	88.30	88.48	88.53	88.53	88.37	88.53	88.51	88.30	88.30	88.30	88.37	88.36
MIN	87.91	87.73	87.67	87.53	87.73	87.83	87.85	87.80	87.83	87.95	87.92	87.91

WTR YR 1998 MEAN 88.10 HIGH 87.53 LOW 88.53



Low-Flow Magnitude and Frequency of Ohio Streams

The low-flow network is part of a cooperative study with The Ohio Department of Natural Resources to define the low-flow characteristics of 180 sites that have essentially unregulated streamflow and drainage areas less than 150 square miles. The following table lists the sites of the low-flow partial record network including discharge measurements made in the 1998 water year. The second table lists the discontinued streamflow gaging stations which a discharge measurement was performed in 1998 that were used for index stations for this project. Figure 10 illustrate the location of the low-flow partial record stations. The discontinued stations are not plotted.

Low-flow Partial Record Stations

Station No.	Station Name	Location	Drainage Area1 (mi2)	Period of Record (water year)	Measurements	
					Date	Discharge (ft3/s)
		Beaver River Basin				
03098390	Mill Creek near Youngstown, Ohio	Lat 41°02′00″, Long 80°41′37″, Mahoning County, Hydrologic Unit 05030103 at pedestrian bridge over Mill Creek at end of extra parking lot next to Mill Creek Park Golf Course, 0.75 northeast of park entrance at SR 224, 0.75 mi. downstream of Indian Run, 3.1 mi. upstream of Newport Lake Dam, 3 mi. southwest of South Side Youngstown, Ohio. (Youngstown 1:24000 quad)	51.5	1995-98	9/16/98	6.90
03108996	Middle Fork Little Beaver Creek at Teegarden, Ohio	Lat 40°49′18″, Long 80°49′37″, Columbiana County, Hydrologic Unit 05030101 at Teegarden covered bridge of Eagleton Road over Middle Fork Little Beaver Creek (covered bridge is abandoned, next to new bridge), 3.3 mi. below Stone Mill Run, 1 mi. northeast of Salem Reservoir, 4.5 mi. northwest of Lisbon, Ohio. (Lisbon 1:24000 quad)	90.2	1995-98	9/15/98	14.6
		Yellow Creek Basin				
03109861	Yellow Creek at Bergholz, Ohio	Lat 40°30′54″, Long 80°53′17″, Jefferson County, Hydrologic Unit 05030101 at State Route 164 bridge over Yellow Creek, 0.8 mi. below confluence of Elkhorn Creek, 0.4 mi. southwest of Bergholz, Ohio.(Bergholz 1:24000 quad)	65.8	1994-98	9/15/98	5.47
		Short Creek Basin				
03111465	Short Creek at Adena, Ohio	Lat 40°13′09″, Long 80°52′22″, Jefferson County, Hydrologic Unit 05030106 at Adena-Smithfield Road bridge over Short Creek, 400 ft below confluence with North Fork, in Adena, Ohio. (Dillonvale 1:24,000 quad)	63.9	1981-82 1994-98	9/16/98	23.8
		McMahon Creek Basin				
03112820	McMahon Creek at Glencoe, Ohio	Lat 40°00′10″, Long 80°52′38″, Belmont County, Hydrologic Unit 05030106 at County Road 149, 0.7 mi. southeast of Glencoe, Ohio. (St. Clairsville 1:24000 quad)	50.7	1981-82 1995 1997-98	9/15/98	3.20
03113550	McMahon Creek at Bellaire, Ohio	Lat 40°00′39″, Long 80°45′45″, Belmont County, Hydrologic Unit 05030106 at county road bridge connecting Bellaire with State Route 147, 300 ft upstream from Bellaire City Limits, Ohio. (Lansing 1:24000 quad)	90.2	1981-82 1995-98	9/15/98	7.00
		Sunfish Creek Basin				
03114241	Sunfish Creek at Coats, Ohio	Lat 39°46′14″, Long 81°02′34″, Monroe County, Hydrologic Unit 05030201 at riffle beside Sunfish Creek Road, 800 ft downstream from confluence of unnamed tributary, 0.7 mi. downstream from confluence of Standingstone Run, 1.0 mi. southeast of Coats, 4.0 mi east of Woodsfield, Ohio. (Woodsfield 1:24000 quad)	51.3	1995 1997-98	10/8/98 9/16/98	2.20 0.37

Low-flow Partial Record Stations

Station No.	Station Name	Location	Drainage Area1 (mi2)	Period of Record (water year)	Measurements	
					Date	Discharge (ft3/s)
		Little Muskingum River Basin				
03115385	Clear Fork near Rinard Mills, Ohio	Lat 39°36’08”, Long 81°09’17”, Monroe County, Hydrologic Unit 05030201 at State Route 26 bridge over Clear Fork, 0.3 mi. above confluence with L Muskingum River, 1.2 mi. north of Rinard Mills, Ohio. (Rinard Mills 1:24000 quad)	48.8	1997-98	10/8/97 9/16/98	2.32 0.27
		Muskingum River Basin				
03123166	South Fork Sugar Creek near Sugarcreek, Ohio	Lat 40°31’25”, Long 81°36’52”, Tuscarawas County, Hydrologic Unit 05040001 at Tuscarawas County Road 75, 0.2 mi. downstream from confluence with East Branch, 0.2 mi. northeast of Sugarcreek, Ohio. (Strasburg 1:24000 quad)	63.3	1997-98	9/15/98	6.16
03123299	Walnut Creek at Dundee, Ohio	Lat 40°35’12”, Long 81°37’16”, Tuscarawas County, Hydrologic Unit 05040001 at private road bridge, 0.5 mi. upstream from mouth, 0.7 mi. west of Dundee, Ohio. (Strasburg 1:24000 quad)	48.0	1997-98	9/15/98	5.68
03126170	Skull Fork near Freeport, Ohio	Lat 40°11’52”, Long 81°16’13”, Harrison County, Hydrologic Unit 05040001 at county road bridge, 0.8 mi. south of Freeport, Ohio. (Freeport 1:24000 quad)	45.9	1981-82 1997-98	9/16/98	0.51
03136142	Kokosing River at Chesterville, Ohio	Lat 40°28’28”, Long 82°41’02”, Morrow County, Hydrologic Unit 05040003 at State Route 314 bridge, 0.5 mi. downstream from confluence with South Branch, 0.4 mi. south of Chesterville, Ohio. (Chesterville 1:24000 quad)	38.7	1996 1998	10/9/97 8/21/98	1.52 2.51
03140700	Bufffalo Fork at Pleasant City, Ohio	Lat 39°54’10”, Long 81°33’15”, Guernsey County, Hydrologic Unit 05040005 at State Route 82 bridge, 500 ft north of junction with State Route 146, at Pleasant City, Ohio. (Byesville 1:24000 quad)	71.1	1959 1962-67 1969 1971-74 1996 1998	10/7/97 9/16/98	7.65 11.4
03140800	Bufffalo Creek at Pleasant City, Ohio	Lat 39°54’10”, Long 81°33’00”, Guernsey County, Hydrologic Unit 05040005 at State Route 146 bridge, just above confluence with Buffalo Fork, at Pleasant City, Ohio. (Byesville 1:24000 quad)	49.7	1959 1962-67 1967 1969 1971-74 1996 1998	10/8/97 9/16/98	0.31 0.32
03143760	Wakatomika Creek near Perryton, Ohio	Lat 40°13’10”, Long 82°10’53”, Coshocton County, Hydrologic Unit 05040004, at point in stream 0.15 mile north of east-west section of county road, 0.7 mi. upstream from Winding Fork, 5.2 mi. north of Perryton, Ohio. (Perryton 1:24000 quad)	58.3	1981-82 1995-98	10/9/97 8/19/98	4.27 5.10
03145329	Raccoon Creek at Alexandria, Ohio	Lat 40°05’05”, Long 82°36’18”, Licking County, Hydrologic Unit 05040006, at State Route 37 bridge over Raccoon Creek, 0.8 mi. above confluence with Lobdell Creek, 0.9 mi. below confluence with Simpson Run, 0.7 mi. north of intersection of SR 37 and SR 161, 0.2 mi. southeast of Alexandria, Ohio. (Granville 1:24000 quad)	40.6	1997-98	10/8/97 9/7/98	3.39 1.49

Low-flow Partial Record Stations

Station No.	Station Name	Location	Drainage Area[1] (mi2)	Period of Record (water year)	Measurements Date	Measurements Discharge (ft3/s)
03145533	Raccoon Creek at Newark, Ohio	Lat 40°02′34″, Long 82°24′44″, Licking County, Hydrologic Unit 05040006, at West Main Street bridge over Raccoon Creek, 0.7 mi. above confluence with South Fork Licking River, in Newark, Ohio. (Newark 1:24000 quad)	101	1997-98	10/8/97 9/8/98	25.1 20.8
		Muskingum River Basin—Continued				
03150200	Meigs Creek near Reinersville, Ohio	Lat 39°37′43″, Long 81°43′12″, Morgan County, Hydrologic Unit 05040004, at county road bridge at Unionville, 0.1 mi. upstream from Dyes Fork, 5.1 mi. southwest of Reinersville, Ohio. (Reinersville 1:24000 quad)	73.0	1981-82 1996 1998	10/9/97	3.08
		Hocking River Basin				
03158165	Monday Creek near Greendale, Ohio	Lat 39°31′24″, Long 82°16′17″, Hocking County, Hydrologic Unit 05030204 at Dawley Road over Monday Creek, 0.7 mi above confluence with Sand Run, 0.9 mi. above proposed reservoir site, 1.3 m. southeast of Greendale, 4 mi. northeast of Haydenville, Ohio. (Gore 1:24000 quad)	67.2	1995-96 1998	10/8/97 8/20/98 9/15/98	4.02 2.20 0.93
		Shade River Basin				
03159555	East Branch Shade River near Tuppers Plains, Ohio	Lat 39°08′29″, Long 81°52′39″, Meigs County, Hydrologic Unit 05030202 at private road bridge, adjacent to Township Road 279, 2.1 mi. downstream from Meigs Creek, 2.8 mi. upstream from Big Run, 2.7 mi. southwest of Tuppers Plains, Ohio (Alfred 1:24000 quad)	37.5	1980-81[a] 1983-85[a] 1995-96 1998	10/7/97	0.20
		Leading Creek Basin				
03160050	Leading Creek near Middleport, Ohio	Lat 39°00′25″, Long 82°05′10″, Meigs County, Hydrologic Unit 05030202 at first private road bridge, 1.2 mi. above State Highway 7, 1.75 mi. northwest of Middleport, Ohio. (Pomeroy 1:24000 quad)	118	1956 1962-67 1969 1971-75 1995-96 1998	10/7/97 9/9/98	3.29 8.41
		Symmes Creek Basin				
03205260	Symmes Creek near Centerpoint, Ohio	Lat 38°52′12″, Long 82°28′44″, Jackson County, Hydrologic Unit 05090101 at Jenkins Alban Road bridge over Symmes Creek, 2.5 mi. above confluence with Black Fork, 1.9 mi. northwest of Centerpoint, Ohio.(Patriot 1:24000 quad)	45.9	1997-98	9/9/98	0.18
		Pine Creek Basin				
03216620	Pine Creek near South Webster, Ohio	Lat 38°46′12″, Long 82°42′25″, Scioto County, Hydrologic Unit 05090103 at Lick Run Lyra Road bridge over Pine Creek, 3.0 mi. southeast of South Webster, Ohio. (South Webster 1:24000 quad)	33.2	1998	10/7/97 9/8/98	0.06 0.03
		Scioto River Basin				
03230745	Deer Creek at US 142 Near London, Ohio	Lat 39°54′17″, Long 83°23′35″, Madison County, Hydrologic Unit 05060002 at State Route 142 bridge, 3.0 mi. northeast of London, Ohio. (London 1:24000 quad)		1981-82 1995-96 1998	10/8/97 5/27/98 8/18/98	0.61 18.9 1.61
03231550	Paint Creek at Washington Court House, Ohio	Lat 39°32′12″, Long 83°26′46″, Fayette County, Hydrologic Unit 05060003 at U.S. 35 (Dayton Avenue) bridge in Washington Court House, 1.7 mi. (2.7 km) upstream from East Fork Paint Creek. (Washington Court House 1:24000 quad)	62.3	1980-82 1995-96 1998	10/8/97 5/27/98 8/18/98	0.49 38.2 1.54

Low-flow Partial Record Stations

Station No.	Station Name	Location	Drainage Area1 (mi2)	Period of Record (water year)	Measurements	
					Date	Discharge (ft3/s)
		Scioto River Basin—Continued				
03231620	East Fork Paint Creek near Bloomingburg, Ohio	Lat 39°35'15", Long 83°23'47", Fayette County, Hydrologic Unit 05060003 at Matthews Road bridge, 0.3 mi. upstream from Green Ditch, 1.2 mi. south of Bloomingburg, Ohio, 2.0 mi. upstream from Big Run. (Washington Court House 1:24000 quad)	36.8	1979-82 1995-96 1998	10/8/97 5/27/98 8/18/98	0.87 21.6 1.42

[a] Operated as a continuous-record gaging station

Station No.	Station Name	Location	Drainage Area1 (mi2)	Period of Record (water year)	Date	Discharge (ft3/s)
03237040	Big Beaver Creek near Piketon, Ohio	Lat 39°02'41", Long 83°01'18", Pike County, Hydrologic Unit 05060002 at State Route 124 bridge, 0.9 mi. upstream from Little Beaver Creek, 1.2 mi. south of Piketon, Ohio. (Piketon 1:24000 quad)	62.0	1980-82 1995-98	9/8/98	0.20
03237130	Scioto Brush Creek at Otway, Ohio	Lat 38°51'43", Long 83°11'24", Scioto County, Hydrologic Unit 05060002, at State Highway 348 bridge, 600 ft upstream from South Fork, in Otway, Ohio. (Otway 1:24000 quad)	94.4	1956 1972-77 1996-97		
		Whiteoak Creek Basin				
03238370	East Fork White Oak Creek near Sardinia, Ohio	Lat 39°00'24", Long 83°49'19", Brown County, Hydrologic Unit 05090201, at State Route 32 bridge, 0.2 mi. (0.3 km) upstream from Slab Camp Run, 0.7 mi. (1.1 km) west of Sardinia, Ohio. (Sardinia 1:24000 quad)	60.1	1980-82 1995-98	9/8/98	1.22
		Little Miami River Basin				
03243150	Todd Fork near Clarksville, Ohio	Lat 39°26'10", Long 83°56'41", Clinton County, Hydrologic Unit 05090202, at U.S. Highway 22 bridge, 1.0 mi. (1.6 km) upstream from Lytle Creek, 2.7 mi. (4.3 km) northeast of Clarksville, Ohio. (Clarksville 1:24000 quad)	56.6	1981-82 1995-96 1998	9/9/98	0.50
03244570	Turtle Creek at South Lebanon, Ohio	Lat 39°22'21", Long 84°13'47", Warren County, Hydrologic Unit 05090202, at bridge on Mason Road at South Lebanon, Ohio. (South Lebanon 1:24000 quad)	58.2	1980-83 1998	9/9/98	0.43
03244950	O'Bannon Creek at Loveland, Ohio	Lat 39°16'08", Long 84°15'21", Clermont County, Hydrologic Unit 05090202, at State Route 48 bridge, in Loveland, Ohio. (Mason 1:24000 quad)	59.0	1956 1980-83 1996 1998	9/9/98	0.92
03247300	Stonelick Creek near Perintown, Ohio	Lat 39°07'20", Long 84°11'56", Clermont County, Hydrologic Unit 05090202, at U.S. Highway 50 bridge, 1.9 mi. east of Perintown, Ohio. (Batavia 1:24000 quad)	76.0	1981-82 1996 1998	9/9/98	0.01
		Great Miami River Basin				
03260450	South Fork Great Miami River near Huntsville, Ohio	Lat 40°28'43", Long 83°48'43", Logan County, Hydrologic Unit 05080001, at State Route 117 bridge, 3.3 mi. (5.3 km) upstream from Indian Lake, 2.5 mi. (4.0 km) north of Huntsville, Ohio. (Huntsville 1:24000 quad)	47.5	1981-82 1988-89[a] 1994-98	5/28/98 8/19/98	12.2 10.7

Low-flow Partial Record Stations

Station No.	Station Name	Location	Drainage Area1 (mi2)	Period of Record (water year)	Measurements Date	Measurements Discharge (ft3/s)
03263168	Stillwater River near Ansonia, Ohio	Lat 40°13'01", Long 84°36'44", Darke County, Hydrologic Unit 05080001, at Beisner Road over Stillwater River, 0.1 mi. north of State Route 47, 1.2 mi. east of Ansonia, 1.8 mi. west of Dawn, Ohio. (Dawn 1:24000 quad	74.3	1995-98	8/20/98	4.45
		Great Miami River Basin—Continued				
03263390	Greenville Creek near Coletown, Ohio	Lat 40°08'54", Long 84°43'56", Darke County, Hydrologic Unit 05080001, at Fisher Road bridge, 1.9 mi. (2.9 km) northwest of Coletown, Ohio. (Ansonia 1:24000 quad)	69.2	1981-82 1995-98	8/20/98	12.6
03266647	Mad River at Lippincott, Ohio	Lat 40°11'41", Long 83°47'48", Champaign County, Hydrologic Unit 05080001, at Lippincott Road bridge over Mad River, 0.55 mi. upstream from confluence of Macochee Ditch, 1.5 mi. upstream from confluence of Gladdy Creek, 4.0 mi. southwest of West Liberty, Ohio, 5.0 mi. northwest of Urbana, Ohio. (Northville 1:24000 quad)	68.4	1994-98	5/28/98 8/19/98	66.4 40.4
03266897	Kings Creek near Urbana, Ohio	Lat 40°09'25", Long 83°47'08", Champaign County, Hydrologic Unit 05080001, at State Route 290 bridge over Kings Creek, just above confluence with Mad River, 3.0 mi. northwest of Urbana, Ohio. (Northville 1:24000 quad)	43.6	1994-98	5/28/98 8/19/98	32.5 23.4
03271736	Twin Creek at Lewisburg, Ohio	Lat 39°51'17", Long 84°31'54", Preble County, Hydrologic Unit 05080002, at U.S. Route 40 over Twin Creek, 0.1 mi. below confluence with Millers Fork, 0.1 mi. above confluence with Swamp Creek, 0.3 mi. east of Lewisburg, Ohio. (Lewisburg 1:24000 quad)	68.4	1995-96 1998	10/7/97 9/8/98	2.20 2.59
03272429	Four Mile Creek near College Corner, Ohio	Lat 39°35'31", Long 84°46'14", Preble County, Hydrologic Unit 05080002, at bridge over Four Mile Creek, 0.1 mi. below confluence with East Fork Four Mile Creek, 0.8 mi. above confluence with Little Four Mile Creek, 0.8 mi. northwest from Acton Lake, in Hueston Woods State Park, 3 mi. northeast of College Corner, Ohio & Indiana.(College Corner 1:24000 quad)	50.1	1996 1998	9/8/98	0.01
03276588	Dry Fork Whitewater River at New Haven, Ohio	Lat 39°15'57", Long 84°44'54", Hamilton County, Hydrologic Unit 05080003, at Mt. Hope Road bridge, 0.9 mi. below confluence with Howard Creek, 1.2 mi. above confluence with Lee Creek, next to Miami Whitewater Forest, 0.8 mi. southwest of New Haven, Ohio.(Shandon 1:24000 quad)	59.8	1996 1998	10/7/97 9/8/98	0.84 1.17
		Maumee River Basin				
04180911	St Marys River above Kopp Creek at St Marys, Ohio	Lat 40°32'07", Long 84°22'38", Auglaize County, Hydrologic Unit 04100004, at Aqueduct Road over St. Mary's River, 150 ft. upstream of Miami and Erie Canal aqueduct, 0.3 mi. above confluence of Kopp Creek, 2.1 mi. east of Grand Lake, 0.5 mi. southeast of St.Mary's, Ohio. (St. Marys 1:24000 quad)	67.0	1994-98	8/20/98	3.08

[a] Operated as a continuous-record gaging station

Low-flow Partial Record Stations

Station No.	Station Name	Location	Drainage Area1 (mi2)	Period of Record (water year)	Measurements	
					Date	Discharge (ft3/s)
04185200	Beaver Creek near Stryker, Ohio	Lat 41°27’23”, Long 84°26’09”, Williams County, Hydrologic Unit 04100006, at bridge of township road, 0.3 mi. (0.5 km) upstream from mouth, 3.1 mi. (5.0 km) southwest of Stryker, Ohio (Evansport 1:24000 quad)	44.8	1980-82 1994-96 1998	5/28/98	5.06
		Maumee River Basin—Continued				
04185299	Brush Creek at Evansport, Ohio	Lat 41°26’00”, Long 84°23’24”, Williams County, Hydrologic Unit 04100006, at county road over Brush Creek, 1.0 mi. above mouth, 0.4 mi. north of Williams/ Defiance county line, 0.6 mi northeast of Evansport, Ohio. (Evansport 1:24000 quad)	64.8	1994-96 1998	5/28/98	6.78
04189172	Riley Creek near Bluffton, Ohio	Lat 40°54’12”, Long 83°56’19”, Allen County, Hydrologic Unit 04100007, at Phillips Road bridge over Riley Creek, 3.7 mi. downstream from confluence of Little Riley Creek, 2.5 mi. northwest of Bluffton, Ohio. (Bluffton 1:24000 quad)	64.4	1994-96		
04191007	Town Creek near Hoaglin, Ohio	Lat 40°58’36”, Long 84°28’36”, Van Wert County, Hydrologic Unit 04100007, at State Route 637 bridge over Town Creek, 2.1 mi. above confluence with Maddox Creek, 0.9 mi. south of Paulding/Van Wert County line, 2.3 mi. northeast of Hoaglin, 3.1 mi. north of State Route 224, 10 mi. northeast of Van Wert, Ohio. (Wetsel 1:24000 quad)	51.7	1995-96 1998	5/27/98	8.61
04191100	Flatrock Creek near Payne, Ohio	Lat 41°05’57”, Long 84°40’06”, Paulding County, Hydrologic Unit 04100007, at Township road 71 bridge, 2.0 mi. downstream from Wildcat Creek, 3.5 mi. northeast of Payne, Ohio. Proceed 3.4 mi. northeast from Payne on State Highway 500 to township road 71, turn right and go 0.1 mi. to bridge and station. (Payne 1:24000 quad)	147	1972-77 1995-96 1998	5/27/98	15.4
		Portage River Basin				
04194362	South Branch Portage River near Jerry City, Ohio	Lat 41°16’22”, Long 83°30’56”, Wood County, Hydrologic Unit 04100010, at Portage View Road over South Branch Portage River, 0.6 mi. above confluence with East Branch, 2.1 mi. southeast of Six Points, 4.5 mi. northeast of Jerry City, Ohio. (Jerry City 1:24000 quad)	54.0	1995-96		
		Sandusky River Basin				
04196580	Little Tymochtee Creek near Marseilles, Ohio	Lat 40°41’13”, Long 83°24’44”, Marion County, Hydrologic Unit 04100011, at County Road 22 bridge, 1.3 mi. above mouth, 1.4 mi. southwest of Marseilles, Ohio. (Marseilles 1:24000 quad)	43.7	1978 1980-82 1997-98	10/7/97 8/20/98	0.03 0.91
04197052	Honey Creek near Caroline, Ohio	Lat 41°02’41”, Long 82°51’04”, Seneca County, Hydrologic Unit 04100011, at truss bridge over Honey Creek, 1.7 mi. below confluence with Brokenknife Creek, 2.3 mi. east of Caroline, 2.5 mi. southeast of Attica, Ohio. (Centerton 1:24000 quad)	69.0	1994-96 1998	10/7/97 8/4/98 8/20/98	1.68 2.39 3.21

Low-flow Partial Record Stations

Station No.	Station Name	Location	Drainage Area1 (mi2)	Period of Record (water year)	Measurements	
					Date	Discharge (ft3/s)
04198007	Muskellunge Creek near Fremont, Ohio	Lat 41°22’21”, Long 83°08’46”, Sandusky County, Hydrologic Unit 04100011, at Christy Road bridge, 1.8 mi. (2.9 km) upstream from mouth, 1.8 mi. (2.9 km) northwest of Fremont, Ohio. (Fremont West 1:24000 quad)	41.8	1980-83 1994-96 1998	8/20/98	6.51
		Huron River Basin				
04198017	West Branch Huron River near New Haven, Ohio	Lat 41°03’08”, Long 82°39’37”, Huron County, Hydrologic Unit 04100012, at Boughtonville Road bridge, 0.5 mi. below confluence with Marsh Run, 3.3 mi. east of Willard, Ohio. (Willard 1:24000 quad)	69.4	1981-82 1997-98	8/19/98	10.1
		Vermilion River Basin				
04199251	Vermilion River near New London, Ohio	Lat 41°03’51”, Long 82°27’10”, Huron County, Hydrologic Unit 04100012, at U.S. Route 250 bridge, 0.8 mi. west of New London Reservior, 0.2 mi. north of Akron Canton Youngstown Penn Central Railroad, 3.0 mi. southwest of New London, Ohio. (New London 1:24000 quad)	68.9	1997-98	8/19/98	7.59
		Black River Basin				
04199706	East Branch Black River near Penfield, Ohio	Lat 41°08’12”, Long 82°07’00”, Medina/Lorain County, Hydrologic Unit 04110001, at Smith Road bridge over East Branch Black River, on Medina/Lorain County Line, 0.3 mi. east of State Route 301, 2.2 mi. south of Penfield, 3.2 mi. north of Spencer, Ohio. (Lagrange 1:24000 quad)	105	1995-96 1998	8/19/98	3.91
		Rocky River Basin				
04201079	West Branch Rocky River near Medina, Ohio	Lat 41°09’09”, Long 81°50’02”, Medina County, Hydrologic Unit 04110001, at Weymouth Road bridge over West Branch Rocky River, 0.3 mi. below confluence with North Branch, 1.9 mi northeast of Medina, Ohio. (Medina 1:24000 quad)	61.2	1995-96 1998	9/16/98	0.06
		Cuyahoga River Basin				
04205600	Little Cuyahoga River at Akron, Ohio	Lat 41°05’27”, Long 81°30’58”, Summit County, Hydrologic Unit 04110002, in Akron. Station is reached by driving east on State Route 18 (West Market Street). Turn right (north) onto North Main Street. Travel for 0.4 mile. Turn right (east) onto East North Street. Travel for 0.2 mile to station at Stuber Street bridge on left (north). (Akron West 1:24000 quad	44.2	1998	10/3/97 9/16/98	16.6 11.2
		Chagrin River Basin				
04208815	Chagrin River at Chagrin Falls, Ohio	Lat 41°25’33”, Long 81°23’52”, Geauga County, Hydrologic Unit 04110003, at Miles Road bridge, at west city limits of Chagrin Falls, Ohio. (Chagrin Falls 1:24000 quad)	57.3	1981-82 1995-98	9/16/98	9.47
		Grand River Basin				
04212085	Big Creek at Painesville, Ohio	Lat 41°41’50”, Long 81°13’47”, Lake County, Hydrologic Unit 04110004, at Fry Road bridge, 1.1 mi. (1.8 km) upstream from mouth, 0.5 mi. (0.8 km) south of south city limits of Painesville, Ohio. (Painesville 1:24000 quad)	36.4	1981-82 1995-98	9/16/98	2.28
		Ashtabula River Basin				

Low-Flow Magnitude and Frequency of Ohio Streams

Low-flow Partial Record Stations

Station No.	Station Name	Location	Drainage Area1 (mi2)	Period of Record (water year)	Measurements	
					Date	Discharge (ft3/s)
04212453	Ashtabula River near Kelloggs-ville, Ohio	Lat 41°50’00”, Long 80°37’13”, Ashtabula County, Hydrologic Unit 04110003, at Root Road Covered Bridge over Ashtabula River, 1.7 mi. downstream of confluence of East and West Branches of Ashtabula River, 1.6 mi. south of Kelloggsville, 2.4 mi. east of Sheffield Center, 7.5 mi. southeast of Ashtabula, Ohio. (Pier-pont 1:24000 quad)	66.5	1995-98	9/15/98	0.03

Discontinuous Streamflow Gaging Stations

Station No.	Station Name	Location	Drainage Area1 (mi2)	Period of Record (water year)	Measurements	
					Date	Discharge(ft3/s)
		Muskingum River Basin				
03123000	Sugar Creek above Beach City Dam at Beach City, Ohio	Lat 40°39’24”, Long 81°34’37”, in NE 1/4 sec. 35, T. 11 N., R. 10 W., Stark County, on right bank at downstream side of 3rd Avenue bridge at Beach City, 2.3 mi. upstream from Beach City Dam.	160	1945-75	9/15/98	21.1
03149500	Salt Creek near Chandlersville, Ohio	Lat 40°35’12”, Long 81°37’16”, In SW 1/4 sec. 10, T. 13 N, R. 12 W., 300 feet above highway bridge on Route 146, 8 miles (on map), 11 miles by road south-east of Zanesville, and 2 miles north-west of Chandlersville, Ohio	75.6	1936-47	10/7/97 9/16/98	2.15 1.92
		Little Miami River Basin				
03242050	Little Miami River near Spring Val-ley, Ohio	Lat 39°35’00”, Long 84°01’49”, (SE 14 sec Waynesville Quadrangle) in Greene County on right bank at downstream side of bridge on New Burlington Road, 3/4 mile west of Roxanna, and 2.2 miles southwest of Spring Valley, Ohio.	366	1968-85	9/9/98	94.6
		Maumee River Basin				
04184500	Bean Creek at Powers, Ohio	Lat 41°39’34”, Long 84°14’55”, NE 1/4, SE 1/4 sec. 26, T.9S., R.1E., at left down-stream abutment of highway bridge on County Road 20, 1 mile south of Powers, Fulton County, 1.7 miles upstream from Iron Creek, 3.5 miles downstream from Silver Creek.	206	1941-81	5/28/98	76.9
		Vermilion River Basin				
04199500	Vermilion River near Vermilion, Ohio	Lat 41°22’55”, Long 82°19’01”, T.6N., R.19W., on right bank 40 foot downstream from bridge on North Ridge Road, 3.5 miles southeast of Vermilion, Lorain County, and 4.5 miles upstream from mouth.	262	1950-81	8/19/98	10.1

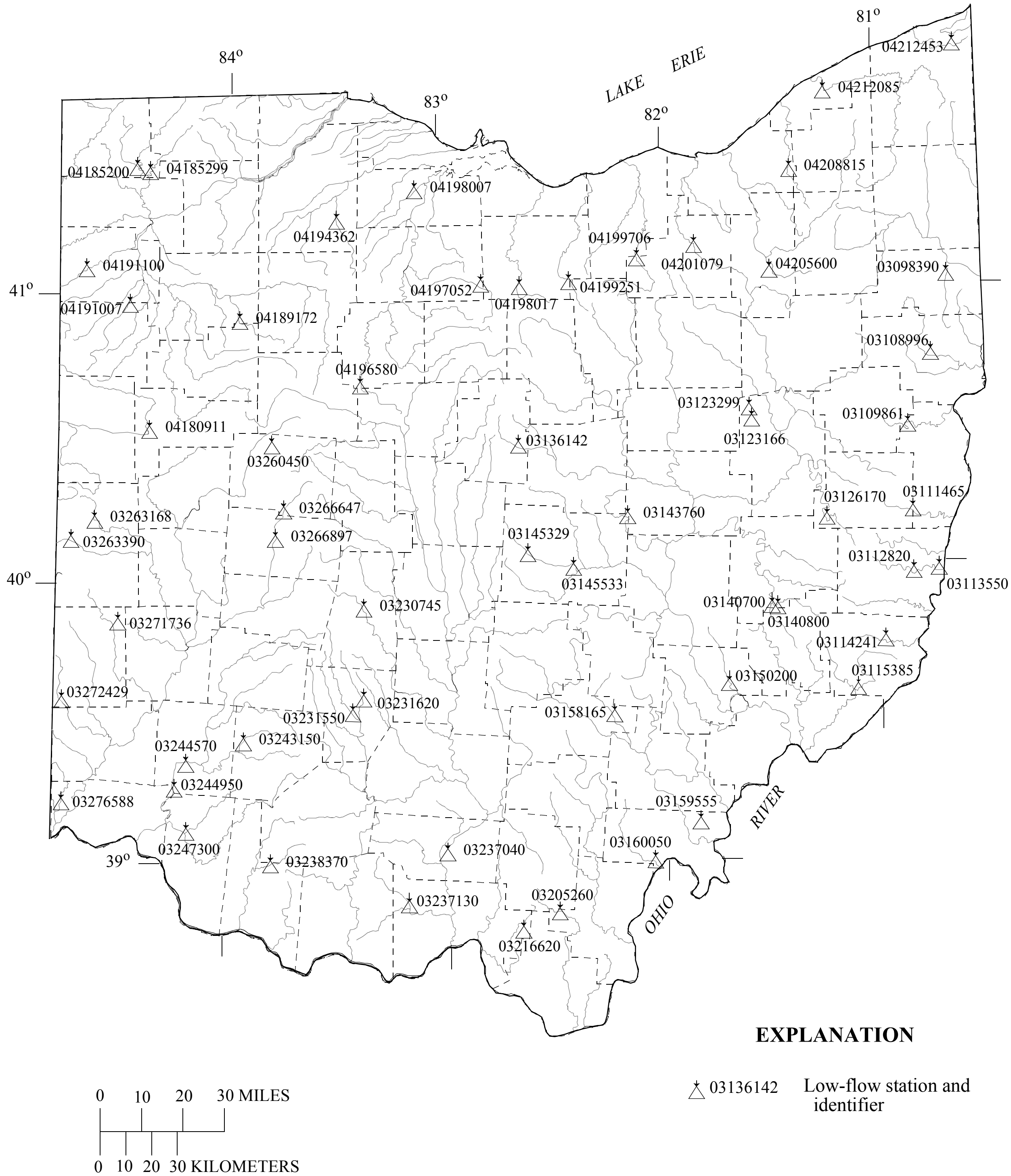


Figure 12. Low-flow station network.

