

# Water Resources Data Ohio Water Year 1998

## Volume 1. Ohio River Basin Excluding Project Data

Water-Data Report OH-98-1



**U.S. Department of the Interior**  
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## 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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## 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, (HBM) hydrologic bench mark, (m) microbiological, (NAWQA) National Water-Quality Assessment Program, (r) radiochemical, (S) daily suspended-sediment data, (s) miscellaneous sediment measurements, (t) temperature]

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## GROUND-WATER STATIONS FOR WHICH RECORDS ARE PUBLISHED

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

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<b>ASHLAND COUNTY</b>			
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<b>BUTLER COUNTY</b>			
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East of Ross (l) .....	BU-12 .....	391904084371800 .....	218
Fairfield (l) .....	BU-18 .....	391942084345700 .....	219
Fairfield (l) .....	BU-7 .....	392017084345200 .....	220
East of Hamilton (l) .....	BU-8 .....	392048084311400 .....	221
Middletown (l) .....	BU-15 .....	393202084241500 .....	222
Southwest of Trenton (l) .....	BU-16 .....	392733084293000 .....	223
Southwest of Trenton (l) .....	BU-17 .....	392743084295500 .....	224
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Middletown (l) .....	BU-2 .....	393103084240900 .....	226
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<b>CHAMPAIGN COUNTY</b>			
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West Rushville (l) .....	F-1 .....	394544082271000 .....	237
Baltimore (l) .....	F-5 .....	395053082361900 .....	238
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West Carrollton (l) .....	MT-49 .....	394025084162800 .....	278
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Dayton (l) .....	MT-6 .....	394533084113800 .....	280
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<b>PICKAWAY COUNTY</b>			
South of Circleville (l) .....	PK-7 .....	393327082571600 .....	283
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Northwest of Circleville (l) .....	PK-6 .....	393638082572300 .....	285
South of Williamsport (l) .....	PK-8 .....	393438083072200 .....	286
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<b>ROSS COUNTY</b>			
West of Bainbridge (l) .....	RO-7 .....	391341083172200 .....	293
<b>SHELBY COUNTY</b>			
Sidney (1) .....	SH-5 .....	401707084103100 .....	294
<b>STARK COUNTY</b>			
Canton (l) .....	ST-5A .....	404939081203800 .....	295
North Canton (1) .....	ST-27 .....	405211081253500 .....	296
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Dover (l) .....	TU-3 .....	403207081293800 .....	297
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North of Strasburg (1) .....	TU-1 .....	403653081321800 .....	299
Strasburg (l) .....	TU-5 .....	403823081324200 .....	300
<b>UNION COUNTY</b>			
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East of East Liberty (1) .....	U-5 .....	402010083321900 .....	302
<b>VINTON COUNTY</b>			
McArthur (1) .....	V-1 .....	391452082282900 .....	303
<b>WARREN COUNTY</b>			
East of Monroe (l) .....	W-5 .....	392712084191700 .....	304
<b>WASHINGTON COUNTY</b>			
North of Marietta (l) .....	WA-2 .....	392553081281600 .....	305
Beverly (1) .....	WA-3 .....	393241081353500 .....	306

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Sterling (1).....	WN-7 .....	405745081510200 .....	309
Rittman (1) .....	WN-6 .....	405805081462300 .....	310

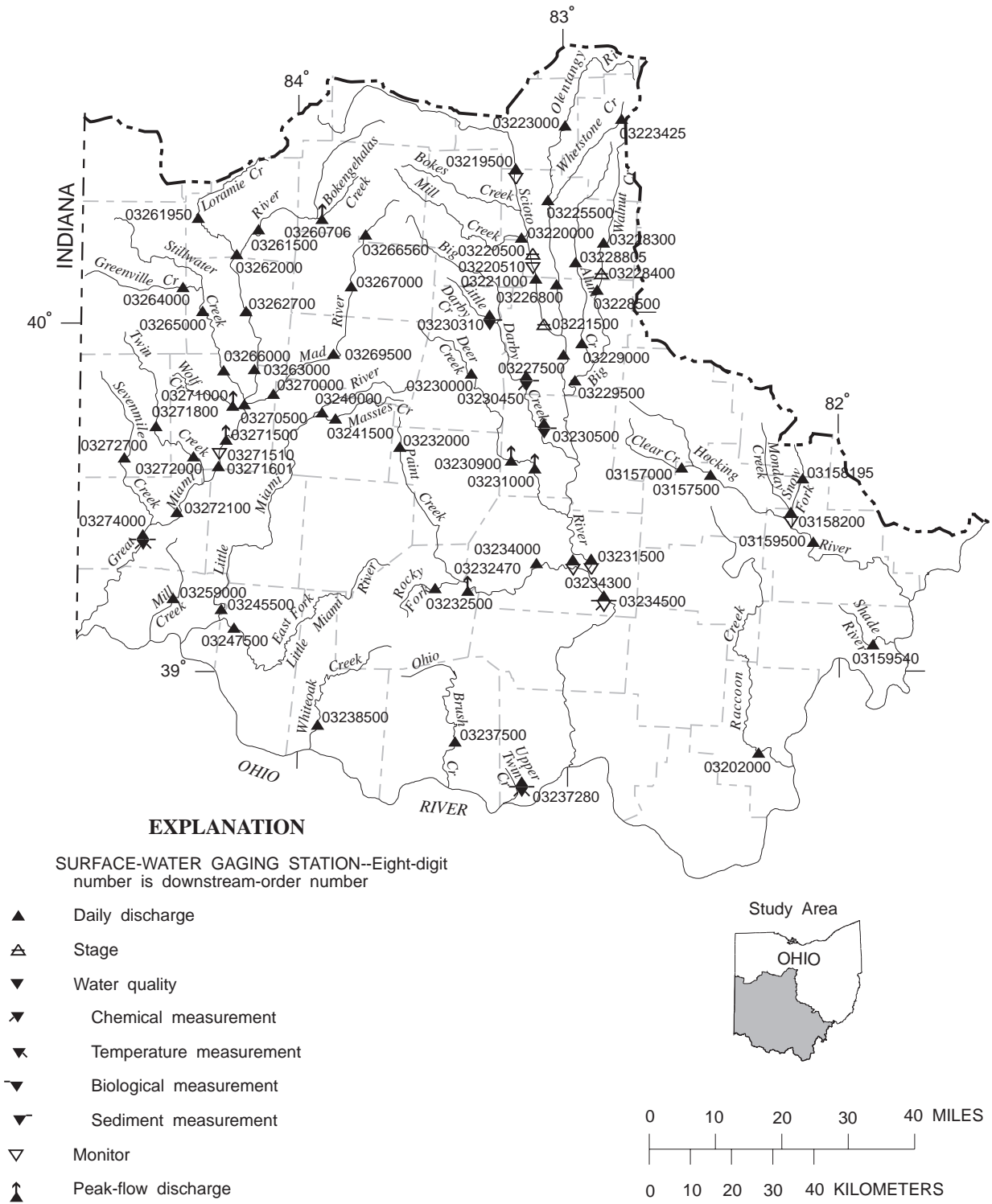


Figure 1a. Location of data-collection stations.

**EXPLANATION**

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

- ▲ Daily discharge
- ▼ Water quality
- ▼ Biological measurement
- ▼ Sediment measurement
- ▽ Monitor
- ▲ Peak-flow discharge