PROJECT DATA
Aquatic Biota in Ohio Springs

The following tables list the results of water-quality measurements at 10 springs in Ohio from July through September 1996. The locations were selected from environmental settings with varying surficial geology to create a preliminary list of biota associated with springs in Ohio and provide a basis for future water-quality investigations.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996

412417082543000 - S-30-T9 MILLERS BLUE HOLE SPR NR VICKERY OH

DATE	TEMPER-ATURE WATER (DEG C) (00010)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)
JUL 1996							
10...	14.5	1028	1028	2310	3.3	7.1	600

411551083030900 - S-34 ST FRANCIS SPRING AT GREEN SPRINGS OH

DATE	TEMPER-ATURE WATER (DEG C) (00010)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	ELEV. OF LAND SURFACE DATUM (FT. ABOVE NGVD) (72000)
JUL 1996							
10...	14.3	1028	1028	2520	.6	6.8	670

395923083230600 - M-86 (Spring Fork, Ohio)

DATE	TEMPER-ATURE WATER (DEG C) (00010)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)
AUG 1996						
09...	19.0	1028	1028	635	1.5	7.1

394529083172200 - M-87 (Flowing Well, Ohio)

DATE	TEMPER-ATURE WATER (DEG C) (00010)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)
AUG 1996						
09...	19.3	1028	1028	789	5.8	7.4

400300083470000 - CH-84 (Cedar Bog, Ohio)

DATE	TEMPER-ATURE WATER (DEG C) (00010)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)
SEP 1996						
06...	19.3	1028	1028	709	6.1	7.5

393558082380500 - F-26 (Clear Creek, Ohio)

DATE	TEMPER-ATURE WATER (DEG C) (00010)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)
SEP 1996						
17...	15.5	1028	1028	148	6.8	7.7

WATER-QUALITY DATA, WATER YEAR OCTOBER 1995 TO SEPTEMBER 1996—Continued

410352081483600 - MD-13 (Styx River, Ohio)

DATE	TEMPER- ATURE WATER (DEG C) (00010)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
SEP 1996						
24...	14.0	1028	1028	440	7.1	8.1

410351081483700 - MD-14 (Styx River Trib., Ohio)

DATE	TEMPER- ATURE WATER (DEG C) (00010)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
SEP 1996						
24...	12.9	1028	1028	1040	2.5	6.9

410726081295400 - SU-20 (Gorge Run, Ohio)

DATE	TEMPER- ATURE WATER (DEG C) (00010)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
SEP 1996						
24...	14.1	1028	1028	1010	7.4	7.0

410739081331300 - SU-21 (Sand Run, Ohio)

DATE	TEMPER- ATURE WATER (DEG C) (00010)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)
SEP 1996						
24...	15.6	1028	1028	830	7.1	7.7

EXPLANATION

▼ 410352081483600 WATER-QUALITY LOCATIONS AND IDENTIFIER

Figure 13. Location and site identification number for springs in Ohio where field measurements, algae, and macroinvertebrates were collected in 1996.

The following table lists the results from collections of macroinvertebrates at 10 springs in Ohio from July through September 1996. The locations were selected from environmental settings with varying surficial geology to create a preliminary list of biota associated with springs in Ohio and provide a basis for future water-quality investigations. [+ = present in the indicated spring; -- = not present in the indicated spring; Qual. = Qualitative;Degree, minute, and second symbols are ommited from latitudes and longitudes; * = Phylum; ** = Class; Family names end in -idae; taxa are italic, followed by authority.]

Station		S-30-T9 (Miller Blue Hole)	S-34 (Green River Spring)	M-86 (Spring Fork)	M-87 (Flowing Well)	CH-84 (Cedar Bog)	F-26 (Clear Creek)	MD-13 (Styx River)	MD-14 (Styx River Trib.)	SU-20 (Gorge Run)	SU-21 (Sand Run)
Latitude	(North)	412417	411551	395923	394529	400300	393559	410352	410351	410726	410739
Longitude	(West)	825430	830309	832306	831722	834700	823805	814836	814837	812954	813313
Collection Date		7/10/96	7/10/96	8/9/96	8/9/96	9/6/96	9/17/96	9/24/96	9/24/96	9/24/96	9/24/96
Sample Type		Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.
ORDER	TAXON										
Annelida*		--	--	--	--	--	--	--	--	--	--
Oligochaeta**		+	+	+	+	--	--	--	--	+	+
Hirundinea	Erpobdellidae	+	--	+	--	--	--	--	--	--	--
Mollusca*		--	--	--	--	--	--	--	--	--	--
Gastropoda**		--	--	--	--	--	--	--	--	--	--
	Amnicola limosus (Say)	--	--	--	--	+	--	--	--	--	--
	Elimia livescens (Menke)	--	--	--	--	+	--	--	--	--	--
	Fossaria parva (I. Lea)	+	--	--	+	+	--	--	--	--	--
	Gyraulus parvus (Say)	+	+	--	--	--	--	--	--	--	--
	Marstonia decepta(Baker)	--	--	--	+	--	--	--	--	--	--
	Physella gyrina (Say)	+	--	+	+	--	--	--	--	--	--
	Physella integra (Haldeman)	--	--	+	--	+	--	--	--	--	--
	Planorbella armigera (Say)	--	--	+	+	--	--	--	--	--	--
	Pomatiopsis lapidaria (Say)	--	--	+	--	--	--	--	--	--	--
	Pseudosuccinea columella (Say)	--	--	--	+	--	--	--	--	--	--
Bivalvia**		--	--	--	--	--	--	--	--	--	--
	Pisidium sp.	--	--	--	+	+	--	--	--	--	--
Arthopoda*		--	--	--	--	--	--	--	--	--	--
Crustacea**		--	--	--	--	--	--	--	--	--	--
Amphipoda	*Crangonyx sp.*	+	--	--	--	--	--	--	--	--	--
	Hyallela azteca (Saussure)	+	--	+	--	+	--	--	--	--	--
	Synurella dentata Hubricht	--	--	--	+	--	--	--	--	--	--
Isopoda	*Caecidotea cf. racovitzai*	+	--	+	+	--	--	--	--	--	--

Station		S-30-T9 (Miller Blue Hole)	S-34 (Green River Spring)	M-86 (Spring Fork)	M-87 (Flowing Well)	CH-84 (Cedar Bog)	F-26 (Clear Creek)	MD-13 (Styx River)	MD-14 (Styx River Trib.)	SU-20 (Gorge Run)	SU-21 (Sand Run)
Latitude	(North)	412417	411551	395923	394529	400300	393559	410352	410351	410726	410739
Longitude	(West)	825430	830309	832306	831722	834700	823805	814836	814837	812954	813313
Collection Date		7/10/96	7/10/96	8/9/96	8/9/96	9/6/96	9/17/96	9/24/96	9/24/96	9/24/96	9/24/96
Sample Type		Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.
ORDER	TAXON										
Isopoda (continued)	*Caecidotea cf. intermedius*	--	--	--	--	--	--	--	--	+	--
	Lirceus cf. fontinalis	--	--	--	+	--	--	--	--	--	--
Insecta**		--	--	--	--	--	--	--	--	--	--
Coleoptera	Haliplidae *Haliplus immaculicollis* Harris	+	--	--	--	--	--	--	--	--	--
	Peltodytes sp.	+	--	--	--	--	--	--	--	--	--
	Dytiscidae *Copelatus glyphicus* Say	+	--	--	--	--	--	--	--	--	--
	Dytiscus sp.	--	--	--	+	--	--	--	--	--	--
	Hygrotus nubilis LeConte	+	--	--	--	--	--	--	--	--	--
	Hydroporus niger Say	+	--	--	--	--	--	--	--	--	--
	Elmidae *Dubiraphia sp.*	--	--	--	--	+	--	--	--	--	--
	Hydrophilidae *Anacaena limbata* Fabricius	+	--	--	--	--	--	--	--	--	--
	Berosus striatus Say	+	--	--	--	--	--	--	--	--	--
	Enochrus cinctus Say	+	--	--	--	--	--	--	--	--	--
	Enochrus ochraceus Melsheimer	+	--	--	--	--	--	--	--	--	--
	Enochrus sayi Gundensen	+	--	--	--	--	--	--	--	--	--
	Helophorus lineatus Say	+	--	--	--	--	--	--	--	--	--
	Helophorus linearis LeConte	+	--	--	--	--	--	--	--	--	--
	Helophorus maginicollis Smetana	+	--	--	--	--	--	--	--	--	--
	Hydrobius fuscipes Linnaeus	+	--	--	--	--	--	--	--	--	--
	Paracymus subcupreus Say	+	--	--	--	--	--	--	--	--	--
	Tropisternus lateralis Fabricius	+	--	--	--	--	--	--	--	--	--
Diptera	Ceratopogonidae *Bezzia sp.*	+	--	--	--	--	--	--	--	--	--
	Forcipomyia sp.	--	--	--	--	--	--	--	--	+	--
	Probezzia sp.	--	--	--	--	--	--	--	--	--	+
	Chironomidae *Ablabesmyia sp.*	--	--	--	--	+	--	--	--	--	--
	Acricotopus sp.	+	+	--	--	--	--	--	--	--	--
	Brillia sp.	+	--	--	--	--	+	--	--	+	--

Station			S-30-T9 (Miller Blue Hole)	S-34 (Green River Spring)	M-86 (Spring Fork)	M-87 (Flowing Well)	CH-84 (Cedar Bog)	F-26 (Clear Creek)	MD-13 (Styx River)	MD-14 (Styx River Trib.)	SU-20 (Gorge Run)	SU-21 (Sand Run)
Latitude	(North)		412417	411551	395923	394529	400300	393559	410352	410351	410726	410739
Longitude	(West)		825430	830309	832306	831722	834700	823805	814836	814837	812954	813313
Collection Date			7/10/96	7/10/96	8/9/96	8/9/96	9/6/96	9/17/96	9/24/96	9/24/96	9/24/96	9/24/96
Sample Type			Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.
ORDER		TAXON										
Diptera		*Chaetocladius sp.*	--	--	--	+	--	--	--	--	--	--
(continued)		*Chironomus sp.*	--	+	--	--	--	--	--	--	--	--
		Conchapelopia sp.	--	--	--	+	+	--	--	--	--	--
		Cryptochironomus sp.	--	--	--	--	+	--	--	--	--	--
		Heterotrissocladius sp.	--	--	--	+	+	+	--	--	--	--
		Krenopelopia sp.	--	--	--	+	--	+	+	--	--	--
		Larsia sp.	+	--	+	--	--	+	--	--	--	--
		Micropsectra sp-1.	+	--	--	+	--	--	--	--	--	--
		Micropsectra sp-2.	--	--	--	--	--	+	+	--	--	--
		Pagastia sp.	--	--	--	--	--	--	+	--	--	--
		Paracladopelma sp.	--	--	--	--	+	+	--	--	--	--
		Parakiefferiella sp.	--	+	--	--	--	--	--	--	--	--
		Paralauterborniella sp.	--	--	--	--	+	--	--	--	--	--
		Paraphaenocladius sp-1.	+	--	--	+	--	+	--	--	+	--
		Paraphaenocladius sp-2.	--	--	--	+	--	+	--	--	--	--
		Paratendipes sp.	--	--	--	+	--	--	--	--	--	--
		Polypedilum sp.	--	--	--	--	--	+	--	--	--	--
		Procladius sp.	--	--	--	--	+	--	--	--	--	--
		Prodiamesa sp.	--	--	--	+	--	--	--	--	--	--
		Psectrotanypus sp.	--	--	+	--	--	--	--	--	--	--
		Pseudochironomus sp.	+	--	--	--	--	--	--	--	--	--
		Rheocricotopus sp.	--	--	--	--	--	--	+	--	--	--
		Rheotanytarsus sp.	--	--	--	--	+	--	--	--	--	--
		Stempellinella sp.	--	--	--	--	+	--	--	--	--	--
		Symposiocladius lignicola	--	--	--	--	--	--	+	--	--	--
		Thienemannimyia sp.	--	--	--	+	--	--	--	--	--	--
		Zavrelimyia sp.	--	--	--	--	+	+	--	--	--	--
	Culicidae *Culex sp.*		+	--	+	--	--	--	--	--	--	--
	Dixidae *Dixa sp.*		--	--	--	+	--	--	--	--	--	--
	Muscidae *Limnophora sp.*		--	--	+	--	--	--	--	--	--	--
	Ptychopteridae *Ptychoptera sp.*		--	--	--	+	--	--	--	--	--	--
	Simulidae Simulium sp.		+	--	--	--	--	--	--	--	--	--
	Stratiomyidae *Stratiomys sp.*		--	--	--	--	+	--	--	--	--	--

Station		S-30-T9 (Miller Blue Hole)	S-34 (Green River Spring)	M-86 (Spring Fork)	M-87 (Flowing Well)	CH-84 (Cedar Bog)	F-26 (Clear Creek)	MD-13 (Styx River)	MD-14 (Styx River Trib.)	SU-20 (Gorge Run)	SU-21 (Sand Run)
Latitude	(North)	412417	411551	395923	394529	400300	393559	410352	410351	410726	410739
Longitude	(West)	825430	830309	832306	831722	834700	823805	814836	814837	812954	813313
Collection Date		7/10/96	7/10/96	8/9/96	8/9/96	9/6/96	9/17/96	9/24/96	9/24/96	9/24/96	9/24/96
Sample Type		Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.
ORDER	TAXON										
Diptera	Tipulidae *Hexatoma sp.*	--	--	--	--	--	--	--	+	+	--
(continued)	*Pedicia sp.*	--	--	+	--	--	--	--	--	--	--
	Prionocera sp.	--	--	--	--	--	--	--	+	--	--
Ephemeroptera	*Hexagenia sp.*	--	--	+	--	--	--	--	--	--	--
	Paraleptophlebia sp.	--	--	--	--	+	--	--	--	--	--
Hemiptera	Corixidae *Hesperocorixa obliqua* (Hungerford)	+	--	--	--	--	--	--	--	--	--
	Sigara alternata (Say)	+	--	--	--	--	--	--	--	--	--
	Gerridae *Gerris insperatus* Drake & Hottes	--	--	+	--	--	--	--	--	--	--
	Gerris Remigus Say	--	+	--	--	--	--	--	--	--	--
Megaloptera	*Chauliodes sp.*	--	--	+	--	--	--	--	--	--	--
	Nigronia sp.	--	--	--	--	--	+	--	+	--	--
Odonata	Anisoptera *Anax junius* Drury	+	--	+	--	--	--	--	--	--	--
	Cordulegaster sp.	--	--	--	--	--	+	--	--	--	--
	Libellula sp.	+	--	--	--	--	--	--	--	--	--
	Pachydiplax longipennis Burm.	+	--	--	--	--	--	--	--	--	--
	Zygoptera *Coenagrion/Enallagma sp.*	--	+	--	--	--	--	--	--	--	--
	Ischnura verticallis Say	+	--	--	--	--	--	--	--	--	--
	Lestes rectangularis Say	+	--	--	--	--	--	--	--	--	--

The following table lists the results from collections of algae at 10 springs in Ohio from July through September 1996. The locations were selected from environmental settings with varying surficial geology to create a preliminary list of biota associated with springs in Ohio and provide a basis for future water-quality investigations. The algae reported in this study are arranged in alphabetical order within Divisions which are in Phylogenic Order as described by the USGS Biological Unit at URL: http://wwwnwql.cr.usgs.gov/USGS/algae/algae.phylo.info.html. [+ = present in the indicated spring; -- = not present in the indicated spring; Qual. = Qualitative;Degree, minute, and second symbols are ommited from latitudes and longitudes.]

Station		S-30-T9 (Miller Blue Hole)	S-34 (Green River Spring)	M-86 (Spring Fork)	M-87 (Flowing Well)	CH-84 (Cedar Bog)	F-26 (Clear Creek)	MD-13 (Styx River)	MD-14 (Styx River Trib.)	SU-20 (Gorge Run)	SU-21 (Sand Run)
Latitude	(North)	412417	411551	395923	394529	400300	393559	410352	410351	410726	410739
Longitude	(West)	825430	830309	832306	831722	834700	823805	814836	814837	812954	813313
Collection Date		7/10/96	7/10/96	8/9/96	8/9/96	9/6/96	9/17/96	9/24/96	9/24/96	9/24/96	9/24/96
Sample Type		Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.
Division	Taxon										
Cyanophyta	*Chroococcus turgidus*	--	--	--	--	+	--	--	--	--	--
	C. varius	--	--	--	--	+	--	--	--	--	--
	Hapalosiphon intricatus	--	--	+	--	--	--	--	--	--	--
	Merismopedia punctata	--	--	--	--	+	--	--	--	--	--
	Phormidium autumnale	--	+	--	--	--	--	--	--	--	--
	P. retzii	--	+	--	--	--	--	--	--	--	--
	P. tenue	--	+	--	--	--	--	--	--	--	--
	Schizothrix calcicola	+	+	+	+	+	+	+	--	--	--
	Spirulina major	--	+	--	--	--	--	--	--	--	--
	Lyngbya martensiana	+	--	--	--	--	--	--	--	--	--
Rhodophyta	*Audouinella hermannii*	--	--	--	--	--	--	--	--	+	--
	Batrachospermum gelatinosum	--	--	--	--	+	--	--	--	--	--
Cryptophyta	*Cryptomonas erosa*	--	--	--	--	+	--	--	--	--	--
Euglenophyta	*Trachelomonas hispida*	--	--	+	--	--	--	--	--	--	--
	Euglena ehrenbergii	--	--	+	--	--	--	--	--	--	--
Chrysophyta	*Tribonema affine*	+	--	--	--	--	--	--	--	--	--
Bacillariophyta	*Achnanthidium cleveii*	--	--	--	--	+	--	--	--	--	--
	A. conspicua v. brevistriata	+	--	--	--	--	--	--	--	--	--
	A. deflexa	--	--	--	--	+	--	--	--	--	--
	A. exigua	--	--	--	--	+	--	--	--	--	--
	A. exigua v. constricta	--	--	--	--	+	--	--	--	--	--
	A. exigua v. heterovalva	--	--	--	--	+	--	--	--	--	--
	A. hauckiana	--	+	--	--	--	--	--	--	--	--
	A. hungarica	--	--	--	--	+	--	--	--	--	--
	A. lanceolata	+	+	+	+	+	+	+	--	+	+
	A. lanceolata v. dubia	--	--	--	+	+	--	--	--	+	--
	A. lanceolata v. omissa	--	--	--	--	+	--	--	--	--	--
	A. lapponica	--	--	--	--	+	--	--	--	--	--
	A. lapponica v. ninckei	--	--	--	--	+	--	--	--	--	--

Station		S-30-T9 (Miller Blue Hole)	S-34 (Green River Spring)	M-86 (Spring Fork)	M-87 (Flowing Well)	CH-84 (Cedar Bog)	F-26 (Clear Creek)	MD-13 (Styx River)	MD-14 (Styx River Trib.)	SU-20 (Gorge Run)	SU-21 (Sand Run)
Latitude	(North)	412417	411551	395923	394529	400300	393559	410352	410351	410726	410739
Longitude	(West)	825430	830309	832306	831722	834700	823805	814836	814837	812954	813313
Collection Date		7/10/96	7/10/96	8/9/96	8/9/96	9/6/96	9/17/96	9/24/96	9/24/96	9/24/96	9/24/96
Sample Type		Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.
Division	Taxon										
Bacillariophyta	*A. linearis*	--	--	--	--	+	--	--	--	--	--
(continued)	*A. linearis f. curta*	--	--	--	--	+	--	--	--	--	--
	A. minutissimum	+	+	+	+	+	+	+	--	--	--
	A. oestrupii	--	--	--	--	+	--	--	--	--	--
	A. peragalli v. fossilis	--	--	--	--	+	--	--	--	--	--
	A. subrostrata	--	--	--	--	--	+	--	--	--	--
	A. wellsiae	--	--	--	--	+	--	--	--	--	--
	Amphipleure pellucida	+	--	--	--	+	--	--	--	--	--
	Amphora sp.	--	--	--	--	--	--	--	--	--	+
	A. michiganensis	--	--	--	--	+	--	--	--	--	--
	A. normanii	--	--	--	+	--	--	--	--	--	+
	A. ovalis	--	--	--	--	+	--	--	--	--	--
	A. ovalis v. affinis	+	--	+	--	+	--	--	--	--	--
	A. ovalis v. pediculus	--	--	--	--	+	--	--	--	--	--
	A. perpusilla	+	+	--	--	--	+	+	--	+	--
	A. submontana	--	--	+	--	+	--	--	--	--	+
	A. veneta	+	--	--	--	+	--	--	--	--	--
	Aulicoseira granulata	+	--	--	--	--	--	--	--	--	--
	Brachysira vitrea	--	--	--	--	+	--	--	--	--	--
	Caloneis alpestris	+	--	--	--	+	--	--	--	--	--
	C. bacillaris v. thermalis	+	--	--	--	+	--	--	--	--	--
	C. bacillum	+	--	+	+	+	--	+	--	--	--
	C. hyalina	--	--	+	--	--	--	--	--	--	--
	C. limosa	--	--	--	--	+	--	--	--	--	--
	C. ventricosa	--	--	--	--	+	--	--	--	--	--
	C. ventricosa v. alpina	--	--	--	--	+	--	--	--	--	--
	C. ventricosa v. minuta	--	--	--	--	+	--	--	--	--	--
	C. ventricosa v. truncatula	--	--	--	--	+	--	--	--	--	--
	Campylodiscus noricus	--	--	--	--	+	--	--	--	--	--
	Cavinula pseudoscutiformis	--	--	--	--	+	--	--	--	--	--
	Cocconeis diminuta	--	--	--	--	+	--	--	--	--	--
	C. disculus	--	--	--	--	+	--	--	--	--	--
	C. fluviatilis	--	--	--	--	+	--	--	--	--	--

Station		S-30-T9 (Miller Blue Hole)	S-34 (Green River Spring)	M-86 (Spring Fork)	M-87 (Flowing Well)	CH-84 (Cedar Bog)	F-26 (Clear Creek)	MD-13 (Styx River)	MD-14 (Styx River Trib.)	SU-20 (Gorge Run)	SU-21 (Sand Run)
Latitude	(North)	412417	411551	395923	394529	400300	393559	410352	410351	410726	410739
Longitude	(West)	825430	830309	832306	831722	834700	823805	814836	814837	812954	813313
Collection Date		7/10/96	7/10/96	8/9/96	8/9/96	9/6/96	9/17/96	9/24/96	9/24/96	9/24/96	9/24/96
Sample Type		Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.
Division	Taxon										
Bacillariophyta	*C. pediculus*	--	+	--	--	+	--	--	--	+	--
(continued)	*C. placentula*	--	+	+	--	+	+	--	--	+	--
	C. placentula v. *euglypta*	--	--	--	--	+	--	--	--	+	--
	C. placentula v. *intermedia*	--	--	--	--	+	--	--	--	--	--
	C. placentula v. *lineata*	+	--	--	--	+	--	--	--	--	--
	C. thumensis	--	--	--	--	+	--	--	--	--	--
	Craticula cuspidata	+	--	+	--	--	--	--	--	--	--
	Ctenophora pulchella	+	--	--	--	--	--	--	--	--	--
	Cyclotella comta	+	--	--	--	--	--	--	--	--	--
	C. kutzingiana	--	--	--	--	+	--	--	--	--	--
	C. kutzingiana v. *planetophora*	--	--	--	--	+	--	--	--	--	--
	C. menenghiniana	+	--	+	--	+	--	--	--	--	--
	C. operculata	--	--	--	--	+	--	--	--	--	--
	Cymatopleura elliptica	--	--	--	--	+	--	--	--	--	--
	Cymatopleura solea	--	--	--	--	+	--	--	--	--	--
	Cymbella aequalis	--	--	--	--	+	--	--	--	--	--
	C. aequalis v. *subaequalis*	--	--	--	--	+	--	--	--	--	--
	C. affinis	--	--	--	--	+	--	--	--	--	--
	C. amphicephala	--	--	--	--	+	--	--	--	--	--
	C. angustata	--	--	--	--	+	--	--	--	--	--
	C. aspera	--	--	--	--	+	--	--	--	--	--
	C. cesatii	--	--	--	--	+	--	--	--	--	--
	C. cistula	+	--	--	--	+	--	--	--	--	--
	C. cymbiformus v. *nonpunctata*	--	+	--	--	--	--	--	--	--	--
	C. delicatula	--	--	--	--	+	--	--	--	--	--
	C. heteropleura	--	--	--	--	+	--	--	--	--	--
	C. incerta	--	--	--	--	+	--	--	--	--	--
	C. laevis	+	--	--	--	+	--	--	--	--	--
	C. microcephala	+	+	--	--	+	--	--	--	--	--
	C. norvegica	+	--	--	--	--	--	--	--	--	--
	C. obtussa	--	--	--	--	+	--	--	--	--	--
	C. obtusisula	--	--	--	--	+	--	--	--	--	--
	C. parva	+	--	--	--	+	--	--	--	--	--

Station		S-30-T9 (Miller Blue Hole)	S-34 (Green River Spring)	M-86 (Spring Fork)	M-87 (Flowing Well)	CH-84 (Cedar Bog)	F-26 (Clear Creek)	MD-13 (Styx River)	MD-14 (Styx River Trib.)	SU-20 (Gorge Run)	SU-21 (Sand Run)
Latitude	(North)	412417	411551	395923	394529	400300	393559	410352	410351	410726	410739
Longitude	(West)	825430	830309	832306	831722	834700	823805	814836	814837	812954	813313
Collection Date		7/10/96	7/10/96	8/9/96	8/9/96	9/6/96	9/17/96	9/24/96	9/24/96	9/24/96	9/24/96
Sample Type		Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.
Division	Taxon										
Bacillariophyta	*C. parvula*	--	--	--	--	+	--	--	--	--	--
(continued)	*C. rupicola*	--	--	--	--	+	--	--	--	--	--
	C. schmidtii	--	--	--	--	+	--	--	--	--	--
	C. tumida	--	--	--	--	+	--	--	--	--	--
	Denticula elegans	--	--	--	--	+	--	--	--	--	--
	D. tenuis	--	--	--	--	+	--	--	--	--	--
	D. thermalis	--	--	--	--	+	--	--	--	--	--
	Diadesmus contenta	+	--	--	--	--	+	+	--	--	--
	D. perpusilla	--	--	--	--	--	--	+	--	--	--
	Diatoma hiemale	--	--	--	--	+	--	--	+	--	--
	D. tenue	--	--	--	--	+	--	--	--	--	--
	D. tenue v. elongatum	--	--	--	--	+	--	--	--	--	--
	D. vulgare	--	--	+	--	--	--	--	--	--	--
	D. vulgare v. linearis	--	--	--	--	+	--	--	--	--	--
	Diploneis elliptica	--	--	--	--	+	--	+	--	--	--
	D. oblongella	+	--	+	--	+	--	+	--	--	--
	D. smithii	--	--	--	--	+	--	--	--	--	--
	D. smithii v. dilata	--	--	--	--	+	--	--	--	--	--
	Encyonema brehmii	--	--	--	--	+	--	--	--	--	--
	E. minuta	+	--	+	--	+	--	--	--	--	--
	E. turgidum	--	--	--	--	+	--	--	--	--	--
	Epithemia argus v. alpestris	+	--	--	--	--	--	--	--	--	--
	E. argus v. longicornis	+	--	--	--	--	--	--	--	--	--
	E. sorex	+	--	--	--	--	--	--	--	--	--
	E. turgida	+	--	--	--	+	--	--	--	--	--
	E. zebra v. saxonica	+	--	--	--	--	--	--	--	--	--
	Eucocconeis flexella	--	--	--	--	+	--	--	--	--	--
	E. flexella v. alpestris	--	--	--	--	+	--	--	--	--	--
	Eunotia arcus	--	--	--	--	+	--	--	--	--	--
	E. curvata	--	--	+	--	+	--	--	--	--	--
	E. elegans	--	--	--	--	+	--	--	--	--	--
	E. pectinalis	--	--	+	--	+	--	--	--	--	--
	E. pectinalis v. minor	--	--	--	--	+	--	--	--	--	--

Station		S-30-T9 (Miller Blue Hole)	S-34 (Green River Spring)	M-86 (Spring Fork)	M-87 (Flowing Well)	CH-84 (Cedar Bog)	F-26 (Clear Creek)	MD-13 (Styx River)	MD-14 (Styx River Trib.)	SU-20 (Gorge Run)	SU-21 (Sand Run)
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Collection Date		7/10/96	7/10/96	8/9/96	8/9/96	9/6/96	9/17/96	9/24/96	9/24/96	9/24/96	9/24/96
Sample Type		Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.
Division	Taxon										
Bacillariophyta	*E. valida*	+	--	--	--	--	--	--	--	--	--
(continued)	*Fragilaria capucina v. lanceolata*	--	--	--	--	+	--	--	--	--	--
	F. capucina v. mesolepta	+	--	--	--	+	--	--	--	--	--
	F. crotonensis	+	--	--	--	--	--	--	--	--	--
	F. lapponica	+	--	--	--	--	--	--	--	--	--
	F. vaucheriae	--	--	+	--	+	--	--	--	+	--
	F. vaucheriae v. capitellata	--	--	--	--	+	--	--	--	--	--
	F. vaucheriae v. continua	+	--	--	--	--	--	--	--	--	--
	Fragilariforma virescens	+	--	--	--	+	--	--	--	--	--
	Frustulia vulgaris	--	--	--	--	+	--	--	--	--	--
	Gomphonema acuminatum	--	--	+	--	+	+	--	--	--	--
	G. acuminatum v. brebissonii	+	--	--	--	+	--	--	--	--	--
	G. acuminatum v. capitatum	--	--	--	--	+	--	--	--	--	--
	G. acuminatum v. coronata	--	--	--	--	+	--	--	--	--	--
	G. acuminatum v. pusilla	--	--	--	--	+	--	--	--	--	--
	G. acuminatum v. trigonocephala	--	--	--	--	+	--	--	--	--	--
	G. angustatum	+	--	+	+	+	+	+	+	--	--
	G. angustatum v. naviculaformis	--	--	--	--	+	--	--	--	--	--
	G. angustatum v. sarcophagus	--	--	--	--	+	--	--	--	--	--
	G. gracile	--	+	--	--	+	--	--	--	--	--
	G. gracile v. aurita	+	--	--	--	+	--	--	--	--	--
	G. gracile v. lanceolata	--	--	--	--	+	--	--	--	--	--
	G. insigne	+	+	+	--	+	--	--	--	--	--
	G. intricatum	--	--	--	--	+	--	--	--	--	--
	G. intricatum v. dichotomum	--	--	--	--	+	--	--	--	--	--
	G. intricatum v. pumila	+	--	--	--	+	--	--	--	--	--
	G. intricatum f. pusilla	--	--	--	--	+	--	--	--	--	--
	G. lanceolata	+	--	--	--	+	--	--	--	--	--
	G. montanum	--	--	--	--	+	--	--	--	--	--
	G. montanum v. subclavatum	--	--	--	--	+	--	--	--	--	--
	G. olivaceum	+	+	+	--	+	--	--	+	--	--
	G. parvulum	+	+	+	--	+	--	--	--	--	--
	G. sphaerophorum	--	--	+	--	--	--	--	--	--	--

Station		S-30-T9 (Miller Blue Hole)	S-34 (Green River Spring)	M-86 (Spring Fork)	M-87 (Flowing Well)	CH-84 (Cedar Bog)	F-26 (Clear Creek)	MD-13 (Styx River)	MD-14 (Styx River Trib.)	SU-20 (Gorge Run)	SU-21 (Sand Run)
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Sample Type		Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.
Division	Taxon										
Bacillariophyta	*G. subclavatum*	--	--	--	--	--	--	--	--	+	--
(continued)	*G. subtile*	+	--	--	--	+	--	--	--	--	--
	G. subtile v. sagitta	+	--	--	--	--	--	--	--	--	--
	G. tergestinum	--	+	+	+	--	--	--	--	--	--
	G. truncatum	+	+	--	--	+	--	--	--	--	--
	Gyrosigma acuminatum	--	--	--	--	+	--	--	--	--	--
	G. attenuatum	--	--	--	--	+	--	--	--	--	--
	G. scalproides	--	--	+	--	--	--	--	--	--	--
	G. spencerii	--	--	+	--	+	--	--	--	--	--
	G. spencerii v. curvula	--	--	--	--	+	--	--	--	--	--
	Hantzschii amphioxys	+	--	+	--	--	+	--	--	--	--
	Luticola heufleriana	--	--	+	--	--	--	--	--	--	--
	L. mutica	--	--	--	--	--	+	--	--	--	--
	L. mutica v. tropica	+	--	--	--	--	--	--	--	--	--
	Martyana ansata	--	--	--	--	+	--	--	--	--	--
	M. martyi	--	--	--	--	+	--	--	--	--	--
	Mastogloia grevillei	+	--	--	--	--	--	--	--	--	--
	M. smithii v. lacustris	+	--	--	--	+	--	--	--	--	--
	Melosira varians	--	+	+	--	--	--	--	--	--	--
	Meridion circulare	+	+	+	+	+	--	--	--	--	--
	M. circulare v. constricta	--	--	--	--	+	--	--	--	--	--
	M. lineare	--	--	--	--	+	--	--	--	--	--
	Navicula abiskoensis	+	--	+	--	--	--	--	--	--	+
	N. atomus	--	--	--	--	+	--	--	--	--	--
	N. cryptocephala	--	--	+	+	+	--	--	--	--	--
	N. cryptocephala v. exilis	--	--	+	--	--	--	--	--	--	--
	N. cryptocephala v. veneta	--	+	+	--	+	+	--	--	--	--
	N. elginensis	--	--	--	--	+	--	--	--	--	--
	N. elginensis v. rostrata	--	--	--	--	+	--	--	--	--	--
	N. falaisiensis v. lanceolata	--	--	--	--	+	--	--	--	--	--
	N. graciloides	--	--	+	--	--	--	--	--	--	--
	N. gregaria	--	--	--	--	--	--	--	--	+	--
	N. halophila	--	+	--	--	--	--	--	--	--	--

Station		S-30-T9 (Miller Blue Hole)	S-34 (Green River Spring)	M-86 (Spring Fork)	M-87 (Flowing Well)	CH-84 (Cedar Bog)	F-26 (Clear Creek)	MD-13 (Styx River)	MD-14 (Styx River Trib.)	SU-20 (Gorge Run)	SU-21 (Sand Run)
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Sample Type		Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.
Division	Taxon										
Bacillariophyta	*N. halophila v. tenuirostris*	--	--	--	--	+	--	--	--	--	--
(continued)	*N. hasta*	--	--	--	--	+	--	--	--	--	+
	N. heufleri	--	--	--	--	+	--	+	--	--	--
	N. heustedtii	--	--	+	+	--	--	--	--	--	--
	N. lanceolata	--	+	+	--	--	--	--	--	--	--
	N. minuscula	+	--	--	--	--	--	--	--	--	--
	N. minima	--	--	--	--	+	--	--	--	--	--
	N. muralis	--	--	--	--	+	--	--	--	--	--
	N. nigrii	+	--	--	--	--	--	--	--	--	--
	N. nivalis	+	--	--	--	--	--	--	--	--	--
	N. notha	--	--	--	--	+	--	--	--	--	--
	N. oblonga	+	+	--	--	+	--	--	--	--	--
	N. paludosa v. rhomboidea	--	--	--	--	+	--	--	--	--	--
	N. paucivisitata	--	--	--	--	+	--	--	--	--	--
	N. pelliculosa	--	--	--	--	+	--	--	--	--	--
	N. potzgeri	--	--	--	--	+	--	--	--	--	--
	N. radiosa	+	--	--	--	+	--	--	--	--	--
	N. radiosa v. tenella	+	+	+	--	+	+	+	--	--	--
	N. rhychocephala	--	--	--	--	+	--	--	--	--	--
	N. salinarum v. intermedia	--	--	--	--	+	--	--	--	--	--
	N. seminuloides	--	--	--	--	+	--	--	--	--	--
	N. seminulum	+	--	+	+	+	--	--	--	+	--
	N. seminulum v. hustedtii	--	--	--	--	+	--	--	--	+	--
	N. seminulum v. intermedia	--	--	--	--	+	--	--	--	--	--
	N. simplex	+	--	--	--	--	--	--	--	--	--
	N. simula	--	--	--	--	+	--	--	--	--	--
	N. soehrensis	--	--	--	--	--	--	+	--	--	--
	N. subbacillum	--	--	--	--	+	--	--	--	--	--
	N. subhamulata	--	--	--	--	+	--	--	--	--	--
	N. symmetrica	--	--	--	--	+	+	--	--	--	--
	N. tenelloides	--	--	--	--	+	--	--	--	--	--
	N. tenuloides	--	--	--	--	+	--	--	--	--	--
	N. tridentula	--	--	--	--	+	--	--	--	--	--

Station		S-30-T9 (Miller Blue Hole)	S-34 (Green River Spring)	M-86 (Spring Fork)	M-87 (Flowing Well)	CH-84 (Cedar Bog)	F-26 (Clear Creek)	MD-13 (Styx River)	MD-14 (Styx River Trib.)	SU-20 (Gorge Run)	SU-21 (Sand Run)
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Sample Type		Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.
Division	Taxon										
Bacillariophyta	*N. tripunctata*	--	--	+	--	+	--	--	--	--	--
(continued)	*N. tripunctata* v. *schizonemoides*	--	--	--	--	+	--	--	--	--	--
	N. vanheurckii	--	--	--	--	+	--	--	--	--	--
	N. viridula	--	--	--	--	+	--	--	--	--	--
	N. viridula v. *argunensis*	+	--	--	--	--	--	--	--	--	--
	N. viridula v. *avenacea*	--	--	--	--	+	--	--	--	--	--
	N. viridula v. *rostellata*	--	--	--	--	+	--	--	--	--	--
	Neidium binode	--	--	--	--	+	+	--	--	--	--
	N. bisulcatum	--	--	--	--	+	--	--	--	--	--
	N. iridis	--	--	--	--	+	--	--	--	--	--
	N. iridis v. *ampliatum*	+	--	--	--	--	--	--	--	--	--
	Nitzschia acicularis	--	--	+	--	+	--	--	--	--	--
	N. adapta	--	--	--	--	+	--	--	--	--	--
	N. amphibia	+	+	+	+	+	--	--	--	--	--
	N. angustata	--	--	--	--	+	--	--	--	--	--
	N. angustata v. *acuta*	--	--	--	--	+	--	--	--	--	--
	N. apiculata	--	--	--	--	+	--	--	--	--	--
	N. capitellata	--	--	--	--	+	--	--	--	--	--
	N. clausii	--	--	--	--	+	--	--	--	--	--
	N. debilis	+	--	--	--	--	--	+	--	--	--
	N. denticula	+	--	--	--	+	--	--	--	--	--
	N. dissipata	--	+	+	--	+	--	--	--	--	--
	N. dubia	--	--	+	--	--	--	--	--	--	--
	N. filiformis	--	--	--	--	+	--	--	--	--	--
	N. fonticola	--	--	--	--	+	--	--	--	--	--
	N. frustulum	+	--	--	--	+	--	--	--	--	--
	N. gracilis	--	--	--	--	+	--	--	--	--	--
	N. hantzschiana	--	--	--	--	+	--	--	--	--	--
	N. kutzingiana	--	--	--	--	+	--	--	--	--	--
	N. linearis	+	--	+	--	+	+	+	--	--	+
	N. palea	--	+	+	+	+	--	--	--	--	--
	N. parvula	--	--	--	+	--	--	--	--	--	--
	N. perminuta	--	+	+	+	--	--	--	--	+	--

Station		S-30-T9 (Miller Blue Hole)	S-34 (Green River Spring)	M-86 (Spring Fork)	M-87 (Flowing Well)	CH-84 (Cedar Bog)	F-26 (Clear Creek)	MD-13 (Styx River)	MD-14 (Styx River Trib.)	SU-20 (Gorge Run)	SU-21 (Sand Run)
Latitude	(North)	412417	411551	395923	394529	400300	393559	410352	410351	410726	410739
Longitude	(West)	825430	830309	832306	831722	834700	823805	814836	814837	812954	813313
Collection Date		7/10/96	7/10/96	8/9/96	8/9/96	9/6/96	9/17/96	9/24/96	9/24/96	9/24/96	9/24/96
Sample Type		Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.
Division	Taxon										
Bacillariophyta	*N. recta*	--	--	--	--	+	--	--	--	--	--
(continued)	*N. romana*	--	--	--	--	+	--	--	--	--	--
	N. sigmoidea	+	--	--	--	+	--	--	--	--	--
	N. sinuata v. delognei	--	--	--	--	--	--	--	--	+	--
	N. spectibilis	--	--	--	--	+	--	--	--	--	--
	N. stagnorum	--	--	--	--	+	--	--	--	--	--
	N. sublinearis	--	--	--	--	+	--	--	--	--	--
	N. subtilis	--	--	--	--	+	--	--	--	--	--
	N. tropica	+	--	--	--	+	--	--	--	--	--
	N. vivax	--	--	--	--	+	--	--	--	--	--
	Pinnularia abaujensis v. rostrata	--	--	--	--	+	--	--	--	--	--
	P. acoricola	--	--	+	--	--	--	--	--	--	--
	P. acuminata v. bielawski	--	--	--	--	+	--	--	--	--	--
	P. aestruarii	--	--	--	--	+	--	--	--	--	--
	P. appendiculata	--	--	--	--	+	--	--	--	--	--
	P. braunii v. amphicephala	--	--	--	--	+	--	--	--	--	--
	P. brebissonii	+	--	--	--	--	--	+	--	--	--
	P. brebissonii v. diminuta	--	--	--	--	--	+	--	--	--	--
	P. brevicostata	--	--	--	--	+	--	--	--	--	--
	P. flexuosa	--	--	--	--	+	--	--	--	--	--
	P. gibba	--	--	+	--	--	--	--	--	--	--
	P. kneuckeri	+	--	--	--	--	--	--	--	--	--
	P. mesogongyla	--	--	--	--	+	--	--	--	--	--
	P. mesolepta	--	--	--	--	+	--	--	--	--	--
	P. rupestris	--	--	--	--	+	--	--	--	--	--
	P. viridis	+	--	--	--	+	+	--	--	--	--
	P. viridis v. minor	--	--	--	--	+	--	--	--	--	--
	P. viridis v. sedetica	--	--	--	--	+	--	--	--	--	--
	Pseudostaurosira brevistriata	--	+	--	--	+	--	--	--	--	--
	P. brevistriata v. capita	--	--	--	--	+	--	--	--	--	--
	P. brevistriata v. inflat	+	--	--	--	--	--	--	--	--	--
	Reimeria sinuata	--	--	--	--	--	--	+	--	--	--
	Rhoicosphenia curvata	+	+	+	+	+	+	--	--	+	--

Station		S-30-T9 (Miller Blue Hole)	S-34 (Green River Spring)	M-86 (Spring Fork)	M-87 (Flowing Well)	CH-84 (Cedar Bog)	F-26 (Clear Creek)	MD-13 (Styx River)	MD-14 (Styx River Trib.)	SU-20 (Gorge Run)	SU-21 (Sand Run)
Latitude	(North)	412417	411551	395923	394529	400300	393559	410352	410351	410726	410739
Longitude	(West)	825430	830309	832306	831722	834700	823805	814836	814837	812954	813313
Collection Date		7/10/96	7/10/96	8/9/96	8/9/96	9/6/96	9/17/96	9/24/96	9/24/96	9/24/96	9/24/96
Sample Type		Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.
Division	Taxon										
Bacillariophyta	*Rhopalodia gibba*	+	--	--	--	+	--	--	--	--	--
(continued)	*R. gibberula*	+	--	--	--	--	--	--	--	--	--
	Sellophora laevissima	--	--	--	--	+	--	--	--	--	--
	S. pupula	--	+	--	--	+	--	--	--	--	--
	S. pupula v. capitata	--	--	--	--	+	--	--	--	--	--
	S. pupula v. mutata	--	--	--	--	+	--	--	--	--	--
	S. pupula v. rectangularis	+	--	--	--	+	--	--	--	--	--
	Stauroneis anceps	--	--	+	--	+	--	--	--	--	--
	S. anceps v. americana	--	--	+	--	--	--	--	--	--	--
	S. kriegeri	--	--	+	--	--	--	--	--	--	--
	S. phoenocentron	--	--	--	--	+	--	--	--	--	--
	S. phoenocentron v. braunii	--	--	--	--	+	--	--	--	--	--
	S. smithii	--	--	--	--	+	--	+	--	--	--
	Staurosira construens	--	--	--	--	+	--	--	--	--	--
	S. construens v. pumila	--	--	--	--	+	--	--	--	--	--
	S. construens v. subsalina	--	--	--	--	+	--	--	--	--	--
	S. construens v. venter	+	--	--	--	+	--	--	--	--	--
	Staurosirella leptostauron	--	--	--	--	+	--	--	--	--	--
	S. leptostauron v. dubia	--	--	--	--	+	--	--	--	--	--
	S. pinnata	--	--	--	--	+	--	--	--	--	--
	S. pinnata v. intercedens	--	--	--	--	+	--	--	--	--	--
	S. pinnata v. lancetula	--	--	--	--	+	--	--	--	--	--
	Stenopterobia delicatissima	--	--	--	--	+	--	--	--	--	--
	Stephanodiscus hantzschii	+	--	--	--	--	--	--	--	--	--
	S. invisitatus	+	--	--	--	--	--	--	--	--	--
	Surirella angustata	+	--	+	--	+	--	+	--	--	--
	S. ovata	--	--	+	--	+	--	--	--	--	--
	S. ovata v. pinnata	--	--	+	--	--	--	--	--	--	--
	S. robusta	--	--	--	--	+	--	--	--	--	--
	S. robusta v. spendida	--	--	--	--	+	--	--	--	--	--
	Synedra affinis	+	--	--	--	+	--	--	--	--	--
	S. amphicephala	--	--	--	--	+	--	--	--	--	--
	S. capitata	+	--	--	--	--	--	--	--	--	--

Station		S-30-T9 (Miller Blue Hole)	S-34 (Green River Spring)	M-86 (Spring Fork)	M-87 (Flowing Well)	CH-84 (Cedar Bog)	F-26 (Clear Creek)	MD-13 (Styx River)	MD-14 (Styx River Trib.)	SU-20 (Gorge Run)	SU-21 (Sand Run)
Latitude	(North)	412417	411551	395923	394529	400300	393559	410352	410351	410726	410739
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Collection Date		7/10/96	7/10/96	8/9/96	8/9/96	9/6/96	9/17/96	9/24/96	9/24/96	9/24/96	9/24/96
Sample Type		Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.	Qual.
Division	Taxon										
Bacillariophyta	*S. delicatissima*	+	--	--	--	--	--	--	--	--	--
(continued)	*S. fasciculata*	--	+	--	--	+	--	--	--	--	--
	S. fasciculata v. truncata	--	--	--	--	+	--	--	--	--	--
	S. filiformis v. exilis	--	--	--	--	+	--	--	--	--	--
	S. minuscula	+	--	--	--	+	--	--	--	--	--
	S. parasitica	--	--	--	--	+	--	--	--	--	--
	S. parasitica v. subconstricta	--	--	--	--	+	--	--	--	--	--
	S. radians	+	--	--	--	+	--	--	--	--	--
	S. ulna	--	--	+	--	+	--	--	--	--	--
	S. ulna v. danica	+	--	--	--	--	--	--	--	--	--
	S. ulna v. longissima	--	--	--	--	+	--	--	--	--	--
	S. ulna v. subaequalis	--	--	--	--	+	--	--	--	--	--
	Thalassiosira pseudonanna	+	--	--	--	--	--	--	--	--	--
	Tryblionella calida	--	--	+	--	--	--	--	--	--	--
	T. hungarica	+	--	+	--	+	--	--	--	--	--
Chlorophyta	*Chaetophora elegans*	--	+	--	--	--	--	--	--	--	--
	Chara vulgaris	+	--	--	--	+	--	--	--	--	--
	Cladophora glomerata	--	--	--	--	--	--	--	--	+	--
	C. moniliferum	--	+	--	--	--	--	--	--	--	--
	Closterium subulatum	--	--	--	--	+	--	--	--	--	--
	Cosmarium reniforme	--	--	--	--	+	--	--	--	--	--
	Microthamnion strictissimum	--	--	--	--	--	--	+	--	--	--
	Mougeotia sp.	+	+	--	+	+	--	--	--	--	--
	Oedogonium sp.	+	--	--	--	--	--	--	--	--	--
	Oocystis submarina	+	--	--	--	--	--	--	--	--	--
	Pleurotaenium ehrenbergii	--	--	--	--	+	--	--	--	--	--
	Rhizoclonium crassipellitum	--	--	+	+	--	--	--	--	--	--
	Spirogyra sp.	+	--	+	+	+	--	--	--	--	--
	Tribonema minus	+	--	--	--	--	--	--	--	--	--
	Ulothrix subtilissima	--	--	--	--	--	--	+	--	--	--
	Zygnema sp.	+	--	--	--	+	--	--	--	--	--

Fish community surveys were conducted at seven sites in the Great and Little Miami River Basins as part of the National Water-Quality Assessment Program (NAWQA). Fish were collected by electrofishing with pulsed-DC current in a mapped reach at each site. Two electrofishing passes were done at each reach in a single day. Electrofishing was done by use of a barge electroshocker at all sites excluding the Great Miami River below Hamilton, Ohio where non-wadeable stream depths required the use of a boat. Fish were identified, measured, weighed, and checked for external anomalies such as parasites, lesions, and skeletal anomalies. Fish were identified in the field by Dr. Terry Keiser, Ohio Northern University, and representative specimens were preserved, identified, and vouchered at the University. More details regarding collection methods can be found in Meador and others (1993). Taxonomy is based on Robins and others (1991).[-- = not present at indicated site; ** = Species were identified by voucher and weights were not recorded; Degree, minute, and second symbols are omitted from latitude and longitude]

CALENDER YEAR 1998

Station Number	Station Name	Date Sampled	Drainage Area ($miles^2$)	Reach Length (meters)	Specific Conductance (us/cm) (90095)	pH (00040)	Water Temperature (DEG C) (00010)	Dissolved Oxygen (mg/L) (00300)
393944084120700	Holes Creek at Kettering, OH	9/10/98	20.0	205	667	7.8	14.9	8.3
393259085101200	Whitewater River near Nulltown, IN	9/15/98	533.2	400	654	6.9	20.4	7.4
395433084175300	Stillwater River on Old Springfield Rd near Union, OH	9/17/98	642.7	250	760	8.2	21.7	7.8
395534084091400	Great Miami River near Tipp City, OH	9/9/98	1128.3	400	756	8.1	18.2	7.5
395650083504400	Mad River near Hwy 41 near Springfield, OH	9/14/98	318.6	300	740	7.8	16.5	7.6
392246084340100	Great Miami River below Hamilton, OH	9/1/98	3635.8	500	731	8.5	27.4	10.5
03245500	Little Miami River at Milford, OH	9/16/98	1202.5	265	906	8.0	23.8	7.1

Station Name			Holes Creek at Kettering, OH		Whitewater River near Nulltown, IN		Stillwater River on Old Springfield Rd near Union OH		Great Miami River near Tipp City, OH	
Latitude	(North)		393944		393259		395433		395534	
Longitude	(West)		841207		851012		841753		840914	
FAMILY	SCIENTIFIC NAME	COMMON NAME	ABUNDANCE	BATCH WEIGHT (g)	ABUNDANCE	BATCH WEIGHT (g)	ABUNDANCE	BATCH WEIGHT (g)	ABUNDANCE	BATCH WEIGHT (g)
Petromyzontidae	*Lampetra appendix*	american brook lamprey	--	--	--	--	--	--	--	--
Lepisosteidae	*Lepisosteus osseus*	longnose gar	--	--	--	--	--	--	--	--
Clupeidae	*Dorosoma cepedianum*	gizzard shad	--	--	--	--	2	29.5	44	417.9
Salmonidae	*Salmo trutta*	brown trout	--	--	--	--	--	--	--	--
Cyprinidae	*Cyprinus carpio*	common carp	16	20332.3	7	16423.3	17	33259.1	12	15774.2

PROJECT DATA

Results from selected sites in the Great and Little Miami River Basins
(National Water-Quality Assessment Program)

Station Name			Holes Creek at Kettering, OH		Whitewater River near Nulltown, IN		Stillwater River on Old Springfield Rd near Union OH		Great Miami River near Tipp City, OH	
Latitude	(North)		393944		393259		395433		395534	
Longitude	(West)		841207		851012		841753		840914	
FAMILY	SCIENTIFIC NAME	COMMON NAME	ABUNDANCE	BATCH WEIGHT (g)	ABUNDANCE	BATCH WEIGHT (g)	ABUNDANCE	BATCH WEIGHT (g)	ABUNDANCE	BATCH WEIGHT (g)
	Carassius auratus	goldfish	1	178.0	--	--	--	--	--	--
	Nocomis biguttatus	horneyhead chub	--	--	--	--	--	--	4	13.3
	Nocomis micropogon	river chub	--	--	76	1854.4	186	5883.0	22	739.8
	Erimystax x-punctatus	gravel chub	--	--	--	--	--	--	--	--
	Rhinichthys atratulus	blacknose dace	166	472.2	1	0.5	--	--	--	--
	Semotilus atromaculatus	creek chub	115	1240.0	6	344.6	--	--	--	--
	Phenacobius mirabilis	suckermouth minnow	--	--	--	--	--	--	5	26.2
	Clinostomus elongatus	redside dace	--	--	--	--	--	--	--	--
	Notropis atherinoides	emerald shiner	--	--	--	--	47	93.2	20	26.8
	Notropis photogenis	silver shiner	--	--	11	26.2	3	14.3	5	7.5
	Luxilus chrysocephalus	striped shiner	43	297.0	34	270.4	38	454.8	12	133.6
	Cyprinella whipplei	steelcolor shiner	--	--	--	--	--	--	--	--
	Cyprinella spiloptera	spotfin shiner	--	--	12	34.9	33	107.7	97	334.3
	Notropis stramineus	sand shiner	39	70.9	162	216.4	150	47.2	96	153.7
	Notropis buccatus	silverjaw minnow	26	66.6	1	1.4	--	--	1	0.8
	Pimephales promelas	fathead minnow	--	--	--	--	2	4.6	--	--
	Pimephales notatus	bluntnose minnow	138	393.9	13	24.9	46	122.4	60	92.1
	Campostoma anomalum	stoneroller	1200	6003.2	4	86.9	406	3757.7	38	197.9
Catostomidae	*Ictiobus niger*	black buffalofish	--	--	--	--	--	--	--	--
	Carpiodes cyprinus	quillback carpsucker	--	--	9	5870.0	--	--	1	18.0
	Carpiodes carpio	river carpsucker	--	--	--	--	--	--	--	--
	Carpiodes velifer	highfin carpsucker	--	--	--	--	--	--	--	--
	Moxostoma anisurum	silver redhorse	--	--	--	--	--	--	--	--
	Moxostoma duquesnei	black redhorse	--	--	42	24060.5	9	2392.0	4	619.0
	Moxostoma erythrurum	golden redhorse	1	336.0	7	1661.0	16	5599.0	59	12513.0
	Moxostoma macrolepidotum	shorthead redhorse	--	--	--	--	9	2323.0	15	5301.0
	Moxostoma carinatum	river redhorse	--	--	--	--	1	765.0	--	--
	Hypentelium nigricans	northern hogsucker	20	742.8	94	18649.0	97	18668.7	112	10373.6
	Catostomus commersoni	white sucker	21	1174.0	80	22594.0	--	--	5	1328.1
Ictaluridae	*Ictalurus punctatus*	channel catfish	--	--	--	--	4	733.3	1	1642.0
	Ameiurus natalis	yellow bullhead	2	32.3	--	--	--	--	--	--
	Pylodictis olivaris	flathead catfish	--	--	--	--	--	--	--	--
	Noturus flavus	stonecat	--	--	3	158.7	66	1452.8	--	--
	Noturus miurus	brindled madtom	--	--	--	--	--	--	--	--
Percichthyidae	*Morone chrysops*	white bass	--	--	--	--	--	--	--	--