**Figure 1b.** Location of data-collection stations.

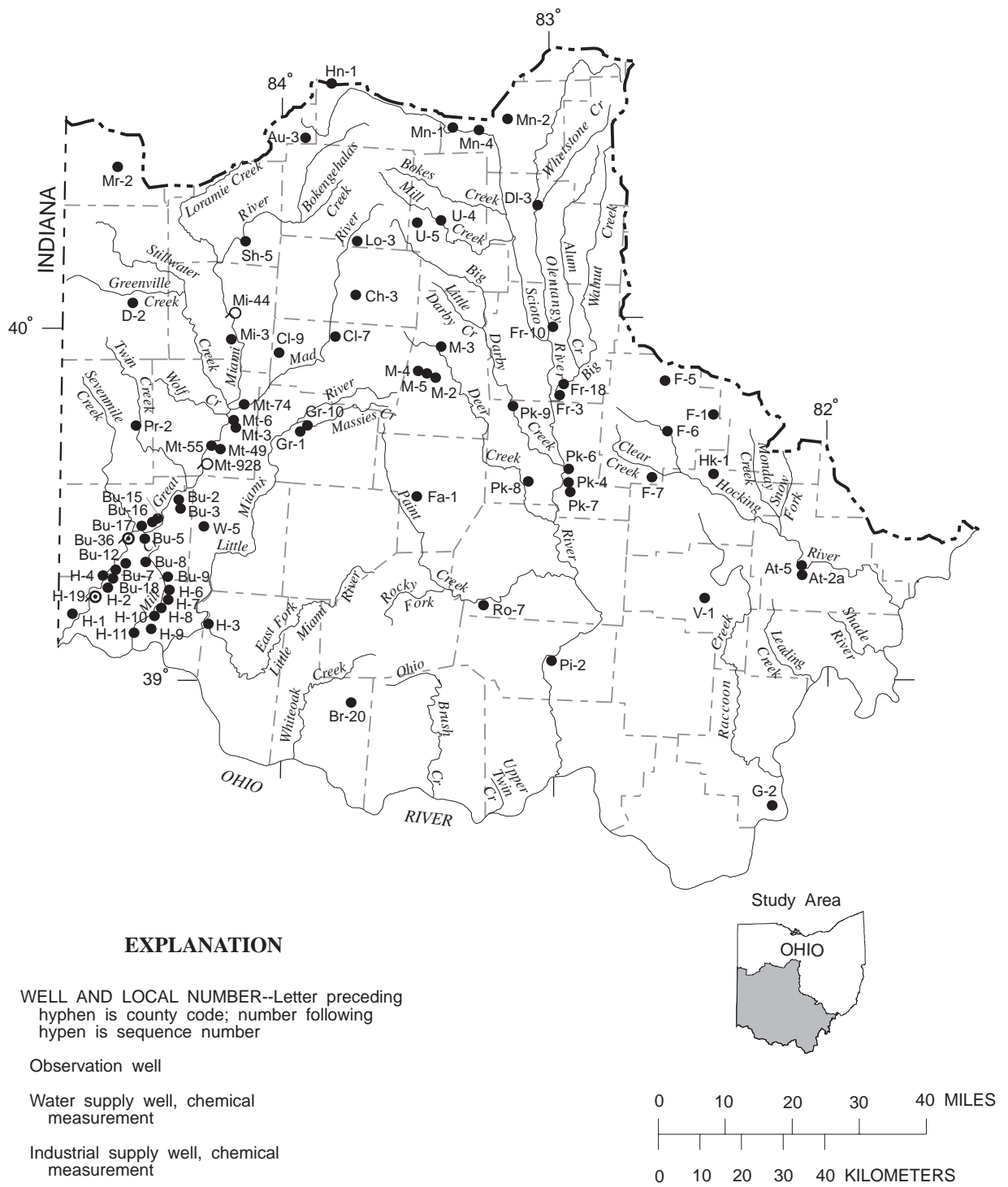


Figure 1c. Location of wells.