Station Name			Holes Creek at Kettering, OH		Whitewater River near Nulltown, IN		Stillwater River on Old Springfield Rd near Union OH		Great Miami River near Tipp City, OH	
Latitude	(North)		393944		393259		395433		395534	
Longitude	(West)		841207		851012		841753		840914	
FAMILY	SCIENTIFIC NAME	COMMON NAME	ABUNDANCE	BATCH WEIGHT (g)	ABUNDANCE	BATCH WEIGHT (g)	ABUNDANCE	BATCH WEIGHT (g)	ABUNDANCE	BATCH WEIGHT (g)
	Pomoxis annularis	white crappie	--	--	--	--	--	--	1	14.0
	Ambloplites rupestris	rock bass	--	--	10	707.9	7	233.3	33	2182.0
Centrarchidae	*Micropterus dolomieu*	smallmouth bass	1	28.0	22	1359.5	16	3640.4	37	2789.0
	Micropterus punctulatus	spotted bass	--	--	--	--	2	55.1	1	2.0
	Micropterus salmoides	largemouth bass	27	61.3	5	61.0	1	8.6	--	--
	Lepomis cyanellus	green sunfish	19	369.6	--	--	6	142.4	18	504.0
	Lepomis macrochirus	bluegill	14	121.2	--	--	--	--	14	194.7
	Lepomis humilis	orangespotted sunfish	--	--	--	--	3	19.2	--	--
	Lepomis megalotis	longear sunfish	--	--	--	--	2	53.2	41	556.4
	Lepomis gibbosus	pumpkinseed	--	--	--	--	--	--	9	48.0
Percidae	*Stizostedion canadense*	sauger	--	--	--	--	--	--	--	--
	Percina phoxocephala	slenderhead darter	--	--	--	--	--	--	--	--
	Percina caprodes	logperch	--	--	--	--	23	213.6	1	16.5
	Etheostoma blennioides	greenside darter	--	--	6	13.9	32	202.4	20	54.0
	Etheostoma zonale	banded darter	--	--	2	4.5	9	18.3	4	4.8
	Etheostoma caeruleum	rainbow darter	--	--	13	15.5	14	23.2	7	7.4
	Etheostoma flabellare	fantail darter	44	90.1	1	4.0	1	2.5	--	--
Sciaenidae	*Aplodinotus grunniens*	freshwater drum	--	--	--	--	--	--	--	--
Cottidae	*Cottus bairdi*	mottled sculpin	--	--	6	66.7	--	--	1	3.4
NUMBER OF SPECIES			18	--	25	--	30	--	33	--
HYBRID SPECIES			--	--	--	--	1	--	3	--
TOTAL NUMBER OF FISH			1893	--	627	--	1249	--	805	--

PROJECT DATA
Results from selected sites in the Great and Little Miami River Basins
(National Water-Quality Assessment Program)

Station Name			Mad River near Hwy 41 near Springfield, Ohio		Great Miami below Hamilton, Ohio		Little Miami at Milford, Ohio	
Latitude	(North)		395650		392246		391011	
Longitude	(West)		835044		843401		841752	
FAMILY	SCIENTIFIC NAME	COMMON NAME	ABUNDANCE	BATCH WEIGHT (g)	ABUNDANCE	BATCH WEIGHT (g)	ABUNDANCE	BATCH WEIGHT (g)
Petromyzontidae	*Lampetra appendix*	american brook lamprey	2	34.7	--	--	--	--
Lepisosteidae	*Lepisosteus osseus*	longnose gar	--	--	9	7568.0	--	--
Clupeidae	*Dorosoma cepedianum*	gizzard shad	--	--	3	366.0	18	2078.0
Salmonidae	*Salmo trutta*	brown trout	3	1272.9	--	--	--	--
Cyprinidae	*Cyprinus carpio*	common carp	10	4799.9	25	54645.5	4	15204.9
	Carassius auratus	goldfish	--	--	--	--	--	--
	Nocomis biguttatus	horneyhead chub	--	--	--	--	--	--
	Nocomis micropogon	river chub	--	--	--	--	--	--
	Erimystax x-punctatus	gravel chub	--	--	--	--	6	**
	Rhinichthys atratulus	blacknose dace	125	523.6	--	--	2	6.1
	Semotilus atromaculatus	creek chub	407	6859.2	--	--	4	23.6
	Phenacobius mirabilis	suckermouth minnow	--	--	--	--	17	140.3
	Clinostomus elongatus	redside dace	22	115.4	--	--	--	--
	Notropis atherinoides	emerald shiner	--	--	--	--	148	270.4
	Notropis photogenis	silver shiner	--	--	--	--	--	--
	Luxilus chrysocephalus	striped shiner	6	120.9	--	--	--	--
	Cyprinella whipplei	steelcolor shiner	--	--	--	--	2	15.4
	Cyprinella spiloptera	spotfin shiner	--	--	--	--	6	29.2
	Notropis stramineus	sand shiner	--	--	--	--	10	6.3
	Notropis buccatus	silverjaw minnow	--	--	--	--	--	--
	Pimephales promelas	fathead minnow	3	9.5	--	--	--	--
	Pimephales notatus	bluntnose minnow	9	29.4	--	--	30	43.2
	Campostoma anomalum	stoneroller	310	4184.6	--	--	56	334.6
Catostomidae	*Ictiobus niger*	black buffalofish	--	--	17	28431.0	5	8650.6
	Carpiodes cyprinus	quillback carpsucker	--	--	3	1982.0	--	--
	Carpiodes carpio	river carpsucker	--	--	6	3918.0	--	--
	Carpiodes velifer	highfin carpsucker	--	--	4	1630.0	--	--
	Moxostoma anisurum	silver redhorse	--	--	5	10617.0	--	--
	Moxostoma duquesnei	black redhorse	--	--	--	--	--	--
	Moxostoma erythrurum	golden redhorse	--	--	46	15450.0	3	2189.0
	Moxostoma macrolepidotum	shorthead redhorse	--	--	13	8236.0	16	8248.0
	Moxostoma carinatum	river redhorse	--	--	--	--	--	--

Station Name			Mad River near Hwy 41 near Springfield, Ohio		Great Miami below Hamilton, Ohio		Little Miami at Milford, Ohio	
Latitude	(North)		395650		392246		391011	
Longitude	(West)		835044		843401		841752	
FAMILY	SCIENTIFIC NAME	COMMON NAME	ABUNDANCE	BATCH WEIGHT (g)	ABUNDANCE	BATCH WEIGHT (g)	ABUNDANCE	BATCH WEIGHT (g)
	Hypentelium nigricans	northern hogsucker	38	11279.8	1	66.0	34	10039.7
	Catostomus commersoni	white sucker	576	40553.0	--	--	--	--
Ictaluridae	*Ictalurus punctatus*	channel catfish	--	--	18	7458.0	23	3569.2
	Ameiurus natalis	yellow bullhead	--	--	--	--	--	--
	Pylodictis olivaris	flathead catfish	--	--	2	2442.0	5	86.2
	Noturus flavus	stonecat	--	--	--	--	44	**
	Noturus miurus	brindled madtom	--	--	--	--	5	20.2
Percichthyidae	*Morone chrysops*	white bass	--	--	1	234.0	1	482.0
	Pomoxis annularis	white crappie	--	--	--	--	--	--
	Ambloplites rupestris	rock bass	--	--	--	--	--	--
Centrarchidae	*Micropterus dolomieu*	smallmouth bass	--	--	2	244.0	30	1320.3
	Micropterus punctulatus	spotted bass	--	--	--	--	12	185.4
	Micropterus salmoides	largemouth bass	7	70.0	--	--	--	--
	Lepomis cyanellus	green sunfish	3	40.3	--	--	3	29.2
	Lepomis macrochirus	bluegill	18	320.8	1	30.0	10	111.6
	Lepomis humilis	orangespotted sunfish	--	--	--	--	2	6.5
	Lepomis megalotis	longear sunfish	--	--	--	--	4	90.4
	Lepomis gibbosus	pumpkinseed	--	--	--	--	1	10.8
Percidae	*Stizostedion canadense*	sauger	--	--	15	7342.0	--	--
	Percina phoxocephala	slenderhead darter	--	--	1	5.3	36	156.4
	Percina caprodes	logperch	--	--	3	52.0	4	117.3
	Etheostoma blennioides	greenside darter	2	10.9	--	--	7	44.0
	Etheostoma zonale	banded darter	--	--	--	--	50	96.2
	Etheostoma caeruleum	rainbow darter	4	8.3	--	--	7	24.6
	Etheostoma flabellare	fantail darter	--	--	--	--	2	4.0
Sciaenidae	*Aplodinotus grunniens*	freshwater drum	--	--	52	10813.0	12	2753.0
Cottidae	*Cottus bairdi*	mottled sculpin	135	536.4	--	--	--	--
NUMBER OF SPECIES			18	--	20	--	35	--
HYBRID SPECIES			--	--	--	--	--	--
TOTAL NUMBER OF FISH			1680	--	227	--	619	--

References cited:
Robin, C.R., Bailey, R.M., Bond, C.E., Brooker, J.R., Lachner, E.A., Lea, R.N., and Scott, W.B., 1991, *Common and Scientific names of fishes from the United States and Canada, Fifth Edition*: American Fisheries Society Special Publication 20, Bethesda, MD, 183 p.

eador, M.R., Cuffney, T.R., and Gurtz, M.E., 1993, *Methods for collecting samples of fish communities as part of the National Water-Quality Assessment Program*: U.S. Geological Survey Open-File Report 93-104, 40 p.

PROJECT DATA
Habitat Design for Mussel Restoration

The following tables list the results of chemical and physical measurements, and algae collected from 12 sites in the St. Joseph River basin (3 in northwest Ohio, 2 in southeast Michigan, and 7 in northeast Indiana) during low flow in August 1998. They were collected as part of a regional study to characterize the habitats where diverse freshwater mussel (Unionid) populations have been found. Low flow discharge measurements for these sites are reported in the annual report of the Indiana District USGS for the water year 1998.

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

411210085014000 - Cedar Creek nr Cedarville IN

DATE	TEMPER- ATURE WATER (DEG C) (00010)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)
AUG 1998										
17...	24.4	1028	80020	774	9.1	8.0	8.2	.029	<.010	.40

DATE	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)
AUG 1998										
17...	.67	1.07	.119	.047	.052	7.6	5.5	87	28	32

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 1998										
17...	4.0	43	61	.60	8.6	12	44	474	771	288

411412085061700 - Cedar Creek nr Robinson Chapel IN

DATE	TEMPER- ATURE WATER (DEG C) (00010)	BARO- METRIC PRES- SURE (MM OF HG) (00025)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)
AUG 1998											
18...	20.9	760	1028	80020	767	7.6	7.8	8.1	.054	<.010	.44

DATE	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)
AUG 1998										
18...	.58	.900	.105	.047	.053	6.7	5.2	86	27	30

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 1998										
18...	3.9	40	63	.55	8.4	24	71	468	764	282

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998—Continued

412305085021800 - Cedar Creek nr Auburn IN

DATE	TEMPER-ATURE WATER (DEG C) (00010)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
AUG 1998										
18...	23.0	1028	80020	672	9.0	8.0	8.1	.047	.016	.45

DATE	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
AUG 1998										
18...	.67	.616	.211	.147	.143	7.7	5.7	79	25	20

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 1998										
18...	4.0	33	53	.43	5.7	32	77	411	672	254

412613085013700 - Cedar Creek nr Waterloo IN

DATE	TEMPER-ATURE WATER (DEG C) (00010)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
AUG 1998										
18...	23.6	1028	80020	644	9.7	8.1	8.2	.062	<.010	.49

DATE	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
AUG 1998										
18...	.63	.218	.062	.027	.024	8.3	5.6	76	26	15

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 1998										
18...	3.6	26	55	.35	5.5	33	31	392	643	247

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998—Continued

412743084444200 - Fish Creek at Edgerton OH

DATE	TEMPER- ATURE WATER (DEG C) (00010)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)
AUG 1998											
20...	17.6	1028	80020	20	675	11.7	8.2	8.2	.068	.015	.38

DATE	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)
AUG 1998										
20...	.53	.760	.062	.036	.048	6.4	5.4	72	24	17

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 1998										
20...	3.1	23	39	.38	7.0	15	38	362	603	250

412822084460700 - Fish Creek nr Edgerton OH

DATE	TEMPER- ATURE WATER (DEG C) (00010)	AGENCY COL- LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA- LYZING SAMPLE (CODE NUMBER) (00028)	DIS- CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE- CIFIC CON- DUCT- ANCE (US/CM) (00095)	OXYGEN, DIS- SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND- ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND- ARD UNITS) (00403)	NITRO- GEN, AMMONIA DIS- SOLVED (MG/L AS N) (00608)	NITRO- GEN, NITRITE DIS- SOLVED (MG/L AS N) (00613)	NITRO- GEN,AM- MONIA + ORGANIC DIS. (MG/L AS N) (00623)
AUG 1998											
21...	17.9	1028	80020	19	634	8.6	8.2	8.1	.061	.014	.40

DATE	NITRO- GEN,AM- MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO- GEN, NO2+NO3 DIS- SOLVED (MG/L AS N) (00631)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS DIS- SOLVED (MG/L AS P) (00666)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS- SOLVED (MG/L AS C) (00681)	CALCIUM DIS- SOLVED (MG/L AS CA) (00915)	MAGNE- SIUM, DIS- SOLVED (MG/L AS MG) (00925)	SODIUM, DIS- SOLVED (MG/L AS NA) (00930)
AUG 1998										
21...	.56	.779	.072	.029	.051	7.7	5.3	72	24	17

DATE	POTAS- SIUM, DIS- SOLVED (MG/L AS K) (00935)	CHLO- RIDE, DIS- SOLVED (MG/L AS CL) (00940)	SULFATE DIS- SOLVED (MG/L AS SO4) (00945)	FLUO- RIDE, DIS- SOLVED (MG/L AS F) (00950)	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	SPE- CIFIC CON- DUCT- ANCE LAB (US/CM) (90095)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 1998										
21...	3.0	24	40	.39	6.6	<10	38	362	609	250

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998—Continued

04177810 - Fish Creek nr Artic IN

DATE	TEMPER-ATURE WATER (DEG C) (00010)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
AUG 1998										
21...	15.5	1028	80020	663	11.7	8.1	8.1	.087	.016	.36

DATE	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)
AUG 1998										
21...	.48	.713	.050	.031	.031	71	24	16	2.8	22

DATE	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	DRAIN-AGE AREA (SQ. MI.) (81024)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 1998									
21...	41	.38	6.7	11	38	358	99.0	601	248

413008084504800 - Fish Creek nr Edon IN

DATE	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
AUG 1998											
20...	18.5	762	1028	80020	11	594	8.5	8.1	8.1	.089	.016

DATE	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
AUG 1998											
20...	.39	.56	.758	.064	.028	.043	6.9	4.9	68	23	16

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 1998										
20...	2.8	24	40	.37	6.8	17	52	354	595	241

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998—Continued

413305084501600 - Fish Creek nr Alvarado IN

DATE	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
AUG 1998											
20...	17.1	762	1028	80020	4.1	678	8.3	8.0	8.1	.049	.011

DATE	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
AUG 1998											
20...	.30	.42	.333	.051	.036	.055	6.2	5.9	81	26	16

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 1998										
20...	2.4	27	59	.32	5.6	<10	58	408	675	268

414137084411200 - West Branch nr Nettle Lake OH

DATE	TEMPER-ATURE WATER (DEG C) (00010)	BARO-METRIC PRES-SURE (MM OF HG) (00025)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)
AUG 1998											
19...	18.8	764	1028	80020	45	523	9.7	8.1	8.2	.058	.013

DATE	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
AUG 1998											
19...	.48	.57	.716	.068	.044	.052	7.5	6.3	68	20	9.2

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 1998										
19...	2.8	18	33	.21	7.5	46	12	327	527	220

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998—Continued

414320084422500 - West Branch nr Austin MI

DATE	TEMPER-ATURE WATER (DEG C) (00010)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
AUG 1998											
19...	19.2	1028	80020	24	528	8.9	8.0	8.1	.067	.016	.56

DATE	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
AUG 1998										
19...	.70	.661	.083	.043	.048	8.8	6.9	68	20	9.5

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 1998										
19...	2.7	18	27	.23	8.2	44	37	306	532	226

414513084395200 - West Branch at Austin MI

DATE	TEMPER-ATURE WATER (DEG C) (00010)	AGENCY COL-LECTING SAMPLE (CODE NUMBER) (00027)	AGENCY ANA-LYZING SAMPLE (CODE NUMBER) (00028)	DIS-CHARGE, INST. CUBIC FEET PER SECOND (00061)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	NITRO-GEN, AMMONIA DIS-SOLVED (MG/L AS N) (00608)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN,AM-MONIA + ORGANIC DIS. (MG/L AS N) (00623)
AUG 1998											
19...	19.8	1028	80020	17	485	9.6	8.1	8.2	.063	.010	.44

DATE	NITRO-GEN,AM-MONIA + ORGANIC TOTAL (MG/L AS N) (00625)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	PHOS-PHORUS TOTAL (MG/L AS P) (00665)	PHOS-PHORUS DIS-SOLVED (MG/L AS P) (00666)	PHOS-PHORUS ORTHO, DIS-SOLVED (MG/L AS P) (00671)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)	CARBON, ORGANIC DIS-SOLVED (MG/L AS C) (00681)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	SODIUM, DIS-SOLVED (MG/L AS NA) (00930)
AUG 1998										
19...	.49	.625	.030	.017	.026	6.8	3000	62	20	7.0

DATE	POTAS-SIUM, DIS-SOLVED (MG/L AS K) (00935)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	SILICA, DIS-SOLVED (MG/L AS SIO2) (00955)	IRON, DIS-SOLVED (UG/L AS FE) (01046)	MANGA-NESE, DIS-SOLVED (UG/L AS MN) (01056)	SOLIDS, RESIDUE AT 180 DEG. C DIS-SOLVED (MG/L) (70300)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	ANC UNFLTRD TIT 4.5 LAB (MG/L AS CACO3) (90410)
AUG 1998										
19...	2.4	15	33	.13	5.9	46	17	304	488	200

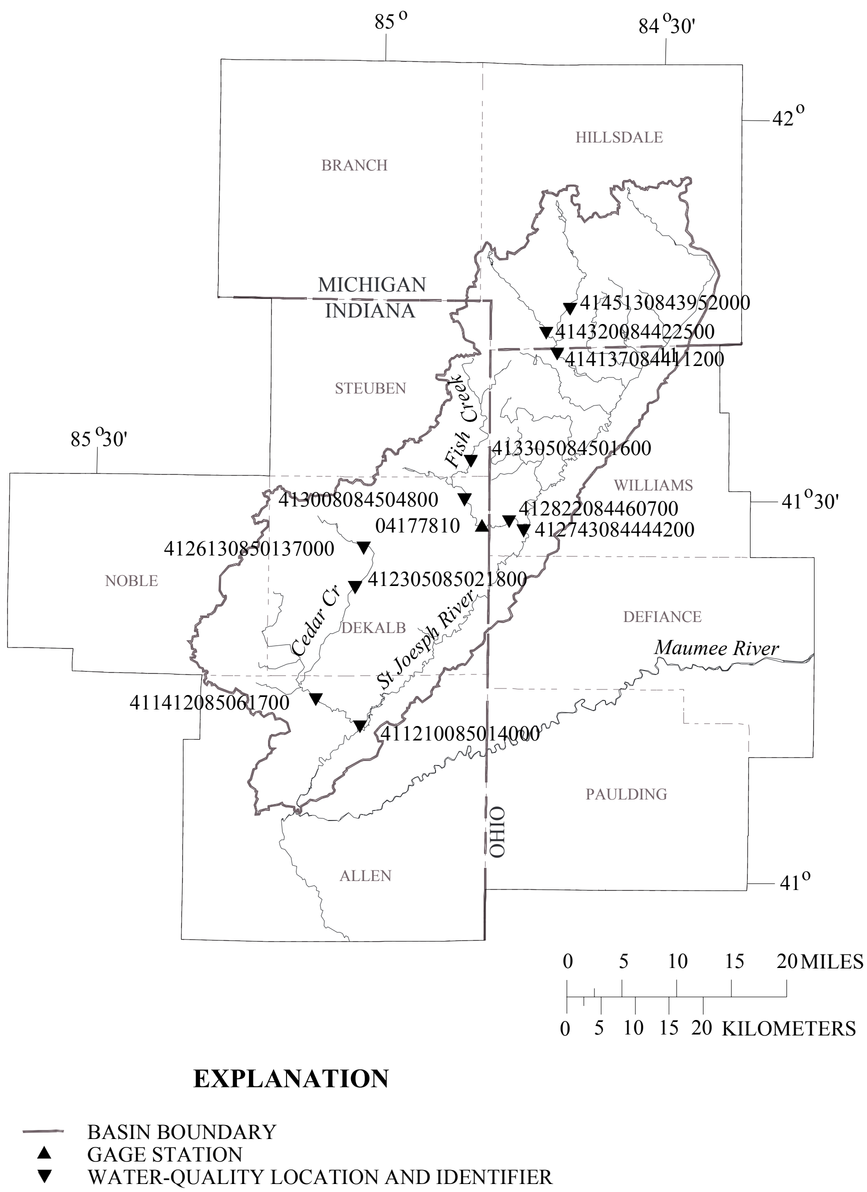


Figure 14. Location and site identification number for mussel habitat sites in the St. Joseph River Basin (3 in northeast Ohio, 2 in southeast Michigan, and 7 in northeast Indiana.)

The following tables lists attached algae (periphyton) collected from 11 sites in the St. Joseph River basin (3 in northwest Ohio, 2 in southeast Michigan, and 6 in northeast Indiana) during low flow in August 1998. The algae reported in the study are arranged in alphabetical order within Divisions which are in Phylogenic Order as described by the USGS Biological Unit at URL: http://wwwnwql.cr.usgs.gov/USGS/algae/algae.phylo.info.html. [-- = not present at indicated site; Quan. = Quantitative; Degree, minute, and second symbols are ommited from latitide and longitude.]

Station			Ceadar Creek nr Cedarville IN	Cedar Creek nr Robinson Chapel IN	Cedar Creek nr Auburn IN	Cedar Creek nr Waterloo IN	Fish Creek at Edgerton OH	Fish Creek nr Edgeton OH	Fish Creek nr Edon IN	Fish Creek nr Alvarado IN	West Branch nr Nettle Lake OH	West Branch nr Austin MI	West Branch at Austin MI
Latitude			411210	411412	412305	412613	412743	412822	413008	413305	414137	414320	414513
Longitude			850140	850617	850218	850137	844442	844607	845048	845016	844112	844225	843952
Sample Type			Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.
Division	Taxon	bio-volume μm^3	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2
Cyanophyta	*Anabaena sp.*	25	--	--	1160	--	--	--	--	--	--	--	--
	Merismopedia sp.	5	--	1240	--	--	--	14912	--	--	--	--	--
	Oscillatoria sp.	170	313	--	--	640	--	1165	105	--	425	461	1644
	Schizothrix calcicola	20	63	--	--	1760	1638	--	--	839	--	--	137
Rhodophyta	*Audouinella sp.*	180	--	--	870	--	--	--	--	--	--	691	--
Euglenophyta	*Euglena sp.*	400	--	--	--	--	--	--	105	--	--	--	--
	Trachelomonas sp.	450	--	--	--	--	--	--	105	--	43	--	--
Bacillariophyta	*Achnanthes exigua*	120	--	--	--	--	--	--	--	--	--	46	--
	Achnanthes hungarica	300	--	--	--	--	--	--	--	--	85	--	--
	A. suchlandtii	120	--	--	--	640	--	--	--	280	85	92	--
	Achnanthidium minutis-simum	65	--	155	--	--	--	--	--	--	--	--	274
	Amphora ovalis	4000	125	620	290	1920	2340	2330	840	2238	85	184	1370
	A. perpusilla	110	1126	1705	2465	2240	936	699	1575	1679	4463	645	2192
	A. submontana	120	--	--	--	--	234	--	--	560	--	323	274
	Caloneis bacillum	180	501	--	290	--	--	--	210	--	--	--	--
	Cocconeis pediculus	480	--	--	--	160	--	--	--	560	85	--	--
	C. placentula	160	313	--	2755	320	--	--	525	1679	85	369	411
	Cyclotella meneghini-ana	250	63	1395	1885	--	--	--	--	--	85	46	274
	C. pseudostelligera	90	63	--	290	800	--	699	--	--	--	--	--
	C. stelligera	110	--	155	--	--	--	--	--	--	--	--	--
	Cymatopleura elliptica	3200	--	--	--	--	--	--	--	--	43	--	--
	C. solea	2400	--	155	--	--	--	--	210	--	--	--	--
	Cymbella minuta	380	--	155	--	640	--	--	210	--	--	92	274
	C. tumida	1050	--	--	--	160	--	--	105	--	--	--	--
	Diadesmis clementis	360	--	--	--	--	--	--	--	--	--	--	137
	Diatoma vulgare	650	250	--	--	--	--	--	--	--	--	--	--
	Fragilaria vaucheriae	380	--	310	--	--	--	--	--	--	--	--	--

Station			Ceadar Creek nr Cedarville IN	Cedar Creek nr Robinson Chapel IN	Cedar Creek nr Auburn IN	Cedar Creek nr Waterloo IN	Fish Creek at Edgerton OH	Fish Creek nr Edgeton OH	Fish Creek nr Edon IN	Fish Creek nr Alvarado IN	West Branch nr Nettle Lake OH	West Branch nr Austin MI	West Branch at Austin MI
Latitude			411210	411412	412305	412613	412743	412822	413008	413305	414137	414320	414513
Longitude			850140	850617	850218	850137	844442	844607	845048	845016	844112	844225	843952
Sample Type			Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.
Division	Taxon	bio-volume μm^3	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2
Bacillariophyta	*Gomphonema angustatum*	320	--	310	--	--	--	--	--	--	--	--	--
(continued)	*G. intricatum*	460	--	--	--	--	--	--	--	--	--	--	274
	G. olivaceum	320	--	--	--	--	--	--	210	--	--	--	--
	G. parvulum	300	--	--	870	--	--	--	315	1679	85	--	274
	G. pumilum	280	--	--	580	320	--	--	105	--	128	--	--
	Gyrosigma accuminatum	3600	--	--	--	320	--	--	--	560	85	--	137
	G. eximum	1500	313	--	--	--	--	--	--	--	--	--	274
	G. scalproides	1200	--	--	--	--	--	--	--	--	85	--	137
	G. spencerii	2200	--	--	--	--	--	--	--	--	43	46	--
	Luticola mutica	190	--	--	--	--	--	--	210	--	--	--	--
	Melosira varians	720	1502	18600	4205	4160	1404	4660	1260	--	3995	--	1918
	Meridion circulare	450	--	--	--	--	--	--	--	280	43	--	--
	Navicula accomoda	400	--	--	--	--	--	--	105	--	--	--	--
	N. capitata	200	63	--	--	--	--	--	--	--	43	369	548
	N. capitata v. hungar-ica	200	--	--	145	--	468	466	--	--	--	184	--
	N. cryptocephala	350	63	310	145	160	--	466	210	1119	--	46	--
	N. cryptocephala v. veneta	250	--	--	580	640	234	--	105	--	468	138	274
	N. decussis	300	--	--	--	--	--	--	--	--	--	184	--
	N. gregaria	300	125	465	435	160	468	233	105	--	213	138	274
	N. heufleri	290	188	1395	145	480	--	932	210	2798	85	277	--
	N. lanceolata	700	63	1085	1015	160	468	--	--	--	2338	369	274
	N. menisculus	300	--	--	--	--	--	--	105	--	--	92	--
	N. minima	60	--	--	--	160	--	--	--	--	--	--	--
	N. radiosa	1200	--	--	--	--	--	--	105	--	--	--	--
	N. radiosa v. tenella	350	2753	--	725	--	--	699	945	1119	5313	184	4247
	N. salinarum v. inter-media	650	125	2170	2465	800	1638	466	420	1679	1063	277	--
	N. sanctaecrusis	420	--	--	--	--	--	--	--	280	--	--	--
	N. seminulum	65	1126	--	290	--	--	--	--	--	--	--	137
	N. symmetrica	500	--	--	145	160	234	466	525	560	--	46	--
	N. tripunctata	600	250	465	580	160	--	--	105	--	383	92	685
	N. viridula	1900	125	1550	290	160	234	--	--	280	255	323	137

Station			Ceadar Creek nr Cedarville IN	Cedar Creek nr Robinson Chapel IN	Cedar Creek nr Auburn IN	Cedar Creek nr Waterloo IN	Fish Creek at Edgerton OH	Fish Creek nr Edgeton OH	Fish Creek nr Edon IN	Fish Creek nr Alvarado IN	West Branch nr Nettle Lake OH	West Branch nr Austin MI	West Branch at Austin MI
Latitude			411210	411412	412305	412613	412743	412822	413008	413305	414137	414320	414513
Longitude			850140	850617	850218	850137	844442	844607	845048	845016	844112	844225	843952
Sample Type			Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.
Division	Taxon	bio-volume μm^3	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2
Bacillariophyta (continued)	*N. viridula v. rostellata*	1600	63	775	435	--	234	699	--	--	213	184	274
	Neidium binode	150	--	--	--	--	--	--	105	--	--	--	--
	Nitzschia acicularis	200	125	--	--	--	--	--	--	560	--	--	--
	N. amphibia	200	--	--	--	320	--	--	--	--	--	--	--
	N. debilis	370	--	310	--	--	234	--	105	280	--	92	--
	N. dissipata	300	1815	775	290	160	1404	699	945	560	2125	138	2740
	N. fonticola	250	125	--	--	--	--	--	--	--	--	--	--
	N. frustulum	320	--	--	--	--	--	--	--	--	--	--	--
	N. gracilis	400	--	--	--	--	--	--	--	--	--	46	--
	N. hungarica	650	63	155	--	--	468	--	--	--	--	92	--
	N. linearis	800	63	--	290	960	1170	466	--	560	--	--	--
	N. palea	250	375	2015	4350	3200	1872	1398	630	1679	2338	737	1644
	N. recta	500	--	--	--	--	--	--	--	--	170	--	274
	N. vermicularis	1100	--	--	--	--	--	--	--	560	--	--	--
	Pinnularia brebissonii	520	--	310	--	--	--	--	--	--	--	--	--
	Planothidium lanceolatum	260	--	--	435	320	--	699	420	280	85	461	274
	P. lanceolatum v. dubium	220	--	--	--	--	--	--	--	--	--	--	137
	Reimeria sinuata	130	--	--	--	--	--	--	--	280	85	--	274
	Rhoicosphenia curvata	500	1126	310	290	320	468	1398	840	280	85	277	411
	Sellaphora pupula	400	63	155	--	--	--	466	--	280	85	184	--
	Skeletonema potamos	60	--	--	--	--	--	--	--	--	--	--	274
	Stauroneis smithii	240	--	--	--	--	--	--	315	--	--	46	--
	Staurosira construens	80	--	--	--	--	--	--	--	--	--	1014	--
	S. construens v. binodis	80	--	--	--	--	--	--	--	280	--	461	--
	Stephanodiscus invisitatus	200	--	465	725	160	--	--	210	--	--	--	--
	Surirella sp.	1700	--	--	--	320	--	--	--	--	--	--	--
	S. ovata	480	250	465	--	--	468	699	630	560	--	--	--
	Synedra ulna	1250	--	155	--	--	--	--	--	--	425	--	--
	Thalassiosira weisflogii	310	63	--	--	--	--	--	--	--	--	--	--

Station			Ceadar Creek nr Cedarville IN	Cedar Creek nr Robinson Chapel IN	Cedar Creek nr Auburn IN	Cedar Creek nr Waterloo IN	Fish Creek at Edgerton OH	Fish Creek nr Edgeton OH	Fish Creek nr Edon IN	Fish Creek nr Alvarado IN	West Branch nr Nettle Lake OH	West Branch nr Austin MI	West Branch at Austin MI
Latitude			411210	411412	412305	412613	412743	412822	413008	413305	414137	414320	414513
Longitude			850140	850617	850218	850137	844442	844607	845048	845016	844112	844225	843952
Sample Type			Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.
Division	Taxon	bio-volume μm^3	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2
Chlorophyta	*Ankistrodesmus sp.*	60	63	--	145	480	--	--	--	--	--	--	--
	Cosmarium sp.	700	--	--	145	--	--	--	--	--	--	--	--
	Crucigenia sp.	90	--	--	--	--	468	--	--	--	--	--	--
	Scenedesmus spp.	170	125	620	--	320	--	--	--	--	--	--	--

The following table lists phytoplankton taxa and abundance collected from 12 sites in the St. Joseph River basin (3 in northwest Ohio, 2 in southeast Michigan, and 6 in northeast Indiana) during low flow in August 1998. The algae reported in the study are arranged in alphabetical order within Divisions which are in Phylogenic Order as described by the USGS Biological Unit at URL: http://wwwnwql.cr.usgs.gov/USGS/algae/algae.phylo.info.html. [-- = not present at indicated site; Quan. = Quantitative; Degree, minute, and second symbols are ommited from latitide and longitude.]