### EXPLANATION

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

- Observation well

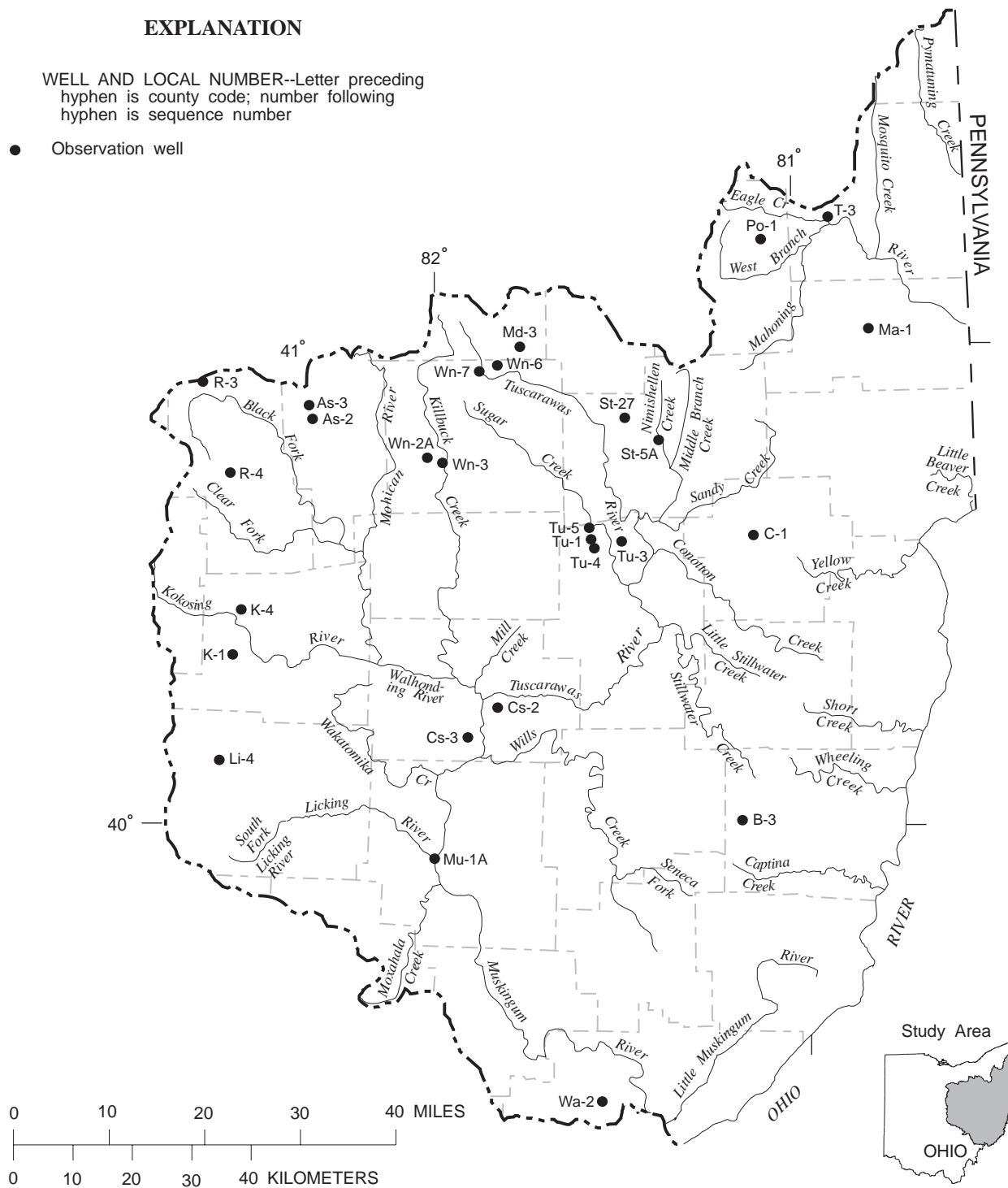


Figure 1d. Location of wells.

### 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 <sup>2</sup> )	Period of record
Mahoning River at Alliance	03086500*	89.2	1941-93
Beech Creek near Bolton	03087000	17.4	1944-51
Deer Creek at Limaville	03088000	33.2	1942-51
Mahoning River near Deerfield	03088500	175	1924-31
Willow Creek near Deerfield	03089000	11.6	1941-43
Mill Creek near Berlin Center	03089500	19.1	1942-72
Mahoning River below Berlin Dam near Berlin Center	03090500	48	1931-92
Kale Creek near Pricetown	03092000	21.9	1941-93
West Branch Mahoning River near Ravenna	03092090*	21.8	1966-93
West Branch Mahoning River below MJ Kerwin Dam at Wayland	03092460	81.7	1969-92
West Branch Mahoning River near Newton Falls	03092500	96.3	1927-82
Duck Creek at Leavittsburg	03093500	32.3	1941-48
Mahoning River at Warren	03094500	594	1925-35
Mosquito Creek below Mosquito Creek Dam near Cortland	03095500	97.5	1926-29 1943-92
Mosquito Creek at Niles	03096000	138	1929-51
Meander Creek at Ohlestown	03096500	78.4	1926-29
Meander Creek at Mineral Ridge	03097500	84.3	1929-51
Mahoning River at Youngstown	03098000	898	1922-82
Mill Creek at Youngstown	03098500	66.3	1944-71
Mahoning River at Lowellville	03099500	1,073	1943-71 1973-92
Pymatuning Creek at Kinsman	03102950*	96.7	1966-94
Lisbon Creek at Lisbon	03109000	6.19	1947-62
Stateline Creek near Negley	03109320	3.09	1977-79
Yellow Creek at Hammondsville	03110500	164	1915-35
Consol Run near Bloomingdale	03110983	.98	1979-81
Little Muskingum River at Fay	03115500	258	1915-18 1926-35
Tuscarawas River at Clinton	03116000	174	1926-79
Chippewa Creek at Easton	03116200	146	1961-82
Tuscarawas River at Crystal Springs	03116500	435	1922-29
Sandy Creek at Sandyville	03119000	481	1924-47
McGuire Creek below Leesville Dam near Leesville	03120500*	48.3	1939-90 1992
Indian Fork below Atwood Dam near New Cumberland	03121500	70	1961-75
Tuscarawas River below Dover Dam near Dover	03122500*	1,045	1924-92
Sugar Creek above Beach City Dam at Beach City	03123000	160	1945-75
Sugar Creek below Beach City Dam near Beach City	03124000*	300	1939-91
Home Creek near New Philadelphia	03125000	1.64	1937-80
Stillwater Creek at Piedmont	03126000*	122	1939-93
Stillwater Creek at Tippecanoe	03127000*	282	1939-93

### Discontinued Surface-Water-Discharge Stations—Continued

Station name	Station number	Drainage area (mi <sup>2</sup> )	Period of record
Stillwater Creek at Urichsville	03127500*	367	1922-93
Clear Fork Tributary near Hanover	03127970	.68	1978-81
Little Stillwater Creek below Tappan Dam at Tappan	03128500*	71.1	1939-93
Black Fork below Charles Mills Dam near Mifflin	03130000*	217	1939-93
Touby Run at Mansfield	03130500	5.44	1947-78
Rocky Fork near Mansfield	03131000	39	1925-32
Black Fork at Loudonville	03131500*	349	1931-93
Clear Fork at Butler	03132000	136	1945-75
Clear Fork at Newville	03132500	174	1935-39
Clear Fork below Pleasant Hill Dam near Perrysville	03133500*	198	1939-86 1988-93
Jerome Fork at Jeromeville	03134000	120	1926-49
Lake Fork below Mohicanville Dam	03135000*	271	1939-93
Lake Fork near Loudonville	03135500	344	1931-32 1935-39
Mohican River at Greer	03136000	948	1922-82
North Branch Kokosing River near Federicktown	03136400	45.5	1973-78
Kokosing River at Millwood	03137000	455	1922-74
Walhonding River below Mohawk Dam at Nellie	03138500*	1,505	1922-92
Killbuck Creek at Layland	03139500	503	1924-30
Seneca Fork below Senecaville Dam near Senecaville	03141500*	118	1938-93
Salt Fork near Cambridge	03142200	55.6	1956-68
Salt Fork below Salt Fork Dam near Cambridge	03142295	159	1971-82
Wills Creek at Birds Run	03142500	730	1928-39
Wills Creek below Wills Creek Dam at Wills Creek	03143500*	842	1939-92
Sand Fork near Wakatomika	03144400	1.34	1978-83
Opossum Run Tributary near Wakatomika	03144450	1.27	1978-83
Muskingum River at Dresden	03144500	5,993	1922-85
Raccoon Creek at Granville	03145500	82.7	1940-48
North Fork Licking River at Utica	03146000	116	1940-48 1970-83
Licking River at Toboso	03147000	672	1903-06 1922-61
Licking River below Dillon Dam near Dillon Falls	03147500*	742	1940-92
Salt Creek near Chandlersville	03149500	75.7	1936-47
Muskingum River at McConnelsville	03150000	7,422	1922-93
Meigs Creek near Beverly	03150250	136	1972-75
Hunters Run at Lancaster	03156000	10.0	1956-80
Hocking River at Lancaster	03156400	48.2	1956-75
Hocking River near Lancaster	03156500	90.3	1924-32
Clear Fork near Logan	03158000	14.8	1942-47
Sunday Creek at Glouster	03159000	104	1952-81
Hocking River below Athens	03159510	957	1977-93
East Branch Shake River near Tupper Plains	03159555	37.5	1980-82 1983-85
Sandy River above Big Four Hollow Creek near Lake Hope	03201600	.98	1971-82
Big Four Hollow Creek below East Fork near Lake Hope	03201660	.73	1979-81
Big Four Hollow Creek near Lake Hope	03201700	1.01	1971-83
Hull Hollow Creek near Lake Hope	03201720	.22	1979-81
Sandy Run near Lake Hope	03201800	4.99	1958-79
Zinns Run near Radcliff	03201929	3.41	1988-91