Station		Ceadar Creek nr Cedarville IN	Cedar Creek nr Robinson Chapel IN	Cedar Creek nr Auburn IN	Cedar Creek nr Waterloo IN	Fish Creek at Edgerton OH	Fish Creek nr Edgeton OH	Fish Creek nr Edon IN	Fish Creek nr Alvarado IN	West Branch nr Nettle Lake OH	West Branch nr Austin MI	West Branch at Austin MI	Fish Crk. nr Arctic IN	Fish Crk. nr Arctic IN
Latitude		411210	411412	412305	412613	412743	412822	413008	413305	414137	414320	414513	412754	412754
Longitude		850140	850617	850218	850137	844442	844607	845048	845016	844112	844225	843952	844851	844851
Date		18-Aug	18-Aug	18-Aug	18-Aug	20-Aug	21-Aug	20-Aug	20-Aug	19-Aug	19-Aug	19-Aug	21-Aug	21-Aug
Sample Type		Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.
Taxon	bio-volume μm^3	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2
Cyanophyta														
Anabaena sp.	25	--	--	--	--	--	--	--	--	--	--	--	14	70
Chroococcus sp.	25	--	266	--	--	--	--	--	--	--	--	--	--	--
Merismopedia tenuissima	5	7278	5843	--	--	--	--	--	--	--	--	--	--	--
Microcystis sp.	7	--	--	1113	536	--	155	--	--	--	--	--	--	--
Oscillatoria sp.	170	--	--	--	--	49	--	--	--	--	--	--	--	--
Rhabdoderma irregulare	150	--	--	--	--	--	--	--	--	--	--	98	--	--
Schizothrix calcicola	20	1258	53	512	429	28	14	--	--	1726	14	--	7	--
Spirulina laxa	50	27	27	--	--	--	--	--	--	--	--	--	--	--
Spirulina sp.	50	--	--	--	--	--	--	--	--	200	--	--	--	--
Cryptophyta														
Cryptomonas spp.	130	268	80	--	--	35	42	21	7	11	105	56	14	21
Pyrrophyta														
Peridinium sp.	5100	--	--	33	29	--	--	--	--	--	--	--	--	--
Euglenophyta														
Euglena sp. 1	1400	54	106	67	--	42	14	7	--	33	--	35	--	7
Euglena sp. 2	400	--	--	45	107	--	7	--	21	--	14	--	14	21
Phacus spp.	400	--	--	11	54	--	--	7	--	11	--	--	--	--
Trachelomonas spp.	450	27	27	78	107	7	--	7	14	22	--	7	7	--

Station		Ceadar Creek nr Cedarville IN	Cedar Creek nr Robinson Chapel IN	Cedar Creek nr Auburn IN	Cedar Creek nr Waterloo IN	Fish Creek at Edgerton OH	Fish Creek nr Edgeton OH	Fish Creek nr Edon IN	Fish Creek nr Alvarado IN	West Branch nr Nettle Lake OH	West Branch nr Austin MI	West Branch at Austin MI	Fish Crk. nr Arctic IN	Fish Crk. nr Arctic IN
Latitude		411210	411412	412305	412613	412743	412822	413008	413305	414137	414320	414513	412754	412754
Longitude		850140	850617	850218	850137	844442	844607	845048	845016	844112	844225	843952	844851	844851
Date		18-Aug	18-Aug	18-Aug	18-Aug	20-Aug	21-Aug	20-Aug	20-Aug	19-Aug	19-Aug	19-Aug	21-Aug	21-Aug
Sample Type		Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.
Taxon	bio-volume μm^3	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2
Chrysophyta														
Dinobryon sp.	280	--	27	--	--	--	--	--	--	22	--	21	--	--
Mallomonas sp.	240	--	--	--	--	--	--	--	--	--	--	7	--	--
Bacillariophyta														
Achnanthidium minutissimum	70	--	--	--	--	--	--	--	--	--	--	7	--	--
Amphora ovalis	4000	--	--	--	13	7	21	7	21	--	7	--	21	28
Amphora perpusilla	110	--	--	--	--	--	--	--	--	11	--	--	--	7
Aulacoseira distans	70	--	--	11	--	14	--	--	--	--	--	--	--	--
A. granulata	110	80	106	--	--	--	--	21	--	--	--	--	--	--
Cocconeis placentula	130	27	--	122	107	--	--	7	--	11	--	--	--	--
Cyclotella spp.	100	562	319	679	268	63	70	35	--	33	49	63	28	42
Cylindrotheca gracilis	300	--	--	--	--	--	--	--	--	--	--	--	7	14
Cymatopleura solea	2400	--	27	--	--	--	--	--	--	--	--	--	--	--
Diatoma vulgare	650	--	--	--	--	--	--	--	--	11	--	--	--	--
Gomphonema spp.	300	--	--	22	--	7	--	14	7	--	--	--	--	--
Gyrosigma scalproides	1200	--	27	--	--	7	--	7	--	--	--	--	--	--
Melosira varians	720	107	186	22	--	14	7	--	--	--	--	7	7	7
Navicula spp.	400	--	106	212	--	63	49	98	105	134	105	70	105	148
Nitzschia spp	300	241	558	590	--	63	148	148	21	156	28	140	42	77
Surirella ovata	480	--	--	--	--	--	7	--	14	--	--	--	--	--
Surirella sp.	1700	--	--	11	--	--	--	--	--	--	--	--	--	--
Synedra ulna	1250	--	--	11	--	--	--	--	--	--	--	--	--	--

Station		Ceadar Creek nr Cedarville IN	Cedar Creek nr Robinson Chapel IN	Cedar Creek nr Auburn IN	Cedar Creek nr Waterloo IN	Fish Creek at Edgerton OH	Fish Creek nr Edgeton OH	Fish Creek nr Edon IN	Fish Creek nr Alvarado IN	West Branch nr Nettle Lake OH	West Branch nr Austin MI	West Branch at Austin MI	Fish Crk. nr Arctic IN	Fish Crk. nr Arctic IN
Latitude		411210	411412	412305	412613	412743	412822	413008	413305	414137	414320	414513	412754	412754
Longitude		850140	850617	850218	850137	844442	844607	845048	845016	844112	844225	843952	844851	844851
Date		18-Aug	18-Aug	18-Aug	18-Aug	20-Aug	21-Aug	20-Aug	20-Aug	19-Aug	19-Aug	19-Aug	21-Aug	21-Aug
Sample Type		Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.	Quan.
Taxon	bio-volume μm^3	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2	cells/mm^2
Tryblionella spp.	630	--	--	--	--	--	--	7	--	--	--	--	--	--
Chlorophyta														
Ankistrodesmus falcatus	60	803	717	512	965	7	35	42	--	11	--	--	14	14
Chlamydomonas globosa	680	80	27	--	--	--	14	--	--	45	7	281	--	7
Chlamydomonas sp.	70	348	239	212	107	14	14	14	14	67	14	--	14	28
Coelastrum sp.	700	--	--	11	--	--	--	--	14	--	7	7	--	--
Crucigenia tetrapedia	90	27	212	312	54	28	56	7	--	--	--	--	--	7
Dictyosphaerium sp.	150	--	--	--	54	--	--	--	--	--	14	28	--	--
Golenkinia radiata	200	--	--	--	--	--	7	7	--	--	--	--	--	--
Kirchneriella sp.	60	27	27	45	215	--	91	--	--	--	--	--	7	--
Lagerheimia sp.	60	--	27	11	--	--	7	--	--	--	--	--	--	--
Micractinium sp.	80	--	--	--	--	--	7	--	--	--	7	--	--	--
Oocystis sp.	120	--	27	33	--	--	--	--	21	33	--	--	--	--
Phacotus sp.	230	--	--	111	--	7	--	--	7	11	--	--	--	--
Pteromonas sp.	680	--	27	--	--	--	--	--	--	--	--	--	--	--
Pyrobotrus sp.	170	--	--	--	--	--	--	--	--	--	--	56	--	--
Scenedesmus spp.	170	455	186	--	751	77	28	21	--	45	21	42	21	49
Staurastrum sp.	250	--	--	--	--	--	--	--	7	--	--	--	--	7
Stigioclonium sp.	120	--	--	--	--	--	--	--	--	--	35	--	--	--
Tetraedron sp.	100	--	27	11	--	--	--	--	--	--	--	--	--	--
Tetrastrum sp.	120	--	--	--	107	--	7	--	7	--	--	--	--	--
Green balls	150	482	186	546	322	63	35	14	7	67	63	--	7	7

Macroinvertebrate Survey in Streams in Training Areas at Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio

The following table lists macroinvertebrate taxa collected at the Ravenna Army Ammunition Plant. The survey results supplement previous work there and create baseline data for future studies. The data will be used to interpret water quality in three streams flowing through the arsenal: South Fork Eagle Creek, Hinkley Creek, and Sand Creek.The table is arranged in phylogenetic order as assigned by the USGS Biological Unit. [* = Phylum; ** = Class; *** = Tanytarsini; **** = Suborder; -- = not sampled at site; Quant. = Quantitative number representing organisms in 5 sq. ft.; Qual. = Qualitative; units have been omitted from latitude and longitude.]

Station			1	2	3
Latitude			411349	411146	411044
Longitude			810146	810507	810824
Collection Date			27-Jul-98	13-Jul-98	15-Jul-98
Sample Type			Quant.	Quant.	Quant.
ORDER	FAMILY	TAXON			
Hydroida	Hydridae	*Hydra* sp.	14	--	29
Gastropoda**	Ancylidae	Ancylidae	--	--	10
	Ancylidae	*Ferrissia* sp.	17	1	--
	Physidae	Physidae	--	--	20
Oligochaeta**	Naididae	Naididae	--	--	78
Acari		Hydrachnidia	14	--	1
Amphipoda		Amphipoda	--	1	--
	Hyalellidae	*Hyalella azteca* (Saussure)	16	--	--
Ephemeroptera		Ephemeroptera	374	114	10
	Leptophlebiidae	Leptophlebiidae	1042	199	543
	Caenidae	Caenidae	--	--	10
	Baetidae	Baetidae	--	12	--
		Centroptilum/Procloeon sp.	--	5	19
	Heptageniidae	Heptageniidae	17	148	38
		Stenacron sp.	--	27	--
		Stenacron interpunctatum (Say)	--	3	2
		Stenonema sp.	2	2	--
		Stenonema femoratum (Say)	--	23	--
Odonata	Calopterygidae	*Hetaerina* sp.	14	--	--
	Aeshnidae	*Boyeria vinosa* (Say)	1	--	--
Plecoptera	Perlidae	*Perlesta* sp.	1	--	--
Hemiptera		Heteroptera****	--	2	--
Megaloptera	Sialidae	*Sialis* sp.	--	2	--
Trichoptera		Trichoptera	29	--	--
	Hydroptilidae	Hydroptilidae	14	--	--
		Hydroptila sp.	58	--	11
	Hydropsychidae	*Cheumatopsyche* sp.	--	--	1
	Polycentropodidae	Polycentropodidae	14	3	49
		Paranyctiophylax sp.	--	25	--
	Psychomyiidae	Psychomyiidae	14	--	--
	Limnephilidae	*Pycnopsyche* sp.	1	--	1
	Leptoceridae	*Triaenodes/Ylodes* sp.	--	--	1
	Helicopsychidae	*Helicopsyche borealis* (Hagen)	--	--	10
Coleoptera	Gyrinidae	*Dineutus* sp.	14	--	--
	Elmidae	*Macronychus glabratus* Say	1	--	31
Diptera	Ceratopogonidae	*Bezzia/Palpomyia* sp.	--	--	10
	Chironomidae	Chironomidae	119	15	52
		Chironominae	158	10	154
		Chironomini	29	7	--
		Chironomus sp.	29	--	--
		Dicrotendipes sp.	259	38	221
		Microtendipes sp.	691	43	58
		Nilothauma sp.	43	7	10
		Paratendipes sp.	--	5	--
		Phaenopsectra sp.	43	2	10
		Polypedilum sp.	29	17	192
		Pseudochironomus sp.	14	--	--
		Tanytarsini***	158	24	106
		Cladotanytarsus sp.***	29	--	--
		Paratanytarsus sp.***	58	7	384
		Rheotanytarsus sp.***	302	2	221
		Stempellinella sp.***	43	2	48
		Tanytarsus sp.***	922	256	768
		Orthocladiinae	86	19	134
		Cricotopus/Orthocladius sp.	187	2	403
		Corynoneura sp.	58	55	29
		Cricotopus bicinctus group	--	--	19
		Nanocladius sp.	43	2	19
		Parakiefferiella sp.	--	--	--
		Parametriocnemus sp.	--	5	77
		Rheocricotopus sp.	86	--	--
		Thienemanniella sp.	86	--	--
		Tanypodinae	86	29	125
		Labrundinia/Nilotanypus sp.	14	--	--
		Thienemannimyia group sp.	706	36	336

Macroinvertebrate Survey in Streams in Training Areas at Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio

Station			1	2	3
Latitude			411349	411146	411044
Longitude			810146	810507	810824
Collection Date			27-Jul-98	13-Jul-98	15-Jul-98
Sample Type			Quant.	Quant.	Quant.
ORDER	FAMILY	TAXON			
		Ablabesmyia sp.	202	50	10
		Labrundinia sp.	--	2	--
		Nilotanypus sp.	--	2	10
		Paramerina sp.	29	17	48
	Tipulidae	*Antocha* sp.	14	--	--
	Athericidae	*Atherix variegata* Walker	--	--	12
	Empididae	Empididae	--	1	--
		Hemerodromia sp.	29	--	--
		Total	6209	1222	4320

Station			1	2	3	4
Latitude			411349	411146	411044	411130
Longitude			810146	810507	810824	810841
Collection Date			15-Jul-98	15-Jul-98	15-Jul-98	16-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
Turbellaria**		Turbellaria	--	--	--	+
Gastropoda**	Hydrobiidae	Hydrobiidae	--	--	+	--
	Ancylidae	*Ferrissia* sp.	+	--	+	--
	Lymnaeidae	*Fossaria* sp.	--	--	--	+
		Physella sp.	--	--	+	+
	Planorbidae	*Helisoma anceps* (Menke)	--	--	+	+
		Planorbella sp.	--	--	+	--
Pelecypoda**	Sphaeriidae	Sphaeriidae	--	--	--	+
		Sphaerium sp.	--	--	+	--
Oligochaeta**	Tubificidae	Tubificidae	--	--	--	+
Acari		Hydrachnidia	+	--	+	--
Decapoda	Cambaridae	Cambaridae	+	+	+	+
		Orconectes sp.	+	--	--	--
Amphipoda	Hyalellidae	*Hyalella azteca* (Saussure)	+	--	+	+
Collembola		Collembola	--	+	--	--
Ephemeroptera	Leptophlebiidae	Leptophlebiidae	--	--	--	+
		Habrophlebiodes sp.	--	+	--	--
	Ephemeridae	*Ephemera* sp.	+	--	--	--
	Caenidae	*Caenis* sp.	--	--	+	+
		Caenis latipennis Banks	+	--	+	+
		Caenis punctata McDunnough	--	--	+	--
	Baetidae	Baetidae	--	+	--	--
		Centroptilum/Procloeon sp.	+	+	+	+
		Acentrella turbida (McDunnough)	--	+	--	--
		Baetis sp.	--	+	--	--
		Baetis flavistriga McDunnough	--	+	+	--
		Baetis intercalaris McDunnough	--	+	+	--
		Callibaetis sp.	--	--	+	--
		Labiobaetis frondalis (McDunnough)	--	--	--	+
		Labiobaetis propinquus (Walsh)	--	+	--	--
	Heptageniidae	*Stenacron* sp.	+	+	+	--
		Stenacron interpunctatum (Say)	--	+	--	+
		Stenacron pallidum (Traver)	+	--	--	--
		Stenonema sp.	+	+	--	--
		Stenonema femoratum (Say)	--	--	--	+
		Stenonema ithaca (Clemens and Leonard)	--	+	--	--
	Isonychiidae	*Isonychia* sp.	--	+	--	--
Odonata		Zygoptera	--	+	--	--
	Calopterygidae	*Calopteryx maculata* (Beauvois)	--	--	--	+
	Coenagrionidae	Coenagrionidae	--	--	+	--
	Aeshnidae	Aeshnidae	--	+	+	--
		Boyeria sp.	--	--	--	+
		Boyeria vinosa (Say)	--	--	--	+
	Gomphidae	Gomphidae	--	--	--	+
		Stylogomphus albistylus (Hagen)	--	+	--	+
Plecoptera	Leuctridae	*Leuctra* sp.	--	+	--	--
	Perlidae	*Perlesta* sp.	--	+	--	--
Hemiptera	Corixidae	Corixidae	+	--	--	+
		Palmacorixa sp.	+	--	+	--
		Sigara sp.	--	--	--	+
	Gerridae	Gerrinae	--	+	--	--
		Aquarius remigis (Say)	--	+	--	--
		Trepobates sp.	+	--	+	--
		Trepobates pictus (Herrich-Schaeffer)	--	+	+	--
	Veliidae	Veliidae	--	+	+	+
		Microvelia sp.	--	--	--	+
		Rhagovelia obesa Uhler	+	+	--	--
Megaloptera	Corydalidae	*Nigronia serricornis* (Say)	+	+	--	--

PROJECT DATA
Macroinvertebrate Survey in Streams in Training Areas at Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio

Station			1	2	3	4
Latitude			411349	411146	411044	411130
Longitude			810146	810507	810824	810841
Collection Date			15-Jul-98	15-Jul-98	15-Jul-98	16-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
	Sialidae	*Sialis* sp.	--	--	+	+
Trichoptera	Glossosomatidae	*Glossosoma* sp.	--	+	--	+
	Hydroptilidae	Hydroptilidae	--	--	--	+
		Hydroptila sp.	+	+	+	--
		Hydroptila consimilis Morton	--	--	+	--
	Philopotamidae	*Chimarra* sp.	--	+	--	--
	Hydropsychidae	Ceratopsyche sp.	--	+	--	+
		Ceratopsyche alhedra (Ross)/*sparna* (Ross)	--	--	+	--
		Ceratopsyche slossonae (Banks)	--	+	+	--
		Ceratopsyche sparna (Ross)	--	+	--	--
		Cheumatopsyche sp.	+	--	--	--
		Hydropsyche betteni Ross/*depravata* Hagen	--	+	+	--
	Polycentropodidae	*Polycentropus* sp.	+	+	--	--
	Lepidostomatidae	*Lepidostoma* sp.	--	--	--	+
	Limnephilidae	*Pycnopsyche* sp.	+	+	+	+
	Uenoidae	*Neophylax* sp.	--	--	--	+
	Leptoceridae	*Mystacides sepulchralis* (Walker)	--	--	+	+
		Triaenodes injustus (Hagen)	--	--	+	--
	Odontoceridae	*Psilotreta indecisa* (Walker)	--	+	--	+
	Helicopsychidae	*Helicopsyche borealis* (Hagen)	--	+	+	+
Lepidoptera		Lepidoptera	--	--	+	--
Coleoptera	Dytiscidae	Hydroporinae	--	--	--	+
		Hydroporini	--	--	--	+
	Gyrinidae	*Dineutus* sp.	+	--	--	--
	Haliplidae	*Peltodytes* sp.	--	--	+	--
	Helophoridae	*Helophorus* sp.	--	+	--	--
	Hydrophilidae	*Paracymus* sp.	--	--	--	+
	Scirtidae	Scirtidae	+	--	+	--
	Dryopidae	*Helichus basalis* LeConte	--	+	+	+
	Elmidae	*Dubiraphia* sp.	+	--	+	+
		Dubiraphia bivittata (LeConte)	--	--	+	--
		Dubiraphia minima Hilsenhoff	+	--	+	+
		Dubiraphia quadrinotata (Say)	--	--	+	+
		Dubiraphia vittata (Melsheimer)	--	--	+	--
		Optioservus sp.	--	+	+	+
		Optioservus ovalis (LeConte)	--	+	+	--
		Optioservus trivittatus (Brown)	--	+	+	--
		Stenelmis sp.	+	+	--	+
		Stenelmis crenata (Say)	+	+	+	+
	Psephenidae	*Psephenus herricki* (DeKay)	--	+	--	--
	Lampyridae	Lampyridae	--	--	--	+
Diptera	Ceratopogonidae	Ceratopogonidae	--	--	+	--
	Chironomidae	Chironomidae	+	+	+	+
		Chironominae	--	--	--	--
		Chironomini	+	+	+	--
		Chironomus sp.	+	--	--	+
		Cryptochironomus sp.	+	+	+	+
		Cryptotendipes sp.	+	--	--	--
		Dicrotendipes sp.	+	--	+	+
		Microtendipes sp.	+	+	+	+
		Nilothauma sp.	--	+	--	--
		Paratendipes sp.	--	--	--	+
		Polypedilum sp.	--	+	+	+
		Pseudochironomus sp.	+	--	--	--
		Tanytarsini***	--	--	+	--
		Micropsectra/*Tanytarsus* sp.***	+	+	--	--
		Cladotanytarsus sp.***	+	--	+	--
		Micropsectra sp.***	--	+	--	--
		Paratanytarsus sp.***	--	--	--	+
		Tanytarsus sp.***	+	+	+	+
		Pagastia sp.	--	--	--	+
		Orthocladiinae	+	+	+	--
		Cricotopus/*Orthocladius* sp.	--	+	+	--
		Brillia sp.	--	+	--	--
		Cardiocladius sp.	--	--	+	--
		Corynoneura sp.	--	--	+	--
		Parakiefferiella sp.	+	--	--	--
		Parametriocnemus sp.	--	+	--	--
		Psectrocladius sp.	+	--	--	+
		Rheocricotopus sp.	--	+	+	--
		Tvetenia sp.	--	+	+	--
		Pentaneurini	--	--	--	+
		Thienemannimyia group sp.	+	+	+	+
		Ablabesmyia sp.	+	--	+	+
		Procladius sp.	+	--	--	+

Macroinvertebrate Survey in Streams in Training Areas at Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio

Station			1	2	3	4
Latitude			411349	411146	411044	411130
Longitude			810146	810507	810824	810841
Collection Date			15-Jul-98	15-Jul-98	15-Jul-98	16-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
	Culicidae	*Anopheles* sp.	--	+	+	+
	Dixidae	Dixidae	--	--	--	+
		Dixella sp.	--	+	+	--
	Simuliidae	Simuliidae	--	--	+	--
		Simulium sp.	--	+	+	--
	Tipulidae	*Tipula* sp.	--	--	+	+
		Antocha sp.	--	+	--	--
		Hexatoma sp.	+	+	+	--
	Athericidae	*Atherix lantha* Webb	+	+	+	+
	Empididae	*Hemerodromia* sp.	--	+	--	--
	Ephydridae	Ephydridae	--	--	--	--
	Tabanidae	Chrysops/*Silvius* sp.	+	--	--	--
		Chrysops sp.	--	+	+	+
		Total	46	69	72	65

Station			5	6	7	8
Latitude			411243	411127	411246	411109
Longitude			805849	810638	805854	810301
Collection Date			30-Jul-98	13-Jul-98	30-Jul-98	29-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
Nematoda*		Nematoda	+	--	--	--
Gastropoda**	Ancylidae	*Ferrissia* sp.	+	--	--	--
	Physidae	Physidae	+	--	--	--
		Physella sp.	--	--	+	+
	Planorbidae	*Gyraulus* sp.	--	--	+	+
Pelecypoda**	Sphaeriidae	Sphaeriidae	+	--	--	--
		Sphaerium sp.	--	+	--	--
Oligochaeta**	Naididae	Naididae	--	--	--	+
Acari		Hydrachnidia	--	--	+	--
Decapoda	Cambaridae	*Orconectes* sp.	--	+	--	--
Amphipoda	Hyalellidae	*Hyalella azteca* (Saussure)	+	--	--	--
Collembola		Collembola	--	--	+	--
Ephemeroptera	Leptophlebiidae	*Habrophlebiodes* sp.	--	+	--	--
	Caenidae	*Caenis latipennis* Banks	--	+	--	--
	Baetidae	*Centroptilum/Procloeon* sp.	--	+	--	--
		Baetis flavistriga McDunnough	+	+	--	--
		Callibaetis sp.	+	--	+	--
		Fallceon quilleri (Dodds)	--	+	--	--
	Heptageniidae	Heptageniidae	--	+	--	--
		Stenacron sp.	--	+	--	--
		Stenacron interpunctatum (Say)	--	+	--	--
		Stenonema sp.	--	+	--	--
Odonata	Coenagrionidae	*Ischnura* sp.	--	--	+	--
	Aeshnidae	*Boyeria vinosa* (Say)	--	+	--	--
	Gomphidae	*Stylogomphus albistylus* (Hagen)	--	+	--	--
Plecoptera	Leuctridae	*Leuctra* sp.	--	+	--	--
	Perlidae	*Acroneuria* sp.	--	+	--	--
		Perlesta sp.	--	+	--	--
Hemiptera	Belostomatidae	Belostomatidae	--	--	+	--
		Belostoma flumineum Say	--	--	--	--
	Corixidae	Corixidae	+	+	+	--
		Sigara sp.	+	+	+	--
	Gerridae	Gerrinae	--	+	--	--
		Rheumatobates sp.	--	+	--	--
		Rheumatobates rileyi Bergroth	--	+	--	--
		Trepobates sp.	--	+	+	--
		Trepobates pictus (Herrich-Schaeffer)	--	+	--	--
		Trepobates subnitidus Esaki	--	--	+	--
	Mesoveliidae	*Mesovelia* sp.	--	--	+	--
		Mesovelia mulsanti White	--	--	+	--
	Nepidae	*Ranatra* sp.	--	--	+	--
		Ranatra fusca Palisot de Beauvois	--	--	+	--
	Notonectidae	Notonectidae	--	--	+	--
		Buenoa sp.	--	--	+	--
	Veliidae	Veliidae	--	+	+	--
		Microvelia sp.	--	+	--	--
		Rhagovelia obesa Uhler	--	+	--	--
Trichoptera	Hydroptilidae	*Hydroptila* sp.	+	--	--	--
	Philopotamidae	*Chimarra* sp.	--	+	--	--
	Hydropsychidae	Hydropsychidae	--	+	--	--
		Ceratopsyche slossonae (Banks)	--	+	--	--
		Cheumatopsyche sp.	+	+	--	--
		Hydropsyche sp.	+	--	--	--

Station			5	6	7	8
Latitude			411243	411127	411246	411109
Longitude			805849	810638	805854	810301
Collection Date			30-Jul-98	13-Jul-98	30-Jul-98	29-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
		Hydropsyche betteni Ross/*depravata* Hagen	+	+	+	--
		Hydropsyche betteni Ross	+	--	--	--
	Polycentropodidae	*Paranyctiophylax* sp.	--	+	--	--
		Polycentropus sp.	--	+	--	--
		Polycentropus confusus Hagen	--	+	--	--
	Limnephilidae	*Pycnopsyche* sp.	--	+	--	--
	Uenoidae	*Neophylax* sp.	--	+	--	--
	Leptoceridae	*Mystacides sepulchralis* (Walker)	--	+	--	--
	Odontoceridae	*Psilotreta indecisa* (Walker)	--	+	--	--
Coleoptera	Dytiscidae	Hydroporini	--	--	--	+
		Laccophilus sp.	--	--	+	--
	Haliplidae	*Haliplus* sp.	--	--	+	--
		Peltodytes sp.	--	--	+	+
	Hydrochidae	*Hydrochus* sp.	--	--	+	--
	Hydrophilidae	*Berosus* sp.	--	--	+	--
		Enochrus sp.	--	--	--	+
		Tropisternus sp.	--	--	+	--
		Tropisternus lateralis (Fabricius)	--	--	+	--
	Dryopidae	*Helichus basalis* LeConte	--	+	--	--
	Elmidae	*Dubiraphia* sp.	--	+	--	--
		Dubiraphia minima Hilsenhoff	--	+	--	--
		Dubiraphia quadrinotata (Say)	--	+	--	--
		Optioservus sp.	--	+	--	--
		Optioservus ovalis (LeConte)	--	+	--	--
		Optioservus trivittatus (Brown)	--	+	--	--
		Stenelmis sp.	--	+	--	--
		Stenelmis crenata (Say)	--	+	--	--
	Psephenidae	*Psephenus herricki* (DeKay)	--	+	--	--
	Lampyridae	Lampyridae	+	--	--	--
Diptera	Chironomidae	Chironomidae	--	+	--	--
		Chironominae	+	+	--	--
		Chironomini	--	--	+	--
		Dicrotendipes sp.	--	+	--	--
		Endochironomus sp.	--	--	+	--
		Polypedilum sp.	+	+	+	--
		Stictochironomus sp.	--	+	--	--
		Cladotanytarsus sp.***	--	+	--	--
		Paratanytarsus sp.***	--	+	--	--
		Tanytarsus sp.***	+	+	--	--
		Orthocladiinae	+	+	--	--
		Cricotopus/Orthocladius sp.	+	--	--	--
		Parametriocnemus sp.	+	+	--	--
		Rheocricotopus sp.	+	+	--	--
		Tvetenia sp.	+	+	--	--
		Clinotanypus sp.	--	--	+	--
		Pentaneurini	--	+	--	--
		Thienemannimyia group sp.	--	+	--	--
	Culicidae	*Anopheles* sp.	--	--	+	--
		Dixella sp.	--	+	--	--
	Simuliidae	Simuliidae	+	--	--	--
		Simulium sp.	+	--	+	--
	Tipulidae	*Tipula* sp.	--	+	--	--
		Hexatoma sp.	--	+	--	--
	Athericidae	*Atherix lantha* Webb	--	+	--	--
		Total	25	66	32	6