### Discontinued Surface-Water-Discharge Stations—Continued

Station name	Station number	Drainage area (mi <sup>2</sup> )	Period of record
Strongs Run near Ewington	03201947	15.8	1988-91
Symmec Creek at Getaway	03205500	335	1938-47
Scioto River at LaRue	03217500	257	1927-35 1939-51
Little Scioto River above Marion	03218000	72.4	1939-72
Little Scioto River at Sewage Treatment Plant near Marion	03218500	85.8	1925-36 1938-39
Little Scioto River near Marion	03219000	93.3	1924-25 1939
Bokes Creek near Warrenburg	03219590	83.2	1982-97
Eagon Run near Warrenburg	03219600	.123	1950-62
Olentangy River near New Winchester	03222500	49.4	1947-49
Whetstone Creek near Shawtown	03223500	61.8	1947-55
Shaw Creek at Shawtown	03224000	25.4	1947-55
Whetstone Creek near Ashley	03224500	98.7	1955-74
Olentangy River at Delaware	03226000	421	1922-24
Olentangy River at Stratford	03226500	445	1934-36 1938-58
Olentangy River near Worthington	03226800	497	1956-85 1992
Rush Run at Worthington	03226865	1.65	1979-82
Linworth Road Creek at Columbus	03226870	2.03	1979-82
Bethel Road Creek at Columbus	03226875	.22	1979-82
Olentangy River at Henderson Road at Columbus	03226885	518	1978-82
Scioto Big Run at Briggsdale	03228000	11.0	1947-58
Alum Creek at Kilbourne	03228750	64.9	1974-83
Scioto River near Circleville	03230000	2,638	1939-56
Scioto River at Circleville	03230700	3,217	1974-79 1990
Deer Creek at Pancoastburg	03230900	277	1964-98
Deer Creek at Williamsport	03231000*	333	1927-35 1939-56 1962-92
Rattlesnake Creek at Centerfield	03232300	209	1971-82
Paint Creek below Paint Creek Dam near Bainbridge	03232470*	570	1968-92
Salt Creek at Tarlton	03235000	11.5	1947-61
Tar Hollow Creek at Tar Hollow State Park	03235500	1.35	1947-79
Salt Creek near Londonderry	03236000	286	1939-50
Little Salt Creek near Jackson	03236500	76.1	1925-32
Little Miami River near Selma	03239000	48.9	1952-58
North Fork Little Miami River near Pitchin	03239500	28.9	1951-58
North Fork Massies Creek at Cedarville	03240500	28.9	1954-68
South Fork Massies Creek at Cedarville	03241000	17.1	1954-68
Little Miami River at Spring Valley	03242000	360	1926-35 1940-51
Little Miami River near Spring Valley	03242050	366	1968-85
Caesar Creek near Xenia	03242150	71.4	1900 1968-84
Anderson Fork near New Burlington	03242200	77.8	1968-84
Caesar Creek at Harveysburg	03242300	209	1961-75
Caesar Creek near Wellman	03242350	239	1965-74

### Discontinued Surface-Water-Discharge Stations—Continued

Station name	Station number	Drainage area (mi <sup>2</sup> )	Period of record
Little Miami River near Fort Ancient	03242500	680	1940-51
Todd Fork near Wilmington	03243000	22.2	1923 1943-44
Cowan Creek near Wilmington	03243500	32.0	1943-50
Todd Fork near Roachester	03244000	219	1952-75
East Fork Little Miami River near Dodsonville	03246000	91.4	1947-48
East Fork Little Miami River near Marathon	03246200	195	1968-84
East Fork Little Miami River at Williamsburg	03246500	237	1949-53 1961-74
East Fork Little Miami River near Bantam	03247000	330	1949-53
East Fork Little Miami River near Batavia	03247050	352	1965-94
Shayler Run near Perintown	03247400	11.8	1968-73
Little Miami River at Plainville	03248000	1,713	1965-71
Mill Creek at Reading	03255500	73.0	1939-93
West Fork Mill Creek at Mount Healthy	03256000	7.90	1949-53
West Fork Mill Creek near Greenhills	03257000	29.9	1945-53
West Fork Mill Creek at Woodlaw	03257500	32.2	1953-86
West Fork Mill Creek at Lockland	03258000	35.6	1939-57
Mill Creek at Mitchell Avenue at Cincinnati	03259500	135	1941-48 1990
Stony Creek near DeGraff	03260800	59.1	1958-76
Bokengehalas Creek at DeGraff	03260706*	40.4	1992-96
Great Miami River at Quincy	03261000	405	1947-49
Great Miami River at Piqua	03262500	866	1915-17
Greenville Creek near Greenville	03263500	142	1930-31
Mad River at Zanesfield	03266500	7.31	1947-78
Mad River at Tremont City	03267500	264	1931-33 1966-75
Chapman Creek at Tremont City	03267600	24.0	1968-69
Moore Run near Eagle City	03267700	18.2	1966-72
Mad River at Eagle City	03267800	307	1966-71
Mad River at Saint Paris Pike at Eagle City	032600	310	1965-95
Buck Creek near New Moorefield	03267950	30.5	1967-77
East Fork Buck Creek near New Moorefield	03267960	28.7	1967-77
Buck Creek at New Moorefield	03268000	65.3	1943-58
Beaver Creek near Springfield	03268500	39.2	1943-58 1973-76
Buck Creek at Springfield	03269000	139	1915-21 1925-49 1973-74
Wolf Creek at Trotwood	03270800	22.7	1963-86
Wolf Creek at Dayton	03271000*	68.7	1939-50 1987-97
Great Miami River at Miamisburg	03271500*	2,711	1916-20 1924-35 1952-95
Sevenmile Creek at Collinsville	03272800	120	1960-72
Sevenmile Creek at Sevenmile	03273000	135	1915-20
Fourmile Creek near Hamilton	03273500	307	1938-60
Great Miami River at Venice	03274500	3,789	1915-27 1932-33