Station			9	10	11	12
Latitude			411325	411314	411338	411330
Longitude			810123	810225	810435	810543
Collection Date			29-Jul-98	28-Jul-98	27-Jul-98	16-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
Turbellaria**		Turbellaria	+	--	--	+
Gastropoda**	Viviparidae	*Viviparus* sp.	--	--	+	--
	Lymnaeidae	Lymnaeinae	--	+	--	--
	Physidae	*Physella* sp.	--	+	+	+
	Planorbidae	Planorbidae	--	--	+	--
		Gyraulus sp.	+	--	--	--
		Helisoma anceps (Menke)	--	+	+	--
		Planorbella sp.	+	+	--	+
Pelecypoda**	Corbiculidae	*Corbicula* sp.	--	+	--	--
	Sphaeriidae	Sphaeriidae	+	--	--	+
		Sphaerium sp.	--	+	+	+
Oligochaeta**	Naididae	Naididae	--	--	+	+
		Stylaria lacustris (Linnaeus)	+	--	--	--

Macroinvertebrate Survey in Streams in Training Areas at Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio

Station			9	10	11	12
Latitude			411325	411314	411338	411330
Longitude			810123	810225	810435	810543
Collection Date			29-Jul-98	28-Jul-98	27-Jul-98	16-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
	Tubificidae	Tubificidae	--	+	+	+
Hirundinea**	Glossiphoniidae	Glossiphoniidae	--	--	+	+
Acari		Hydrachnidia	--	--	--	+
Decapoda	Cambaridae	Cambaridae	--	+	--	--
		Orconectes sp.	--	--	+	--
Isopoda	Asellidae	*Caecidotea* sp.	--	--	+	+
Amphipoda	Hyalellidae	*Hyalella azteca* (Saussure)	+	+	+	+
Ephemeroptera	Caenidae	*Caenis* sp.	+	+	--	--
		Caenis diminuta Walker	--	+	+	--
		Caenis punctata McDunnough	+	--	--	--
	Baetidae	Baetidae	--	+	--	--
		Centroptilum/Procloeon sp.	--	+	--	--
		Acerpenna sp.	--	+	--	--
		Baetis flavistriga McDunnough	--	+	--	--
		Baetis intercalaris McDunnough	--	+	--	--
		Barbaetis cestus (Provonsha and McCafferty)	--	+	--	--
		Callibaetis sp.	+	--	--	+
		Cloeon cognatum Stephens	+	--	--	--
	Heptageniidae	*Stenacron* sp.	--	--	+	--
		Stenacron interpunctatum (Say)	--	--	+	--
		Stenonema sp.	--	+	+	--
		Stenonema luteum (Clemens)	--	--	+	--
	Isonychiidae	*Isonychia* sp.	--	+	--	--
Odonata	Calopterygidae	*Calopteryx* sp.	--	+	--	--
	Coenagrionidae	Coenagrionidae	+	+	+	+
		Ischnura sp.	+	+	--	+
	Aeshnidae	*Anax junius* (Drury)	+	--	--	--
		Boyeria vinosa (Say)	--	+	--	--
	Cordulegastridae	*Cordulegaster* sp.	--	--	--	--
	Corduliidae	Corduliidae	--	+	--	--
		Epitheca sp.	--	--	--	+
	Gomphidae	Gomphidae	--	+	--	--
		Stylogomphus albistylus (Hagen)	--	--	+	--
	Libellulidae	Libellulidae	+	--	--	+
		Libellula sp.	+	--	--	--
		Sympetrum sp.	--	--	--	+
		Tramea sp.	+	--	--	--
Hemiptera	Belostomatidae	Belostomatidae	+	+	--	+
	Corixidae	Corixidae	+	--	--	+
		Palmacorixa sp.	--	--	--	+
		Sigara sp.	--	--	--	+
		Trichocorixa sp.	+	--	--	--
	Gerridae	Gerridae	--	--	--	+
		Aquarius remigis (Say)	--	+	+	--
		Limnoporus canaliculatus (Say)	--	--	--	+
		Trepobates sp.	--	--	+	+
	Hebridae	Hebridae	+	--	--	--
	Mesoveliidae	*Mesovelia* sp.	--	+	--	+
		Mesovelia mulsanti White	--	+	--	+
	Naucoridae	*Pelocoris* sp.	+	--	--	+
	Notonectidae	Notonectidae	+	--	--	+
		Notonecta sp.	+	--	--	+
	Pleidae	Pleidae	--	+	--	--
	Veliidae	Veliidae	--	--	+	+
		Microvelia sp.	--	--	+	--
		Rhagovelia obesa Uhler	--	--	+	--
Megaloptera	Corydalidae	*Nigronia serricornis* (Say)	--	+	+	--
	Sialidae	*Sialis* sp.	--	--	--	+
Trichoptera	Philopotamidae	*Chimarra* sp.	--	--	+	--
	Hydropsychidae	*Ceratopsyche slossonae* (Banks)	--	+	--	--
		Cheumatopsyche sp.	--	+	+	--
		Hydropsyche sp.	--	+	+	--
		Hydropsyche betteni Ross/*depravata* Hagen	--	--	+	+
	Polycentropodidae	*Polycentropus* sp.	--	--	+	--
	Limnephilidae	*Pycnopsyche* sp.	--	--	+	--
	Uenoidae	*Neophylax* sp.	--	--	+	--
	Leptoceridae	*Mystacides sepulchralis* (Walker)	--	--	+	--
		Triaenodes ignitus (Walker)	--	--	+	--
		Triaenodes marginatus Sibley	--	--	--	+
Lepidoptera		Lepidoptera	+	+	--	+
Coleoptera		Coleoptera	--	--	--	+
	Dytiscidae	Hydroporini	--	--	--	+
	Haliplidae	*Haliplus* sp.	--	--	--	+
		Peltodytes sp.	--	--	--	+
	Hydrophilidae	*Crenitis* sp.	--	--	+	--

PROJECT DATA
Macroinvertebrate Survey in Streams in Training Areas at Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio

Station			9	10	11	12
Latitude			411325	411314	411338	411330
Longitude			810123	810225	810435	810543
Collection Date			29-Jul-98	28-Jul-98	27-Jul-98	16-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
		Enochrus sp.	--	+	--	--
		Paracymus sp.	+	--	--	+
		Tropisternus sp.	+	+	--	--
	Scirtidae	Scirtidae	--	--	--	+
	Dryopidae	*Helichus basalis* LeConte	--	+	+	--
	Elmidae	*Dubiraphia* sp.	+	+	+	+
		Dubiraphia bivittata (LeConte)	--	+	--	--
		Dubiraphia quadrinotata (Say)	--	+	+	+
		Optioservus sp.	--	--	--	+
		Optioservus ovalis (LeConte)	--	+	--	--
		Optioservus trivittatus (Brown)	--	+	--	--
		Stenelmis sp.	--	+	+	--
		Stenelmis crenata (Say)	--	+	+	--
	Psephenidae	*Ectopria* sp.	--	--	+	--
Diptera	Ceratopogonidae	Ceratopogonidae	+	--	--	+
	Chironomidae	Chironomidae	--	--	+	--
		Chironominae	--	--	+	--
		Chironomini	--	--	+	--
		Dicrotendipes sp.	--	+	--	--
		Lauterborniella sp.	+	--	--	--
		Microtendipes sp.	--	--	+	+
		Phaenopsectra sp.	--	--	+	--
		Polypedilum sp.	+	+	+	+
		Saetheria sp.	--	+	--	--
		Pseudochironomus sp.	+	--	--	--
		Micropsectra/Tanytarsus sp.***	--	--	--	+
		Cladotanytarsus sp.***	+	--	--	--
		Micropsectra sp.***	--	+	--	--
		Rheotanytarsus sp.***	--	--	+	--
		Stempellinella sp.***	--	+	+	--
		Tanytarsus sp.***	--	+	--	--
		Pagastia sp.	--	--	+	--
		Orthocladiinae	+	+	+	+
		Lopescladius sp.	--	+	--	--
		Nanocladius sp.	+	+	+	--
		Paraphaenocladius sp.	--	--	+	--
		Rheocricotopus sp.	--	--	+	--
		Tanypodinae	+	+	+	+
		Clinotanypus sp.	--	--	--	+
		Thienemannimyia group sp.	--	+	+	+
		Ablabesmyia sp.	+	+	--	+
		Guttipelopia sp.	+	--	--	--
		Labrundinia sp.	--	--	--	+
		Larsia sp.	+	+	--	--
		Paramerina sp.	--	+	--	--
		Procladius sp.	+	+	--	+
		Tanypus sp.	+	--	--	+
	Culicidae	*Anopheles* sp.	+	--	--	+
	Dixidae	Dixidae	--	--	--	+
		Dixella sp.	--	--	--	+
	Simuliidae	Simuliidae	--	--	+	--
		Simulium sp.	--	--	+	--
	Tipulidae	Tipulidae	--	--	--	+
		Tipula sp.	--	+	--	--
		Hexatoma sp.	--	+	--	--
	Athericidae	*Atherix lantha* Webb	--	+	--	--
	Sciomyzidae	*Sepedon* sp.	--	--	--	+
	Tabanidae	*Chrysops* sp.	--	+	--	--
		Total	41	64	57	60

Station			13	14	15	16
Latitude			411337	411331	411134	411136
Longitude			810458	810516	810835	810858
Collection Date			27-Jul-98	28-Jul-98	14-Jul-98	28-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
Turbellaria**		Turbellaria	--	--	+	--
Nematoda*		Nematoda	--	--	+	--
Gastropoda**	Valvatidae	*Valvata* sp.	--	--	--	+
	Viviparidae	*Viviparus* sp.	--	--	+	--
	Hydrobiidae	Hydrobiidae	--	--	--	+
	Lymnaeidae	Lymnaeinae	+	--	--	--
		Fossaria/Stagnicola sp.	+	--	--	--
	Physidae	*Physella* sp.	+	--	+	+
	Planorbidae	Planorbidae	--	--	--	+

PROJECT DATA
Macroinvertebrate Survey in Streams in Training Areas at Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio

Station			13	14	15	16
Latitude			411337	411331	411134	411136
Longitude			810458	810516	810835	810858
Collection Date			27-Jul-98	28-Jul-98	14-Jul-98	28-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
		Helisoma anceps (Menke)	+	--	+	+
		Planorbella sp.	--	--	--	+
Pelecypoda**	Sphaeriidae	Sphaeriidae	--	+	+	--
		Pisidium sp.	--	--	--	+
		Musculium sp.	--	--	+	--
Oligochaeta**	Lumbriculidae	Lumbriculidae	--	--	+	--
		Stylaria lacustris (Linnaeus)	--	--	+	+
	Tubificidae	Tubificidae	--	+	--	--
Hirundinea**	Glossiphoniidae	Glossiphoniidae	--	--	+	--
Acari		Hydrachnidia	+	+	+	--
Decapoda	Cambaridae	Cambaridae	+	+	--	--
Amphipoda	Hyalellidae	*Hyalella azteca* (Saussure)	+	+	+	+
Collembola		Collembola	+	--	--	--
Ephemeroptera	Caenidae	*Caenis* sp.	--	+	+	+
		Caenis diminuta Walker	+	+	+	+
		Caenis latipennis Banks	+	--	--	--
	Baetidae	Baetidae	--	+	--	--
		Centroptilum/*Procloeon* sp.	+	--	--	--
		Baetis tricaudatus Dodds	+	--	--	--
	Heptageniidae	*Stenacron* sp.	+	--	--	--
		Stenacron interpunctatum (Say)	+	--	--	--
		Stenonema sp.	+	--	--	--
		Stenonema femoratum (Say)	+	--	--	--
		Stenonema vicarium (Walker)	+	--	--	--
Odonata	Calopterygidae	*Calopteryx* sp.	+	--	--	--
	Coenagrionidae	Coenagrionidae	+	+	+	+
		Argia sp.	+	--	--	--
		Chromagrion conditum (Selys)	+	--	--	--
		Ischnura sp.	--	+	+	--
	Aeshnidae	Aeshnidae	--	--	--	+
		Anax junius (Drury)	--	--	--	+
	Gomphidae	Gomphidae	+	--	--	--
	Libellulidae	Libellulidae	--	--	+	+
		Sympetrum sp.	--	--	+	--
Plecoptera	Leuctridae	*Leuctra* sp.	+	--	--	--
Orthoptera	Gryllidae	Gryllidae	--	--	--	+
Hemiptera	Belostomatidae	Belostomatidae	--	--	--	+
		Belostoma flumineum Say	--	--	--	+
	Corixidae	Corixidae	--	+	--	+
		Palmacorixa sp.	--	--	--	+
		Palmacorixa nana Walley	--	--	+	--
		Trichocorixa sp.	--	+	+	+
	Gerridae	Gerrinae	+	--	--	--
		Aquarius remigis (Say)	+	--	--	--
		Trepobates sp.	+	--	+	+
		Trepobates subnitidus Esaki	--	+	+	--
	Hydrometridae	*Hydrometra* sp.	--	--	+	--
	Mesoveliidae	*Mesovelia* sp.	--	+	--	+
		Mesovelia mulsanti White	--	+	--	+
	Naucoridae	*Pelocoris* sp.	--	--	+	+
	Nepidae	*Ranatra kirkaldyi* Torre-Bueno	--	--	+	+
	Notonectidae	Notonectidae	--	--	--	+
		Notonecta sp.	--	--	--	+
	Pleidae	Pleidae	--	--	--	+
		Neoplea sp.	--	--	--	+
	Veliidae	Veliidae	+	--	--	--
		Microvelia sp.	+	--	--	--
		Rhagovelia obesa Uhler	+	--	--	--
Megaloptera	Corydalidae	*Nigronia serricornis* (Say)	+	--	--	--
	Sialidae	*Sialis* sp.	+	--	--	--
Trichoptera	Glossosomatidae	*Glossosoma* sp.	+	--	--	--
	Hydroptilidae	*Ochrotrichia* sp.	+	--	--	--
		Oxyethira sp.	--	--	+	--
	Philopotamidae	*Chimarra* sp.	+	--	--	--
	Hydropsychidae	*Ceratopsyche* sp.	+	--	--	--
		Ceratopsyche slossonae (Banks)	+	--	--	--
		Ceratopsyche sparna (Ross)	+	--	--	--
		Cheumatopsyche sp.	+	--	--	--
		Hydropsyche sp.	+	--	--	--
		Hydropsyche betteni Ross/*depravata* Hagen	+	--	--	--
	Uenoidae	*Neophylax* sp.	+	--	--	--
	Leptoceridae	Leptoceridae	--	+	--	--
		Oecetis cinerascens (Hagen)	--	--	+	--
Lepidoptera	Pyralidae	Nymphulini	--	--	--	+
Coleoptera		Coleoptera	--	--	--	+

Macroinvertebrate Survey in Streams in Training Areas at Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio

Station			13	14	15	16
Latitude			411337	411331	411134	411136
Longitude			810458	810516	810835	810858
Collection Date			27-Jul-98	28-Jul-98	14-Jul-98	28-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
	Dytiscidae	Dytiscidae	--	--	--	+
		Acilius semisulcatus Aubé	--	--	--	+
		Laccornis sp.	--	--	--	+
		Celina sp.	--	--	+	--
	Gyrinidae	*Gyrinus lecontei* Fall	+	--	--	--
	Haliplidae	*Haliplus* sp.	--	--	+	--
		Peltodytes sp.	--	+	+	+
	Noteridae	*Hydrocanthus* sp.	--	--	--	+
	Helophoridae	*Helophorus* sp.	+	--	--	--
	Hydrophilidae	Hydrophilidae	--	--	--	+
		Enochrus sp.	--	--	--	+
		Paracymus sp.	--	--	--	+
		Tropisternus sp.	--	--	--	+
	Dryopidae	*Helichus basalis* LeConte	+	--	--	--
	Elmidae	*Dubiraphia* sp.	+	--	--	--
		Dubiraphia quadrinotata (Say)	+	--	--	--
		Optioservus sp.	+	--	--	--
		Stenelmis sp.	+	--	--	--
	Psephenidae	*Ectopria* sp.	+	--	--	--
	Curculionidae	Curculionidae	--	--	--	+
Diptera	Chironomidae	Chironomidae	+	+	--	--
		Chironominae	+	+	+	--
		Chironomini	+	+	--	--
		Cladopelma/Cryptotendipes sp.	--	--	--	+
		Chironomus sp.	+	--	--	--
		Cladopelma sp.	--	+	--	+
		Dicrotendipes sp.	+	+	--	--
		Einfeldia sp.	--	+	+	--
		Microtendipes sp.	+	--	+	+
		Paratendipes sp.	+	--	--	--
		Phaenopsectra sp.	+	--	--	--
		Polypedilum sp.	--	+	--	+
		Stictochironomus sp.	+	--	--	--
		Tribelos sp.	+	--	--	--
		Pseudochironomus sp.	--	+	+	+
		Micropsectra/Tanytarsus sp.***	+	--	--	--
		Cladotanytarsus sp.***	+	+	--	+
		Rheotanytarsus sp.***	+	--	--	--
		Stempellinella sp.***	+	--	--	--
		Tanytarsus sp.***	+	+	+	--
		Diamesa sp.	+	--	--	--
		Pagastia sp.	+	--	--	--
		Parametriocnemus sp.	+	--	--	--
		Tanypodinae	+	+	--	+
		Clinotanypus sp.	--	+	+	+
		Thienemannimyia group sp.	+	--	+	--
		Ablabesmyia sp.	+	+	+	+
		Labrundinia sp.	--	--	+	+
		Larsia sp.	--	+	--	--
		Procladius sp.	+	+	--	--
		Tanypus sp.	--	+	--	--
	Culicidae	*Anopheles* sp.	+	--	--	--
	Dixidae	*Dixella* sp.	+	--	--	--
	Tipulidae	*Tipula* sp.	+	--	--	--
		Antocha sp.	+	--	--	--
	Athericidae	*Atherix lantha* Webb	+	--	--	--
		Total	76	33	39	52

Station			17	18	19	20
Latitude			411057	411032	411026	410951
Longitude			811034	810722	810724	810557
Collection Date			14-Jul-98	14-Jul-98	14-Jul-98	29-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
Gastropoda**	Hydrobiidae	Hydrobiidae	--	--	--	+
	Physidae	*Physella* sp.	--	+	+	+
	Planorbidae	Planorbidae	--	+	+	--
		Gyraulus sp.	--	+	--	--
		Helisoma anceps (Menke)	+	--	--	--
		Planorbella sp.	--	+	+	--
Pelecypoda**	Sphaeriidae	Sphaeriidae	+	--	+	+
		Pisidium sp.	+	--	--	+
		Musculium sp.	+	--	+	--
Oligochaeta**		Megadrile	--	--	--	+
	Naididae	Naididae	+	+	+	--

Macroinvertebrate Survey in Streams in Training Areas at Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio

Station			17	18	19	20
Latitude			411057	411032	411026	410951
Longitude			811034	810722	810724	810557
Collection Date			14-Jul-98	14-Jul-98	14-Jul-98	29-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
	Tubificidae	Tubificidae	--	--	--	+
Hirundinea**	Glossiphoniidae	Glossiphoniidae	+	+	--	--
	Erpobdellidae	Erpobdellidae	--	--	+	--
Acari		Hydrachnidia	+	--	+	--
Decapoda	Cambaridae	Cambaridae	--	--	--	+
Isopoda	Asellidae	*Caecidotea* sp.	--	--	+	--
Amphipoda	Hyalellidae	*Hyalella azteca* (Saussure)	+	+	+	+
Ephemeroptera		Ephemeroptera	--	--	--	+
	Leptophlebiidae	Leptophlebiidae	--	--	--	+
		Paraleptophlebia sp.	--	--	--	+
		Caenis diminuta Walker	+	+	--	--
	Baetidae	Baetidae	+	--	--	--
		Baetis flavistriga McDunnough	--	--	--	+
		Callibaetis sp.	+	+	--	--
		Cloeon cognatum Stephens	+	--	--	--
		Fallceon quilleri (Dodds)	--	--	--	+
Odonata	Coenagrionidae	Coenagrionidae	+	--	+	--
		Ischnura sp.	--	+	--	--
	Aeshnidae	*Anax* sp.	+	--	--	--
		Anax junius (Drury)	+	--	--	--
	Libellulidae	*Libellula* sp.	--	+	--	--
Plecoptera	Leuctridae	*Leuctra* sp.	--	--	--	+
	Perlidae	*Perlesta* sp.	--	--	--	+
Hemiptera	Belostomatidae	Belostomatidae	--	+	+	--
	Corixidae	Corixidae	+	+	--	+
		Hesperocorixa sp.	+	+	+	--
		Sigara sp.	+	+	--	+
		Trichocorixa sp.	--	+	--	--
	Gerridae	Gerrinae	--	--	--	+
		Aquarius remigis (Say)	--	--	--	+
		Trepobates sp.	--	--	--	+
	Naucoridae	*Pelocoris* sp.	--	+	--	--
	Nepidae	*Ranatra* sp.	+	--	--	--
	Notonectidae	Notonectidae	+	--	--	--
		Notonecta sp.	+	--	--	--
	Pleidae	Pleidae	--	+	--	--
		Neoplea sp.	--	+	+	--
	Veliidae	Veliidae	--	--	--	+
Megaloptera	Sialidae	*Sialis* sp.	--	--	--	+
Trichoptera	Philopotamidae	*Dolophilodes* sp.	--	--	--	+
		Dolophilodes distinctus (Walker)	--	--	--	+
	Hydropsychidae	Hydropsychidae	--	--	--	+
		Diplectrona modesta Banks	--	--	--	+
		Ceratopsyche slossonae (Banks)	--	--	--	+
		Cheumatopsyche sp.	--	--	--	+
		Hydropsyche betteni Ross/*depravata* Hagen	--	--	--	+
	Lepidostomatidae	*Lepidostoma* sp.	--	--	--	+
	Limnephilidae	*Pycnopsyche* sp.	--	--	--	+
Coleoptera	Dytiscidae	Dytiscidae	+	--	--	--
		Ilybius sp.	+	--	--	--
		Coptotomus sp.	+	--	+	--
		Acilius mediatus (Say)	--	--	--	+
		Graphoderus sp.	+	--	--	--
		Hydroporini	+	+	+	--
		Laccophilus sp.	+	+	--	--
	Gyrinidae	*Dineutus* sp.	+	--	--	--
		Dineutus nigrior Roberts	+	--	--	--
	Haliplidae	*Haliplus* sp.	+	+	+	--
		Peltodytes sp.	+	+	+	--
	Noteridae	*Hydrocanthus* sp.	--	--	+	--
	Hydrochidae	*Hydrochus* sp.	--	+	+	--
	Hydrophilidae	*Enochrus* sp.	--	+	+	--
		Tropisternus sp.	--	+	+	--
	Elmidae	*Dubiraphia quadrinotata* (Say)	--	--	--	+
		Optioservus sp.	--	--	--	+
		Optioservus ovalis (LeConte)	--	--	--	+
	Psephenidae	*Ectopria* sp.	--	--	--	+
Diptera	Chaoboridae	Chaoboridae	+	--	--	--
		Chaoborus sp.	+	--	--	--
	Chironomidae	Chironomidae	+	--	--	+
		Chironominae	+	--	--	--
		Omisus/Stictochironomus sp.	--	--	--	+
		Chironomus sp.	--	+	--	+
		Dicrotendipes sp.	+	--	--	--
		Endochironomus sp.	+	--	--	--

Macroinvertebrate Survey in Streams in Training Areas at Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio

Station			17	18	19	20
Latitude			411057	411032	411026	410951
Longitude			811034	810722	810724	810557
Collection Date			14-Jul-98	14-Jul-98	14-Jul-98	29-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
		Kiefferulus sp.	+	--	--	--
		Microtendipes sp.	+	--	--	--
		Paracladopelma sp.	--	--	--	+
		Polypedilum sp.	--	+	--	+
		Stictochironomus sp.	+	--	--	+
		Pseudochironomus sp.	+	--	--	--
		Micropsectra/Tanytarsus sp.***	--	--	--	+
		Micropsectra sp.***	--	--	--	+
		Diamesa sp.	--	--	--	+
		Pagastia sp.	--	--	--	+
		Cricotopus/Orthocladius sp.	+	--	--	--
		Chaetocladius sp.	--	--	--	+
		Heterotrissocladius sp.	--	--	--	+
		Parametriocnemus sp.	--	--	--	+
		Thienemanniella sp.	--	--	--	+
		Tvetenia sp.	--	--	--	+
		Prodiamesa sp.	--	--	--	+
		Tanypodinae	+	+	--	--
		Macropelopia sp.	--	--	--	+
		Thienemannimyia group sp.	--	--	--	+
		Larsia sp.	--	+	--	+
		Trissopelopia sp.	--	--	--	+
		Zavrelimyia sp.	--	--	--	+
		Procladius sp.	+	--	+	--
	Culicidae	*Anopheles* sp.	+	--	--	--
	Tipulidae	*Dicranota* sp.	--	--	--	+
	Tabanidae	*Chrysops* sp.	--	--	--	+
		Total	45	30	23	59

Station			21	22	23	24
Latitude			411326	411131	411040	410950
Longitude			810305	810719	810649	810745
Collection Date			28-Jul-98	16-Jul-98	14-Jul-98	29-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
Gastropoda**	Viviparidae	*Viviparus* sp.	--	--	+	--
	Hydrobiidae	Hydrobiidae	--	--	--	+
	Ancylidae	*Ferrissia* sp.	--	+	--	--
	Lymnaeidae	Lymnaeinae	+	--	--	--
	Physidae	*Physella* sp.	--	--	--	+
	Planorbidae	Planorbidae	+	--	--	--
		Gyraulus sp.	+	--	--	+
		Planorbella sp.	+	--	--	--
Pelecypoda**	Sphaeriidae	Sphaeriidae	+	+	+	--
		Pisidium sp.	+	--	--	--
		Sphaerium sp.	+	--	--	--
Oligochaeta**	Naididae	Naididae	+	--	--	+
		Dero sp.	+	--	--	--
		Stylaria lacustris (Linnaeus)	--	--	--	+
	Tubificidae	Tubificidae	+	+	--	+
Hirundinea**	Glossiphoniidae	Glossiphoniidae	--	+	--	+
Acari		Hydrachnidia	+	--	+	+
Decapoda	Cambaridae	*Orconectes* sp.	--	+	--	--
Amphipoda	Hyalellidae	*Hyalella azteca* (Saussure)	+	+	+	+
Collembola		Collembola	--	+	--	--
Ephemeroptera		Ephemeroptera	--	--	--	+
	Leptophlebiidae	Leptophlebiidae	--	+	--	--
	Caenidae	*Caenis* sp.	--	+	--	+
		Caenis diminuta Walker	+	--	+	+
	Baetidae	Baetidae	--	+	--	+
		Centroptilum/Procloeon sp.	--	+	+	+
		Acentrella turbida (McDunnough)	--	+	--	--
		Callibaetis sp.	+	--	+	+
		Labiobaetis frondalis (McDunnough)	--	+	--	--
	Heptageniidae	*Stenacron interpunctatum* (Say)	--	+	--	--
		Stenonema femoratum (Say)	--	+	--	--
Odonata	Calopterygidae	Calopterygidae	--	+	--	--
		Calopteryx sp.	--	--	--	+
	Coenagrionidae	Coenagrionidae	+	+	+	+
		Ischnura sp.	--	--	+	+
	Lestidae	*Lestes* sp.	+	--	--	--
	Aeshnidae	*Anax* sp.	--	--	--	+
		Anax junius (Drury)	--	--	--	+
		Basiaeschna janata (Say)	--	--	+	+
		Boyeria vinosa (Say)	--	+	--	--

Macroinvertebrate Survey in Streams in Training Areas at Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio

Station			21	22	23	24
Latitude			411326	411131	411040	410950
Longitude			810305	810719	810649	810745
Collection Date			28-Jul-98	16-Jul-98	14-Jul-98	29-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
	Cordulegastridae	*Cordulegaster* sp.	--	+	--	--
		Epitheca sp.	--	--	+	--
	Gomphidae	*Gomphus* sp.	--	--	+	--
	Libellulidae	*Sympetrum* sp.	+	--	+	--
	Macromiidae	Macromiidae	--	--	+	--
Plecoptera	Perlidae	Perlidae	--	+	--	--
Hemiptera	Belostomatidae	Belostomatidae	+	--	--	+
		Belostoma flumineum Say	+	--	--	--
	Corixidae	Corixidae	+	+	--	--
		Hesperocorixa sp.	+	--	--	--
		Palmacorixa sp.	--	--	--	+
		Palmacorixa nana Walley	--	--	+	--
		Sigara sp.	--	+	--	--
		Trichocorixa sp.	+	--	--	+
	Gerridae	*Aquarius remigis* (Say)	--	+	--	--
		Rheumatobates sp.	--	+	--	--
		Trepobates sp.	--	--	+	--
		Trepobates subnitidus Esaki	--	--	+	--
	Mesoveliidae	*Mesovelia* sp.	+	--	--	--
		Mesovelia mulsanti White	+	--	+	--
	Naucoridae	*Pelocoris* sp.	+	--	+	--
	Notonectidae	*Notonecta* sp.	+	--	--	--
	Pleidae	Pleidae	+	--	--	--
		Neoplea sp.	+	+	+	--
	Veliidae	Veliidae	--	+	--	--
		Microvelia sp.	--	+	+	--
Megaloptera	Sialidae	*Sialis* sp.	--	+	--	+
Trichoptera	Hydroptilidae	*Hydroptila* sp.	--	--	--	+
	Philopotamidae	*Chimarra* sp.	--	+	--	--
	Hydropsychidae	*Ceratopsyche slossonae* (Banks)	--	+	--	--
		Cheumatopsyche sp.	--	+	--	--
		Hydropsyche betteni Ross/*depravata* Hagen	--	+	--	--
	Polycentropodidae	*Polycentropus* sp.	--	--	+	+
	Limnephilidae	Pycnopsyche sp.	--	+	--	--
	Uenoidae	Neophylax sp.	--	+	--	--
	Leptoceridae	Leptoceridae	--	--	--	+
		"*Oecetis* sp. A (Floyd, 1995)"	--	--	+	--
		Triaenodes sp.	--	--	--	+
		Triaenodes injustus (Hagen)	--	--	+	--
		Triaenodes marginatus Sibley	--	--	--	+
	Odontoceridae	*Psilotreta* sp.	--	+	--	--
		Psilotreta indecisa (Walker)	--	+	--	--
	Helicopsychidae	*Helicopsyche borealis* (Hagen)	--	+	--	--
Lepidoptera		Lepidoptera	+	--	--	--
Coleoptera	Dytiscidae	Dytiscidae	+	--	--	--
		Hydrovatus sp.	+	--	--	--
	Gyrinidae	*Gyrinus* sp.	--	+	--	--
	Haliplidae	*Haliplus* sp.	--	+	+	--
		Peltodytes sp.	+	+	+	+
	Noteridae	*Hydrocanthus* sp.	+	--	--	--
	Hydraenidae	*Hydraena* sp.	--	+	--	--
	Staphylinidae	Staphylinidae	--	+	--	--
	Hydrophilidae	*Paracymus* sp.	--	+	--	--
	Scirtidae	Scirtidae	--	--	+	--
	Dryopidae	*Helichus basalis* LeConte	--	+	--	--
	Elmidae	*Dubiraphia* sp.	--	+	--	+
		Dubiraphia bivittata (LeConte)	--	--	--	+
		Dubiraphia minima Hilsenhoff	--	+	--	+
		Dubiraphia quadrinotata (Say)	--	+	--	+
		Dubiraphia vittata (Melsheimer)	--	+	--	+
		Optioservus ovalis (LeConte)	--	+	--	--
		Optioservus trivittatus (Brown)	--	+	--	--
		Stenelmis crenata (Say)	--	+	--	--
	Psephenidae	*Psephenus herricki* (DeKay)	--	+	--	--
Diptera	Chironomidae	Chironomidae	--	--	--	+
		Chironomini	--	+	--	--
		Chironomus sp.	+	--	--	--
		Dicrotendipes sp.	--	+	--	+
		Endochironomus sp.	--	--	--	+
		Microtendipes sp.	--	+	--	+
		Polypedilum sp.	+	+	+	+
		Stictochironomus sp.	--	+	--	--
		Pseudochironomus sp.	--	--	+	--
		Paratanytarsus sp.***	--	+	--	+
		Rheotanytarsus sp.***	--	--	--	+

Macroinvertebrate Survey in Streams in Training Areas at Ravenna Army Ammunition Plant, Portage and Trumbull Counties, Ohio

Station			21	22	23	24
Latitude			411326	411131	411040	410950
Longitude			810305	810719	810649	810745
Collection Date			28-Jul-98	16-Jul-98	14-Jul-98	29-Jul-98
Sample Type			Qual.	Qual.	Qual.	Qual.
ORDER	FAMILY	TAXON				
		Tanytarsus sp.***	--	+	+	+
		Cricotopus/Orthocladius sp.	--	--	--	+
		Cricotopus bicinctus group	--	--	--	+
		Lopescladius sp.	--	+	--	--
		Parametriocnemus sp.	--	+	--	--
		Tanypodinae	+	--	+	--
		Pentaneurini	--	+	--	--
		Thienemannimyia group sp.	--	+	--	--
		Ablabesmyia sp.	+	+	+	+
		Guttipelopia sp.	+	--	--	--
		Labrundinia sp.	--	--	--	+
		Larsia sp.	+	--	--	--
		Paramerina sp.	--	+	--	+
		Procladius sp.	+	--	--	+
		Tanypus sp.	+	--	--	--
	Culicidae	*Anopheles* sp.	+	+	--	--
	Dixidae	*Dixella* sp.	--	+	--	--
	Athericidae	*Atherix lantha* Webb	--	+	--	--
	Ephydridae	Ephydridae	--	--	--	+
	Tabanidae	Tabanidae	--	+	--	--
		Chrysops sp.	--	--	--	+
		Total	42	69	32	52

Bridge-Scour Data Collection at Selected Sites in Ohio

The following data list bridge-scour measurement sites and instantaneous discharge measurements collected at some of these sites. The data were collected as part of a cooperative study with the Ohio Department of Transportation to help verify whether conclusions determined in a previous bridge-scour study (1989-1994) would hold true for larger floods

BRIDGE-SCOUR MEASUREMENT SITES

SITE NUMBER	STATION NUMBER	SITE LOCATION AND NAME	DRAINAGE AREA (mi^2)
1	404037084155200	State Route 198 over Auglaize River near Wapakoneta, Ohio	200
2	393549082324700	U.S. Route 33 ocwe Clear Creek near Rockbridge, Ohio	91.8
3	414308081134101	State Route 84 over Grand River near Painesville, Ohio	685
4	392340084341700	State Route 128 over Great Miami at Hamilton, Ohio	3,630
5	400150084111300	State Route 41 over Great Miami River at Troy, Ohio	927
6	392731082142400	State Route 278 over Hocking River at Nelsonville, Ohio	576
7	410120083063501	State Route 64 over Honey Creek at Melmore, Ohio	149
8	402941081591200	County Road 621 over Killbuck Creek at Killbuck, Ohio	462
9	392424084060400	State Route 350 over Little Miami River at Ft. Ancient, Ohio	675
10	400627083475701	U.S. Route 36 over Mad River near Urbana, Ohio	162
11	394410083561000	U.S. Route 68 over Massies Creek at Oldtown, Ohio	84.4
12	411536084331400	U.S. Route 127 over Maumee River near Sherwood, Ohio	2,276
13	404257084081500	Township Road 122 over Ottawa River at Lima, Ohio	130
14	391520082461200	U.S. Route 50 over Salt Creek near Londonderry, Ohio	286
15	392031082582700	State Route 159 over Scioto River at Chillicothe, Ohio	3,849
16	402902083112800	State Route 4 over Scioto River near Prospect, Ohio	528
17	403515081312401	State Route 250 over Sugar Creek at Strasburg, Ohio	311
18	392115084074600	State Route 22 over Todd Fork at Morrow, Ohio	262
19	404715081312200	Walnut Road over Tuscarawas River at Massillon, Ohio	513
20	401933081304100	County Road 14 over Tuscarawas River at Port Washington, Ohio	2,400
21	400710082081001	State Route 16 over Wakatomika Creek near Frazeysburg, Ohio	140
22	394609082544200	County Road 17 over Walnut Creek near Ashville, Ohio	216

INSTANTANEOUS DISCHARGE MEASUREMENTS AT BRIDGE-SCOUR SITES

SITE NUMBER	STATION NUMBER	SITE LOCATION AND NAME	DATE	DISCHARGE (ft^3/s)
18	392115084074600	State Route 22 over Todd Fork at Morrow, Ohio	4/16/98	20,000
21	400710082081001	State Route 16 over Wakatomika Creek near Frazeysburg, Ohio	6/28/98	10,200

Figure 15. Location of measured bridge-scour sites in Ohio.

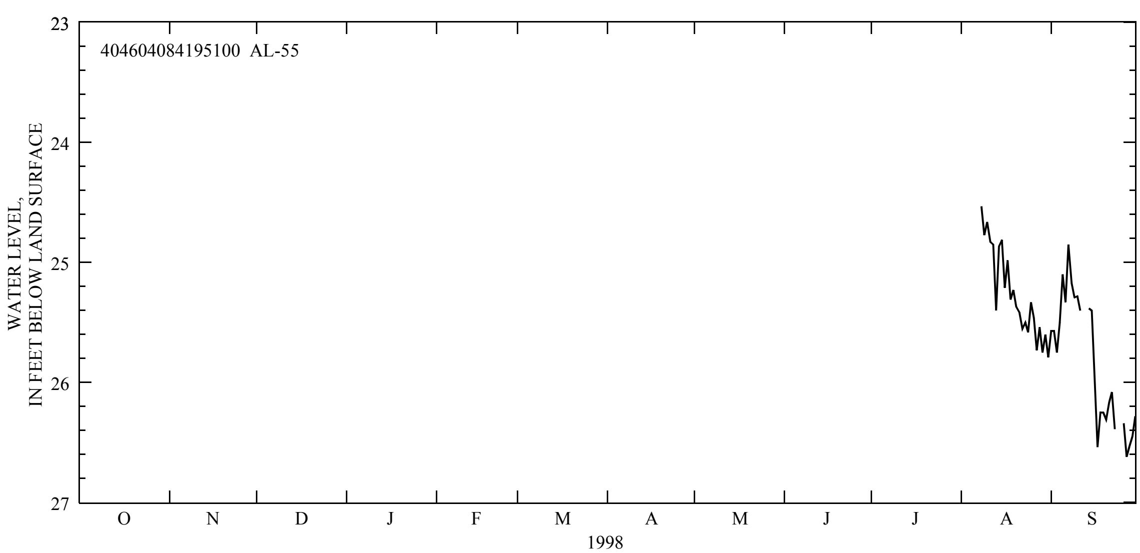
Ground-Water Records for City of Delphos, Ohio

The following tables contain ground-water-level measurements and water-quality data from a network of monitoring wells near Delphos, Ohio. These data were collected as part of a cooperative study with the City of Delphos. The purpose of the study is to determine hydraulic characteristics of the carbonate aquifer.

404604084195100. Local number, AL-55.
LOCATION.--LATITUDE 40°46’04”, LONGITUDE 084°19’51”, hydrologic unit 04100007.
AQUIFER.--Carbonate. Geologic Unit 351TMCT.
WELL CHARACTERISTICS.--Domestic well, depth 150 ft.
DATUM.--Altitude of land surface is 805 feet above National Geodetic Vertical Datum of 1929. Measuring point is top of casing, 1.10 ft above land-surface datum.
PERIOD OF RECORD.--Aug. 8, 1998 to current year
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 26.62 ft below land-surface datum, Sept. 27, 1998; minimum daily low, 24.53 ft below land-surface datum, Aug. 8, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	25.57
2	---	---	---	---	---	---	---	---	---	---	---	25.57
3	---	---	---	---	---	---	---	---	---	---	---	25.75
4	---	---	---	---	---	---	---	---	---	---	---	25.50
5	---	---	---	---	---	---	---	---	---	---	---	25.10
6	---	---	---	---	---	---	---	---	---	---	---	25.33
7	---	---	---	---	---	---	---	---	---	---	---	24.85
8	---	---	---	---	---	---	---	---	---	---	24.53	25.17
9	---	---	---	---	---	---	---	---	---	---	24.77	25.29
10	---	---	---	---	---	---	---	---	---	---	24.66	25.28
11	---	---	---	---	---	---	---	---	---	---	24.83	25.40
12	---	---	---	---	---	---	---	---	---	---	24.85	---
13	---	---	---	---	---	---	---	---	---	---	25.40	---
14	---	---	---	---	---	---	---	---	---	---	24.86	25.38
15	---	---	---	---	---	---	---	---	---	---	24.81	25.40
16	---	---	---	---	---	---	---	---	---	---	25.21	26.02
17	---	---	---	---	---	---	---	---	---	---	24.98	26.54
18	---	---	---	---	---	---	---	---	---	---	25.31	26.25
19	---	---	---	---	---	---	---	---	---	---	25.23	26.25
20	---	---	---	---	---	---	---	---	---	---	25.37	26.31
21	---	---	---	---	---	---	---	---	---	---	25.42	26.17
22	---	---	---	---	---	---	---	---	---	---	25.55	26.08
23	---	---	---	---	---	---	---	---	---	---	25.50	26.39
24	---	---	---	---	---	---	---	---	---	---	25.58	---
25	---	---	---	---	---	---	---	---	---	---	25.33	---
26	---	---	---	---	---	---	---	---	---	---	25.46	26.34
27	---	---	---	---	---	---	---	---	---	---	25.73	26.62
28	---	---	---	---	---	---	---	---	---	---	25.54	26.53
29	---	---	---	---	---	---	---	---	---	---	25.75	26.45
30	---	---	---	---	---	---	---	---	---	---	25.60	26.28
31	---	---	---	---	---	---	---	---	---	---	25.79	---
MAX	---	---	---	---	---	---	---	---	---	---	25.79	26.62

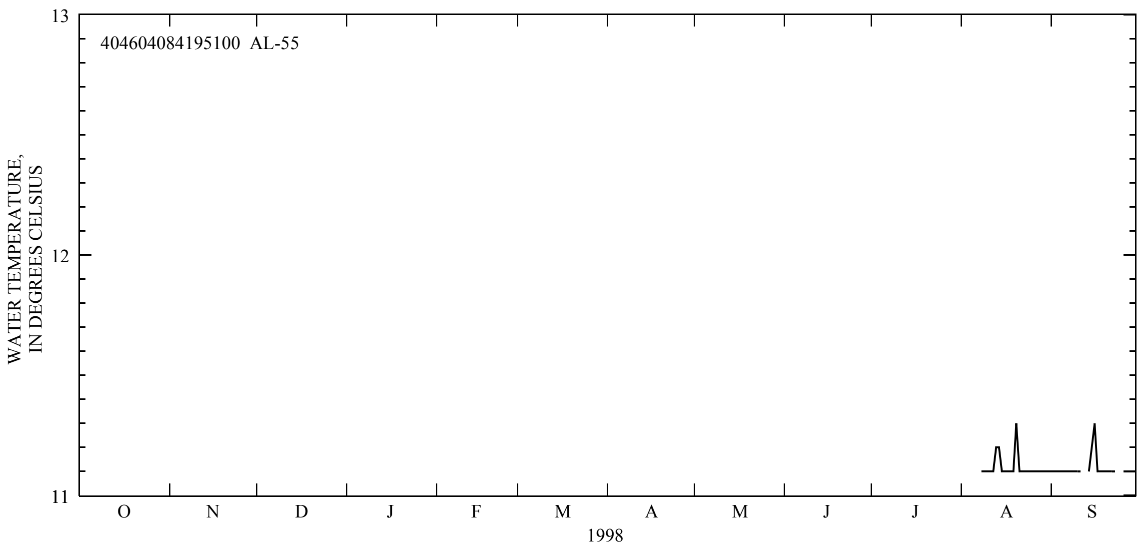


PROJECT DATA
Ground-Water Records for City of Delphos, Ohio

404604084195100. Local number, AL-55.
LOCATION.--LATITUDE 40°46’04”, LONGITUDE 084°19’51”, hydrologic unit 04100007.
PERIOD OF RECORD.--Aug. 8, 1998 to current year
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 11.3 degrees Celsius, Aug. 20, 1998 and Sept. 16, 1998; minimum daily low, 11.1 degrees Celsius, on several days during period of record.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

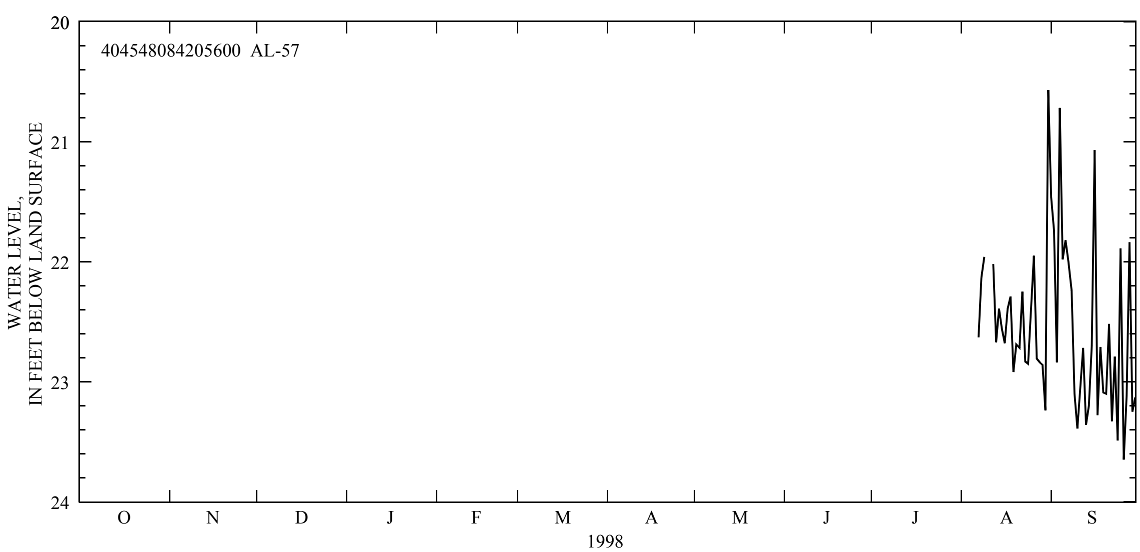
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	11.1
2	---	---	---	---	---	---	---	---	---	---	---	11.1
3	---	---	---	---	---	---	---	---	---	---	---	11.1
4	---	---	---	---	---	---	---	---	---	---	---	11.1
5	---	---	---	---	---	---	---	---	---	---	---	11.1
6	---	---	---	---	---	---	---	---	---	---	---	11.1
7	---	---	---	---	---	---	---	---	---	---	---	11.1
8	---	---	---	---	---	---	---	---	---	---	11.1	11.1
9	---	---	---	---	---	---	---	---	---	---	11.1	11.1
10	---	---	---	---	---	---	---	---	---	---	11.1	11.1
11	---	---	---	---	---	---	---	---	---	---	11.1	11.1
12	---	---	---	---	---	---	---	---	---	---	11.1	---
13	---	---	---	---	---	---	---	---	---	---	11.2	---
14	---	---	---	---	---	---	---	---	---	---	11.2	11.1
15	---	---	---	---	---	---	---	---	---	---	11.1	11.2
16	---	---	---	---	---	---	---	---	---	---	11.1	11.3
17	---	---	---	---	---	---	---	---	---	---	11.1	11.1
18	---	---	---	---	---	---	---	---	---	---	11.1	11.1
19	---	---	---	---	---	---	---	---	---	---	11.1	11.1
20	---	---	---	---	---	---	---	---	---	---	11.3	11.1
21	---	---	---	---	---	---	---	---	---	---	11.1	11.1
22	---	---	---	---	---	---	---	---	---	---	11.1	11.1
23	---	---	---	---	---	---	---	---	---	---	11.1	11.1
24	---	---	---	---	---	---	---	---	---	---	11.1	---
25	---	---	---	---	---	---	---	---	---	---	11.1	---
26	---	---	---	---	---	---	---	---	---	---	11.1	11.1
27	---	---	---	---	---	---	---	---	---	---	11.1	11.1
28	---	---	---	---	---	---	---	---	---	---	11.1	11.1
29	---	---	---	---	---	---	---	---	---	---	11.1	11.1
30	---	---	---	---	---	---	---	---	---	---	11.1	11.1
31	---	---	---	---	---	---	---	---	---	---	11.1	---
MAX	---	---	---	---	---	---	---	---	---	---	11.3	11.3



404548084205600. Local number, AL-57.
LOCATION.--LATITUDE 40°45'48", LONGITUDE 084°20'56", hydrologic unit 04100007.
AQUIFER.--Carbonate. Geologic Unit 351TMCT.
WELL CHARACTERISTICS.--Domestic well, depth 113 ft.
DATUM.--Altitude of land surface is 811 feet above National Geodetic Vertical Datum of 1929. Measuring point is top of casing, 0.5 ft above land-surface datum.
PERIOD OF RECORD.--Aug. 7, 1998 to current year
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 23.65 ft below land-surface datum, Sept. 26, 1998; minimum daily low, 20.57 ft below land-surface datum, Aug. 31, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

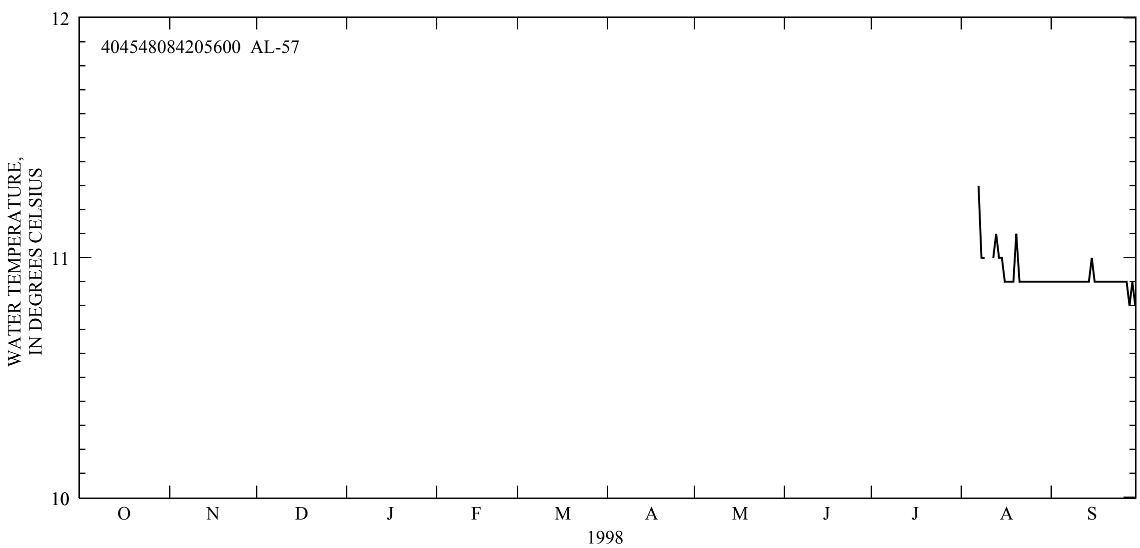
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	21.46
2	---	---	---	---	---	---	---	---	---	---	---	21.74
3	---	---	---	---	---	---	---	---	---	---	---	22.84
4	---	---	---	---	---	---	---	---	---	---	---	20.72
5	---	---	---	---	---	---	---	---	---	---	---	21.98
6	---	---	---	---	---	---	---	---	---	---	---	21.82
7	---	---	---	---	---	---	---	---	---	---	22.63	22.00
8	---	---	---	---	---	---	---	---	---	---	22.13	22.24
9	---	---	---	---	---	---	---	---	---	---	21.96	23.10
10	---	---	---	---	---	---	---	---	---	---	---	23.39
11	---	---	---	---	---	---	---	---	---	---	---	23.06
12	---	---	---	---	---	---	---	---	---	---	22.02	22.72
13	---	---	---	---	---	---	---	---	---	---	22.67	23.36
14	---	---	---	---	---	---	---	---	---	---	22.39	23.20
15	---	---	---	---	---	---	---	---	---	---	22.56	22.70
16	---	---	---	---	---	---	---	---	---	---	22.68	21.07
17	---	---	---	---	---	---	---	---	---	---	22.39	23.28
18	---	---	---	---	---	---	---	---	---	---	22.29	22.71
19	---	---	---	---	---	---	---	---	---	---	22.92	23.09
20	---	---	---	---	---	---	---	---	---	---	22.69	23.10
21	---	---	---	---	---	---	---	---	---	---	22.72	22.52
22	---	---	---	---	---	---	---	---	---	---	22.25	23.33
23	---	---	---	---	---	---	---	---	---	---	22.83	22.79
24	---	---	---	---	---	---	---	---	---	---	22.85	23.49
25	---	---	---	---	---	---	---	---	---	---	22.38	21.89
26	---	---	---	---	---	---	---	---	---	---	21.95	23.65
27	---	---	---	---	---	---	---	---	---	---	22.81	23.12
28	---	---	---	---	---	---	---	---	---	---	22.84	21.84
29	---	---	---	---	---	---	---	---	---	---	22.86	23.25
30	---	---	---	---	---	---	---	---	---	---	23.24	23.13
31	---	---	---	---	---	---	---	---	---	---	20.57	---
MAX	---	---	---	---	---	---	---	---	---	---	23.24	23.65



404548084205600. Local number, AL-57.
LOCATION.--LATITUDE 40°45'48", LONGITUDE 084°20'56", hydrologic unit 04100007.
PERIOD OF RECORD.--Aug. 7, 1998 to current year
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 11.3 degrees Celsius, Aug. 7, 1998; minimum daily low, 10.8 degrees Celsius, Sept. 28,30, 1998.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

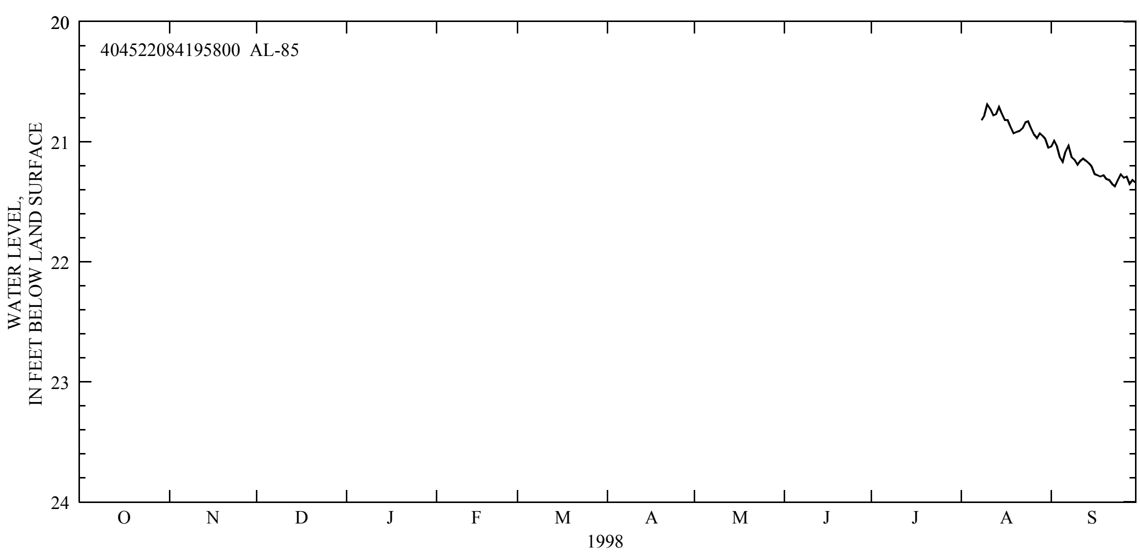
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	10.9
2	---	---	---	---	---	---	---	---	---	---	---	10.9
3	---	---	---	---	---	---	---	---	---	---	---	10.9
4	---	---	---	---	---	---	---	---	---	---	---	10.9
5	---	---	---	---	---	---	---	---	---	---	---	10.9
6	---	---	---	---	---	---	---	---	---	---	---	10.9
7	---	---	---	---	---	---	---	---	---	---	11.3	10.9
8	---	---	---	---	---	---	---	---	---	---	11.0	10.9
9	---	---	---	---	---	---	---	---	---	---	11.0	10.9
10	---	---	---	---	---	---	---	---	---	---	---	10.9
11	---	---	---	---	---	---	---	---	---	---	---	10.9
12	---	---	---	---	---	---	---	---	---	---	11.0	10.9
13	---	---	---	---	---	---	---	---	---	---	11.1	10.9
14	---	---	---	---	---	---	---	---	---	---	11.0	10.9
15	---	---	---	---	---	---	---	---	---	---	11.0	11.0
16	---	---	---	---	---	---	---	---	---	---	10.9	10.9
17	---	---	---	---	---	---	---	---	---	---	10.9	10.9
18	---	---	---	---	---	---	---	---	---	---	10.9	10.9
19	---	---	---	---	---	---	---	---	---	---	10.9	10.9
20	---	---	---	---	---	---	---	---	---	---	11.1	10.9
21	---	---	---	---	---	---	---	---	---	---	10.9	10.9
22	---	---	---	---	---	---	---	---	---	---	10.9	10.9
23	---	---	---	---	---	---	---	---	---	---	10.9	10.9
24	---	---	---	---	---	---	---	---	---	---	10.9	10.9
25	---	---	---	---	---	---	---	---	---	---	10.9	10.9
26	---	---	---	---	---	---	---	---	---	---	10.9	10.9
27	---	---	---	---	---	---	---	---	---	---	10.9	10.9
28	---	---	---	---	---	---	---	---	---	---	10.9	10.8
29	---	---	---	---	---	---	---	---	---	---	10.9	10.9
30	---	---	---	---	---	---	---	---	---	---	10.9	10.8
31	---	---	---	---	---	---	---	---	---	---	10.9	---
MAX	---	---	---	---	---	---	---	---	---	---	11.3	11.0



404522084195800. Local number, AL-85.
LOCATION.--LATITUDE 40°45'22", LONGITUDE 084°19'58", hydrologic unit 04100007.
AQUIFER.--Carbonate. Geologic Unit 351TMCT.
WELL CHARACTERISTICS.--Drilled observation well, depth 315 ft.
DATUM.--Altitude of land surface is 815 feet above National Geodetic Vertical Datum of 1929. Measuring point is top of casing, 1.2 ft above land-surface datum.
PERIOD OF RECORD.--Aug. 8, 1998 to current year
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 21.37 ft below land-surface datum, Sept. 23, 1998; minimum daily low, 20.69 ft below land-surface datum, Aug. 10, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MEAN VALUES

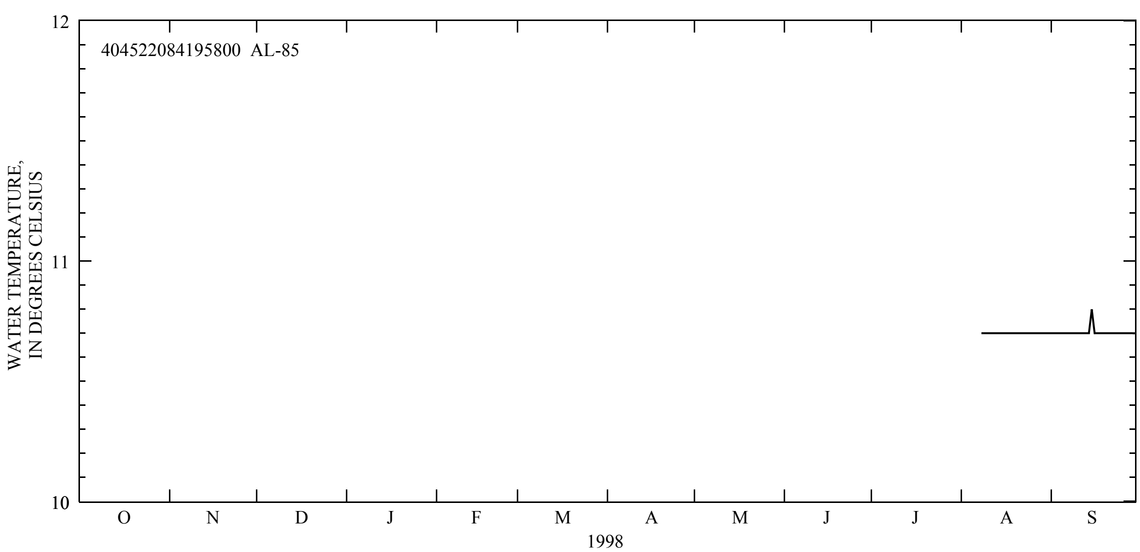
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	21.04
2	---	---	---	---	---	---	---	---	---	---	---	20.99
3	---	---	---	---	---	---	---	---	---	---	---	21.04
4	---	---	---	---	---	---	---	---	---	---	---	21.13
5	---	---	---	---	---	---	---	---	---	---	---	21.17
6	---	---	---	---	---	---	---	---	---	---	---	21.08
7	---	---	---	---	---	---	---	---	---	---	---	21.03
8	---	---	---	---	---	---	---	---	---	---	20.82	21.13
9	---	---	---	---	---	---	---	---	---	---	20.78	21.15
10	---	---	---	---	---	---	---	---	---	---	20.69	21.19
11	---	---	---	---	---	---	---	---	---	---	20.73	21.16
12	---	---	---	---	---	---	---	---	---	---	20.78	21.14
13	---	---	---	---	---	---	---	---	---	---	20.77	21.16
14	---	---	---	---	---	---	---	---	---	---	20.71	21.18
15	---	---	---	---	---	---	---	---	---	---	20.77	21.21
16	---	---	---	---	---	---	---	---	---	---	20.82	21.27
17	---	---	---	---	---	---	---	---	---	---	20.82	21.28
18	---	---	---	---	---	---	---	---	---	---	20.88	21.29
19	---	---	---	---	---	---	---	---	---	---	20.93	21.28
20	---	---	---	---	---	---	---	---	---	---	20.92	21.31
21	---	---	---	---	---	---	---	---	---	---	20.91	21.32
22	---	---	---	---	---	---	---	---	---	---	20.89	21.35
23	---	---	---	---	---	---	---	---	---	---	20.84	21.37
24	---	---	---	---	---	---	---	---	---	---	20.83	21.32
25	---	---	---	---	---	---	---	---	---	---	20.89	21.27
26	---	---	---	---	---	---	---	---	---	---	20.94	21.30
27	---	---	---	---	---	---	---	---	---	---	20.97	21.29
28	---	---	---	---	---	---	---	---	---	---	20.93	21.35
29	---	---	---	---	---	---	---	---	---	---	20.95	21.32
30	---	---	---	---	---	---	---	---	---	---	20.98	21.34
31	---	---	---	---	---	---	---	---	---	---	21.05	---
MAX	---	---	---	---	---	---	---	---	---	---	21.05	21.37



404522084195800. Local number, AL-85.
LOCATION.--LATITUDE 40°45'22", LONGITUDE 084°19'58", hydrologic unit 04100007.
PERIOD OF RECORD.--Aug. 8, 1998 to current year
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 10.8 degrees Celsius, Sept. 15, 1998; minimum daily low, 10.7 degrees Celsius, on several days during period of record.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

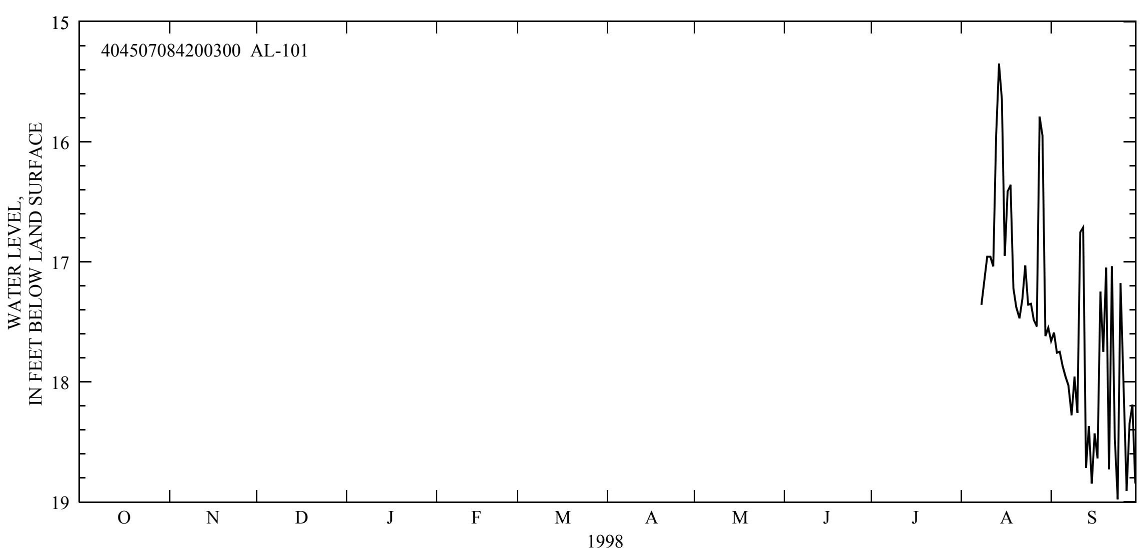
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	10.7
2	---	---	---	---	---	---	---	---	---	---	---	10.7
3	---	---	---	---	---	---	---	---	---	---	---	10.7
4	---	---	---	---	---	---	---	---	---	---	---	10.7
5	---	---	---	---	---	---	---	---	---	---	---	10.7
6	---	---	---	---	---	---	---	---	---	---	---	10.7
7	---	---	---	---	---	---	---	---	---	---	---	10.7
8	---	---	---	---	---	---	---	---	---	---	10.7	10.7
9	---	---	---	---	---	---	---	---	---	---	10.7	10.7
10	---	---	---	---	---	---	---	---	---	---	10.7	10.7
11	---	---	---	---	---	---	---	---	---	---	10.7	10.7
12	---	---	---	---	---	---	---	---	---	---	10.7	10.7
13	---	---	---	---	---	---	---	---	---	---	10.7	10.7
14	---	---	---	---	---	---	---	---	---	---	10.7	10.7
15	---	---	---	---	---	---	---	---	---	---	10.7	10.8
16	---	---	---	---	---	---	---	---	---	---	10.7	10.7
17	---	---	---	---	---	---	---	---	---	---	10.7	10.7
18	---	---	---	---	---	---	---	---	---	---	10.7	10.7
19	---	---	---	---	---	---	---	---	---	---	10.7	10.7
20	---	---	---	---	---	---	---	---	---	---	10.7	10.7
21	---	---	---	---	---	---	---	---	---	---	10.7	10.7
22	---	---	---	---	---	---	---	---	---	---	10.7	10.7
23	---	---	---	---	---	---	---	---	---	---	10.7	10.7
24	---	---	---	---	---	---	---	---	---	---	10.7	10.7
25	---	---	---	---	---	---	---	---	---	---	10.7	10.7
26	---	---	---	---	---	---	---	---	---	---	10.7	10.7
27	---	---	---	---	---	---	---	---	---	---	10.7	10.7
28	---	---	---	---	---	---	---	---	---	---	10.7	10.7
29	---	---	---	---	---	---	---	---	---	---	10.7	10.7
30	---	---	---	---	---	---	---	---	---	---	10.7	10.7
31	---	---	---	---	---	---	---	---	---	---	10.7	---
MAX	---	---	---	---	---	---	---	---	---	---	10.7	10.8



404507084200300. Local number, AL-101.
LOCATION.--LATITUDE 40°45’07”, LONGITUDE 084°20’03”, hydrologic unit 04100007.
AQUIFER.--Carbonate. Geologic Unit 351TMCT.
WELL CHARACTERISTICS.--Domestic well, depth 36 ft.
DATUM.--Altitude of land surface is 808 feet above National Geodetic Vertical Datum of 1929. Measuring point is top of casing, 0.95 ft above land-surface datum.
PERIOD OF RECORD.--Aug. 8, 1998 to current year
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 18.98 ft below land-surface datum, Sept. 24, 1998; minimum daily low, 15.35 ft below land-surface datum, Aug. 14, 1998.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

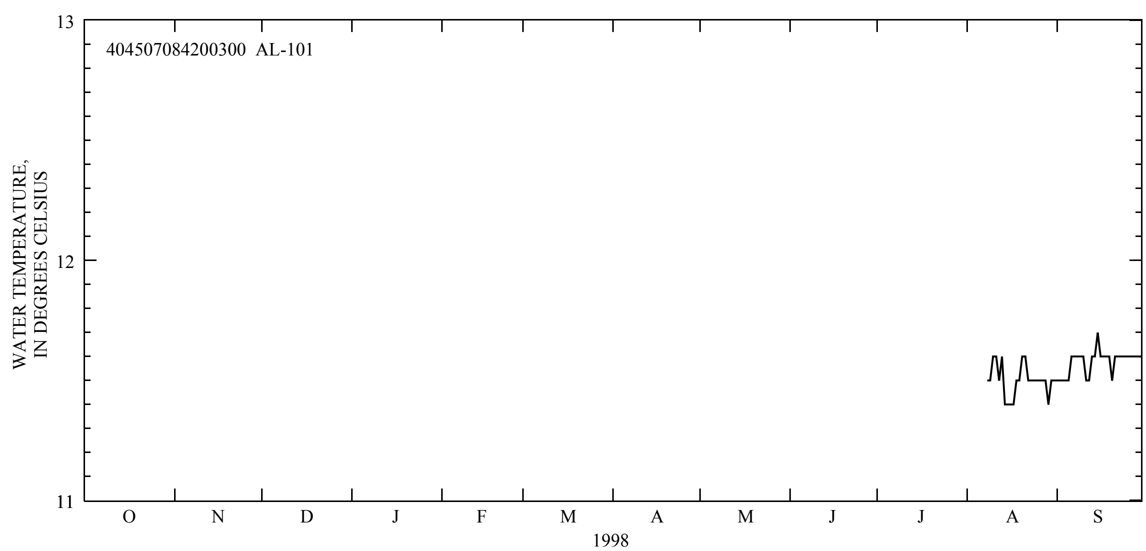
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	17.66
2	---	---	---	---	---	---	---	---	---	---	---	17.59
3	---	---	---	---	---	---	---	---	---	---	---	17.76
4	---	---	---	---	---	---	---	---	---	---	---	17.75
5	---	---	---	---	---	---	---	---	---	---	---	17.87
6	---	---	---	---	---	---	---	---	---	---	---	17.96
7	---	---	---	---	---	---	---	---	---	---	---	18.03
8	---	---	---	---	---	---	---	---	---	---	17.36	18.28
9	---	---	---	---	---	---	---	---	---	---	17.17	17.96
10	---	---	---	---	---	---	---	---	---	---	16.96	18.26
11	---	---	---	---	---	---	---	---	---	---	16.96	16.75
12	---	---	---	---	---	---	---	---	---	---	17.04	16.71
13	---	---	---	---	---	---	---	---	---	---	15.95	18.72
14	---	---	---	---	---	---	---	---	---	---	15.35	18.37
15	---	---	---	---	---	---	---	---	---	---	15.65	18.85
16	---	---	---	---	---	---	---	---	---	---	16.95	18.43
17	---	---	---	---	---	---	---	---	---	---	16.41	18.64
18	---	---	---	---	---	---	---	---	---	---	16.36	17.25
19	---	---	---	---	---	---	---	---	---	---	17.22	17.75
20	---	---	---	---	---	---	---	---	---	---	17.38	17.05
21	---	---	---	---	---	---	---	---	---	---	17.47	18.73
22	---	---	---	---	---	---	---	---	---	---	17.31	17.04
23	---	---	---	---	---	---	---	---	---	---	17.03	18.47
24	---	---	---	---	---	---	---	---	---	---	17.36	18.98
25	---	---	---	---	---	---	---	---	---	---	17.35	17.18
26	---	---	---	---	---	---	---	---	---	---	17.49	18.29
27	---	---	---	---	---	---	---	---	---	---	17.54	18.91
28	---	---	---	---	---	---	---	---	---	---	15.79	18.35
29	---	---	---	---	---	---	---	---	---	---	15.95	18.19
30	---	---	---	---	---	---	---	---	---	---	17.62	18.85
31	---	---	---	---	---	---	---	---	---	---	17.55	---
MAX	---	---	---	---	---	---	---	---	---	---	17.62	18.98



404507084200300. Local number, AL-101.
LOCATION.--LATITUDE 40°45'07", LONGITUDE 084°20'03", hydrologic unit 04100007.
PERIOD OF RECORD.--Aug. 8, 1998 to current year
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 11.7 degrees Celsius, Sept. 15, 1998; minimum daily low, 11.4 degrees Celsius, on several days during period of record.

TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	11.5
2	---	---	---	---	---	---	---	---	---	---	---	11.5
3	---	---	---	---	---	---	---	---	---	---	---	11.5
4	---	---	---	---	---	---	---	---	---	---	---	11.5
5	---	---	---	---	---	---	---	---	---	---	---	11.5
6	---	---	---	---	---	---	---	---	---	---	---	11.6
7	---	---	---	---	---	---	---	---	---	---	---	11.6
8	---	---	---	---	---	---	---	---	---	---	11.5	11.6
9	---	---	---	---	---	---	---	---	---	---	11.5	11.6
10	---	---	---	---	---	---	---	---	---	---	11.6	11.6
11	---	---	---	---	---	---	---	---	---	---	11.6	11.5
12	---	---	---	---	---	---	---	---	---	---	11.5	11.5
13	---	---	---	---	---	---	---	---	---	---	11.6	11.6
14	---	---	---	---	---	---	---	---	---	---	11.4	11.6
15	---	---	---	---	---	---	---	---	---	---	11.4	11.7
16	---	---	---	---	---	---	---	---	---	---	11.4	11.6
17	---	---	---	---	---	---	---	---	---	---	11.4	11.6
18	---	---	---	---	---	---	---	---	---	---	11.5	11.6
19	---	---	---	---	---	---	---	---	---	---	11.5	11.6
20	---	---	---	---	---	---	---	---	---	---	11.6	11.5
21	---	---	---	---	---	---	---	---	---	---	11.6	11.6
22	---	---	---	---	---	---	---	---	---	---	11.5	11.6
23	---	---	---	---	---	---	---	---	---	---	11.5	11.6
24	---	---	---	---	---	---	---	---	---	---	11.5	11.6
25	---	---	---	---	---	---	---	---	---	---	11.5	11.6
26	---	---	---	---	---	---	---	---	---	---	11.5	11.6
27	---	---	---	---	---	---	---	---	---	---	11.5	11.6
28	---	---	---	---	---	---	---	---	---	---	11.5	11.6
29	---	---	---	---	---	---	---	---	---	---	11.4	11.6
30	---	---	---	---	---	---	---	---	---	---	11.5	11.6
31	---	---	---	---	---	---	---	---	---	---	11.5	---
MAX	---	---	---	---	---	---	---	---	---	---	11.6	11.7



PROJECT DATA
Ground-Water Records for City of Delphos, Ohio

LOCAL WELL NUMBER	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	DEPTH OF WELL (FEET)	ALTITUDE OF LAND SURFACE (FEET)	WATER LEVEL (FEET)	MEASUREMENT TIME	WATER-LEVEL DATE
AL-50	404611	0842001	120	805	21.59	--	02-13-1998
					20.91	1350	03-03-1998
					20.6	1616	03-24-1998
					21.23	1105	07-08-1998
AL-52	404640	0842004	171	802	16.11	1710	02-12-1998
					16.07	1710	02-25-1998
AL-53	404551	0842018	100	810	27.37	--	02-13-1998
					28.74	1530	07-08-1998
AL-54	404645	0841918	27	798	7.97	--	02-12-1998
					7.25	1145	02-25-1998
					7.38	0750	03-04-1998
AL-55	404604	0841951	150	805	24.10	--	02-19-1998
					24.47	1500	03-03-1998
					24.44	1025	07-08-1998
					24.60	1000	08-07-1998
					24.68	1125	08-13-1998
					24.65	1213	08-14-1998
					25.29	1145	08-20-1998
					25.89	1336	09-15-1998
					25.97	0920	09-16-1998
					25.97	0945	09-16-1998
AL-56	404645	0841949	124	800	18.07	--	02-12-1998
					17.49	1200	03-04-1998
AL-57	404548	0842056	113	811	19.85	--	02-12-1998
					19.73	1205	03-05-1998
					19.49	--	03-26-1998
					19.74	1150	07-08-1998
					19.83	1415	08-06-1998
					19.72	1515	08-13-1998
					19.94	1750	08-20-1998
					20.42	1400	09-15-1998
AL-58	404453	0841836	65	810	18.53	--	02-17-1998
					18.47	1613	07-07-1998
AL-59	404613	0842005	32	805	20.51	--	02-13-1998
AL-60	404502	0841831	34	806	17.93	--	02-13-1998
AL-61	404438	0841817	34	810	17.07	--	02-18-1998
					20.01	1700	08-19-1998
AL-62	404438	0841827	35	810	19.03	--	02-17-1998
AL-63	404424	0842005	40.9	815	16.13	--	02-13-1998
					15.68	1640	07-08-1998
					16.14	1736	08-19-1998
AL-64	404517	0841952	300	812	15.67	1640	02-25-1998
					15.72	1350	07-09-1998
AL-65	404458	0841925	122	812	17.02	1450	02-25-1998
					16.91	--	03-24-1998
AL-66	404448	0841913	82	803	11.30	1500	02-25-1998
					11.30	1400	03-03-1998
AL-67	404439	0842002	31	813	13.24	1605	02-25-1998
					13.19	1055	07-09-1998
AL-68	404526	0841918	100	807.0	54.30	--	02-17-1998
AL-69	404435	0841959	50	815	14.82	--	02-18-1998
AL-70	404639	0842130	130	814	23.70	--	02-18-1998
					22.66	0840	02-19-1998
					21.66	1120	03-26-1998
					22.40	1155	07-09-1998
AL-71	404420	0842005	38	815	18.83	--	02-18-1998
					19.21	1615	02-25-1998
AL-72	404617	0842134	45	810	16.46	1115	02-25-1998
					16.34	1048	03-25-1998
AL-73	404556	0842001	62	805	20.05	--	02-19-1998
					20.25	--	03-25-1998
					20.05	1038	07-08-1998
AL-74	404603	0842133	77	810	15.83	--	02-18-1998
					16.10	0930	03-05-1998
AL-75	404553	0841810	--	805	19.04	1540	02-25-1998
AL-76	404552	0842057	119	810	19.62	1715	02-25-1998
					19.70	1040	03-05-1998
AL-77	404551	0842100	95	810	15.51	1725	02-25-1998
					15.62	1120	03-05-1998
AL-78	404546	0841814	83	805	16.77	1530	02-25-1998
					16.37	--	03-25-1998
AL-79	404437	0842213	67	815	18.32	1120	02-18-1998
					18.46	1300	03-04-1998
AL-80	404526	0842157	64	810	16.56	1330	02-25-1998
					16.41	--	03-26-1998
AL-81	404647	0842054	142	802	38.54	--	02-12-1998
					37.79	--	03-25-1998

LOCAL WELL NUMBER	LATITUDE (DEGREES)	LONGITUDE (DEGREES)	DEPTH OF WELL (FEET)	ALTITUDE OF LAND SURFACE (FEET)	WATER LEVEL (FEET)	MEASUREMENT TIME	WATER-LEVEL DATE
AL-82	404507	0842039	78	815	21.51	1420	02-25-1998
					21.46	1530	03-05-1998
					21.55	1505	07-08-1998
					21.81	1030	08-19-1998
AL-83	404508	0842036	45	815	20.22	1410	02-25-1998
					20.12	1445	03-04-1998
					20.29	1515	07-08-1998
AL-84	404645	0841839	148	805	20.71	1155	02-25-1998
					20.41	1155	03-25-1998
					21.45	1510	08-20-1998
AL-85	404522	0841958	315	815	20.61	1650	02-25-1998
					20.41	--	03-31-1998
					20.62	1330	07-09-1998
					20.86	1106	08-09-1998
					20.75	1115	08-14-1998
					21.03	1200	08-20-1998
					21.13	1200	09-03-1998
					21.26	1250	09-15-1998
AL-86	404502	0842152	74	805	19.44	--	02-19-1998
					19.63	1610	02-25-1998
					22.54	1400	02-25-1998
					19.21	1645	03-05-1998
					19.40	1600	07-08-1998
					19.58	0950	08-20-1998
AL-87	404513	0841958	--	807	13.80	1630	02-25-1998
AL-88	404512	0842001	--	810	15.27	1620	02-25-1998
					15.98	1045	08-14-1998
					16.43	1100	09-03-1998
AL-89	404548	0842130	30	808	17.00	--	02-28-1998
					16.61	1125	08-19-1998
AL-90	404528	0842141	45	815	20.33	1340	03-04-1998
AL-91	404425	0841649	55	810	13.11	1020	03-04-1998
					12.57	1120	07-09-1998
AL-92	404555	0841952	90	805	17.27	1245	03-03-1998
AL-93	404514	0842001	34	812	12.83	1155	03-03-1998
					13.11	1230	03-05-1998
					13.25	1010	07-08-1998
AL-94	404447	0841836	32	807	18.41	1230	03-03-1998
					17.49	0900	03-26-1998
					16.74	1300	07-09-1998
					19.16	1425	08-19-1998
AL-95	404556	0841843	--	804	18.91	1210	03-03-1998
					18.57	--	03-27-1998
					19.08	1540	07-08-1998
					19.09	1040	07-09-1998
AL-96	404554	0841948	95	805	15.48	1425	03-04-1998
					15.62	1130	07-08-1998
					15.65	1645	08-19-1998
AL-97	404427	0841649	30	810	11.28	0930	03-04-1998
AL-98	404547	0841814	--	802	14.78	--	03-25-1998
AL-99	404517	0842049	215	813	23.30	1311	03-24-1998
					20.98	1430	07-08-1998
AL-100	404611	0842001	69	805	20.51	--	02-13-1998
					19.42	--	03-24-1998
					19.13	1100	07-08-1998
AL-101	404507	0842003	36	808	15.27	1700	08-06-1998
					15.23	1033	08-13-1998
					15.60	0808	08-21-1998
					16.83	1700	09-15-1998
AL-102	404700	0842008	30	795	14.40	1600	08-19-1998
AL-103	404659	0842008	112	795	17.83	1600	08-19-1998
AL-104	404627	0842003	133	805	20.92	--	08-14-1998
AL-105	404627	0842004	170	805	25.04	--	08-14-1998
					25.44	--	08-19-1998
AL-106	404626	0842004	160	805	20.82	--	08-14-1998
AL-107	404615	0841836	29	800	10.50	--	08-07-1998
AL-108	404549	0841913	--	812	30.2	--	08-07-1998
AL-109	404555	0841925	142	807	23.18	--	08-07-1998
AL-110	404556	0841838	28	800	16.32	--	08-07-1998
AL-111	404600	0841836	29	800	11.27	--	08-07-1998
AL-112	404428	0842135	95	815	17.95	--	08-07-1998
AL-113	404430	0842135	66	815	20.7	--	08-07-1998
AL-114	404607	0841837	--	798	8.41	--	08-07-1998
AL-115	404553	0842045	--	812	21.65	0850	08-07-1998
AL-116	404536	0841917	100	805	27.7	--	08-07-1998

Ground-Water Records for City of Delphos, Ohio

LOCAL IDENT-I-FIER	DATE	TEMPER-ATURE WATER (DEG C) (00010)	FLOW RATE (G/M) (00059)	SPE-CIFIC CON-DUCT-ANCE (US/CM) (00095)	OXYGEN, DIS-SOLVED (MG/L) (00300)	PH WATER WHOLE FIELD (STAND-ARD UNITS) (00400)	CHLO-RIDE, DIS-SOLVED (MG/L AS CL) (00940)	SULFATE DIS-SOLVED (MG/L AS SO4) (00945)	FLUO-RIDE, DIS-SOLVED (MG/L AS F) (00950)	TRITIUM TOTAL (PCI/L) (07000)
AL-55	08-13-98	13.1	10.0	1150	.1	7.1	26	310	1.7	<5.7
AL-57	08-13-98	12.8	5.0	1320	.6	7.1	10	490	1.9	--
AL-63	08-19-98	12.6	4.0	1440	.1	7.1	11	540	1.9	--
AL-68	08-14-98	13.2	--	1120	.1	7.0	13	230	2.2	<5.7
AL-70	08-20-98	14.7	6.5	1040	--	6.9	57	150	1.3	--
AL-88	08-14-98	12.9	--	1310	.1	7.1	10	470	1.7	<5.7
AL-89	08-19-98	12.6	6.0	1410	.1	7.2	10	550	1.9	--
AL-94	08-19-98	13.3	6.0	1090	.1	7.0	22	220	1.2	--
AL-101	09-15-98	14.3	4.0	1410	.1	7.1	10	550	1.7	--

LOCAL IDENT-I-FIER	DATE	PH WATER WHOLE LAB (STAND-ARD UNITS) (00403)	NITRO-GEN, NITRITE DIS-SOLVED (MG/L AS N) (00613)	NITRO-GEN, NO2+NO3 DIS-SOLVED (MG/L AS N) (00631)	CALCIUM DIS-SOLVED (MG/L AS CA) (00915)	MAGNE-SIUM, DIS-SOLVED (MG/L AS MG) (00925)	DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET) (72019)	TRITIUM 2 SIGMA WATER, WHOLE, TOTAL (PCI/L) (75985)	SPE-CIFIC CON-DUCT-ANCE LAB (US/CM) (90095)	ANC UNFLTRD CARBON-ATE IT-FLD (MG/L - CACO3) (99430)
AL-55	08-13-98	7.2	<.010	<.050	130	62	24.68	3.8	1190	272
AL-57	08-13-98	7.1	<.010	<.050	150	74	19.72	--	1390	236
AL-63	08-19-98	7.3	<.010	<.050	140	87	16.14	--	1440	232
AL-68	08-14-98	7.1	.026	<.050	120	65	--	3.8	1160	340
AL-70	08-20-98	7.2	.015	1.32	110	62	--	--	1080	302
AL-88	08-14-98	7.2	.010	<.050	130	90	15.98	3.8	1390	252
AL-89	08-19-98	7.3	<.010	<.050	150	76	16.61	--	1410	206
AL-94	08-19-98	7.2	<.010	<.050	130	59	19.16	--	1090	302
AL-101	09-15-98	7.3	.014	<.050	140	92	16.67	--	1450	254

Hydrologic Assessment of the Upper Dorr Run Watershed, Hocking County, Ohio

The following table lists discharge and field chemical analyses of one surface-water site and six springs collected from an abandoned mine site within the Wayne National Forest. The site was partially reclaimed in the 1980's; however acid-mine drainage still emanates from the site. These measurements were made only one time.

The following site description applies to all surface-water and spring sites monitored for this study.

LOCATION.--Hydrologic Unit 05030204, approximately 2 mi east of the city of Haydenville, Ohio; 2 mi north of State Route 33.
AQUIFER.--The Middle Kittanning (No. 6) and Lower Kittanning (No. 5) sandstones and coals of the Allegheny Group, of middle Pennsylvanian Age.
INSTRUMENTATION.--None.
DATUM.--Elevation of land-surface datum is given in feet above National Geodetic Vertical Datum of 1983, surveyed using Total Station with reference points established by global positioning system, accurate to 0.01 ft.
PERIOD OF RECORD.--One-time measurement in June, 1998.
REMARKS.--These sites are used for discharge and chemical-quality sampling only as part of a cooperative study with The U.S. Department of Agriculture, Forest Service.

SPRING AND SURFACE-WATER SITE DATA

LOCAL NUMBER	SITE ID	LATITUDE (DMS)	LONGITUDE (DMS)	LSD (FT)
		SURFACE-WATER SITE		
DORR RN NR NELSONVILLE	392911082165700	39 29 11	082 16 57	795.25
		SPRING SITES		
HK-66-S1	392916082170800	39 29 16	082 17 08	836.27
HK-67-S2	392918082170500	39 29 18	082 17 05	832.23
HK-68-S3	392916082170500	39 29 16	082 17 05	819.86
HK-69-S4	392920082170900	39 29 20	082 17 09	881.02
HK-70-S5	392918082172200	39 29 18	082 17 22	887.60
HK-71-S6	392914082171100	39 29 14	082 17 11	884.07

WATER-QUALITY DATA, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

LOCAL NUMBER	DATE	TIME	DIS-CHARGE (FT3/S) (00060)	SPECIFIC CONDUCTANCE (μS/cm) (00095)	pH (00400)	OXIDATION REDUCTION POTENTIAL (MV) (00090)	TEMPER-ATURE, WATER (DEG. C) (00010)	DIS-SOLVED OXYGEN (MG/L) (00300)
				SURFACE-WATER SITE				
DORR RN NR NELSONVILLE	06/25/98	1100	0.42	1520	2.9	685	22.3	7.8
				SPRING SITES				
HK-66-S1	06/25/98	1200	0.24	1850	3.6	475	12.9	0.7
HK-67-S2	06/25/98	1530	0.05	1320	3.3	613	11.7	0.6
HK-68-S3	06/25/98	1330	0.05	1680	2.9	704	19.6	5.7
HK-69-S4	06/26/98	0900	< 0.01	2040	2.6	737	20.7	8.9
HK-70-S5	06/26/98	1000	0.02	1150	2.8	737	10.4	3.1
HK-71-S6	06/26/98	1100	0.01	1040	2.9	689	15.7	12.0

LOCAL NUMBER	ACIDITY (MG/L AS CACO3) (00435)	SULFATE, DIS-SOLVED (MG/L) (00945)	IRON, DIS-SOLVED AS FE (MG/L) (01046)	IRON, FERROUS AS FE (MG/L) (01047)
			SURFACE-WATER SITE	
DORR RN NR NELSONVILLE	189	710	11	1.6
			SPRING SITES	
HK-66-S1	388	1300	120	120
HK-67-S2	184	730	2.9	2.1
HK-68-S3	185	700	5.8	0.7
HK-69-S4	508	900	22	1.8
HK-70-S5	199	480	5.4	0.4
HK-71-S6	158	350	3.4	1.6

INDEX

INDEX

INDEX

INDEX

INDEX