### 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 <sup>2</sup> )	Type of record	Period of record
Beech Creek near Bolton	03087000	17.4	t	1943-51
Mahoning River above Duck Creek at Leavittsburg	03093800	542	do, pH, sc, t	1968-81
Mahoning River at Warren	03094500	594	t	1924-35
Mahoning River at Lowellville	03099500	1,073	t	1953-61
			do, pH, sc, t	1963-67
Mahoning River at Ohio-Pennsylvania State Line	03099510	1,075	do, pH, sc, t	1967-91
Ohio River at Stratton	03110700	23,500	t	1961
			sc	1964-70
Consol Run near Bloomingdale	03110983	.98	s	1979-81
Tuscarawas River at Navarre	03117100	534	do, pH, sc, t	1968-84
			do, pH, sc, t	1987-91
Black Fork at Londonville	03131500	349	do, pH, sc, t	1968-76
Sand Fork near Wakatomika	03144400	1.34	s	1978-81
North Fork Licking River at Utica	03146000	116	t	1970-73
Licking River near Newark	03146500	537	t.	1962-68
			do, pH, sc, t	1968-80
Muskingum River at Philo	03149200	7,196	do, pH, sc, t	1965-74
Muskingum River near Beverly	03150300	7,626	t,	1963-70
			sc	1964-70
North Branch Hunters Run near Hooker	03155900	104	s	1956-62
Hocking River at Athens	03159500	943	t	1954-64
			s	1956-65
			sc	1964-65
Hocking River below Athens	03159510		do, sc, t	1966-72
			do, pH, sc, t	1972-80
Sandy Run above Big Four Hollow Creek near Lake Hope	03201600	98	pH, sc, t	1971-78
Big Four Hollow Creek near Lake Hope	03201700	1.01	pH, sc, t	1971-83
			s	1978-83
Sandy Run near Lake Hope	03201800	4.99	do, sc, t.	1970-78
Raccoon Creek at Adamsville	03202000	585	do, pH, sc, t	1967-84
			s	1969-74
			s	1985
Whetstone Creek near Ashley	03224500	98.7	sc	1964-68
Olentangy River near Worthington	03226800	497	t	1955-68
			s	1978-81
Rush Run at Worthington	03226865	1.65	s	1978-81
Linworth Road Creek at Columbus	03226870	2.03	s	1978-81
Bethel Road Creek at Columbus	03226875	.22	s	1978-81
Olentangy River at Henderson Road at Columbus	03226885	518	s	1978-81
Alum Creek at Africa	03228805	122	sc, t	1965-70

### 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 <sup>2</sup> )	Type of record	Period of record
Scioto River below Shadeville	03229600	2,266	do, sc, t.	1965-80
			pH	1971-80
Paint Creek near Greenfield	03232000	249	t	1974-78
Rattlesnake Creek at Centerfield	03232300	209	t	1974-78
Salt Creek near Londonderry	03235995	268	t	1973-74
Scioto River at Lucasville	03237100	6,178	t	1956-74
			sc	1965-74
Little Miami River near Selma	03239000	48.9	s, t	1952-58
North Fork Little Miami River near Pitchin	03239500	28.9	s, t	1952-58
North Fork Massies Creek at Cedarville	03240500	28.9	s, t	1954-68
South Fork Massies Creek near Cedarville	03241000	17.1	s, t	1954-68
Little Miami River near Spring Valley	03242050	366	do, pH, sc, t	1968-80
Caesar Creek at Harveysburg	03242300	209	sc, t	1970-75
Todd Fork near Roachester	03244000	219	s, t	1952-58
Little Miami River at Miamiville	03245300	1,189	do, pH, sc, t	1970-75
Little Miami River at Milford	03245500	1,203	do, pH, sc, t	1975-84
			s	1978-84
East Fork Little Miami River at Williamsburg	03246500	237	sc, t	1970-75
Great Miami River at Tipp City	03262745	970	do, pH, sc, t	1978-80
Mad River at Eagle City	03267800	307	s, t	1965-69
Buck Creek at New Moorefield	03268000	65.3	sc, t	1970-76
Mad River near Dayton	03270000	635	do, pH, sc, t	1968-80
Great Miami River near Stewart Street at Dayton	03271075	2,587	do, pH, sc, t	1978-80
Great Miami River near Miamisburg	03271600	2,715	do, pH, sc, t	1964-78
Great Miami River at Rockdale	03272410	3,275	do, pH, sc, t	1978-80
Great Miami River at New Baltimore	03274600	3,814	sc, t	1966
			do, sc, t	1968-82
			pH	1975-82
Great Miami River at Elizabethtown	03276600	5,356	t	1956-74
			sc	1964-74

## **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-98-2." For archiving and general distribution, the reports for 1971-74 water years are also identified as water-data reports. These water-data reports can be purchased in paper copy or in microfiche from the National Technical Information Service, U.S. Department of Commerce, 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

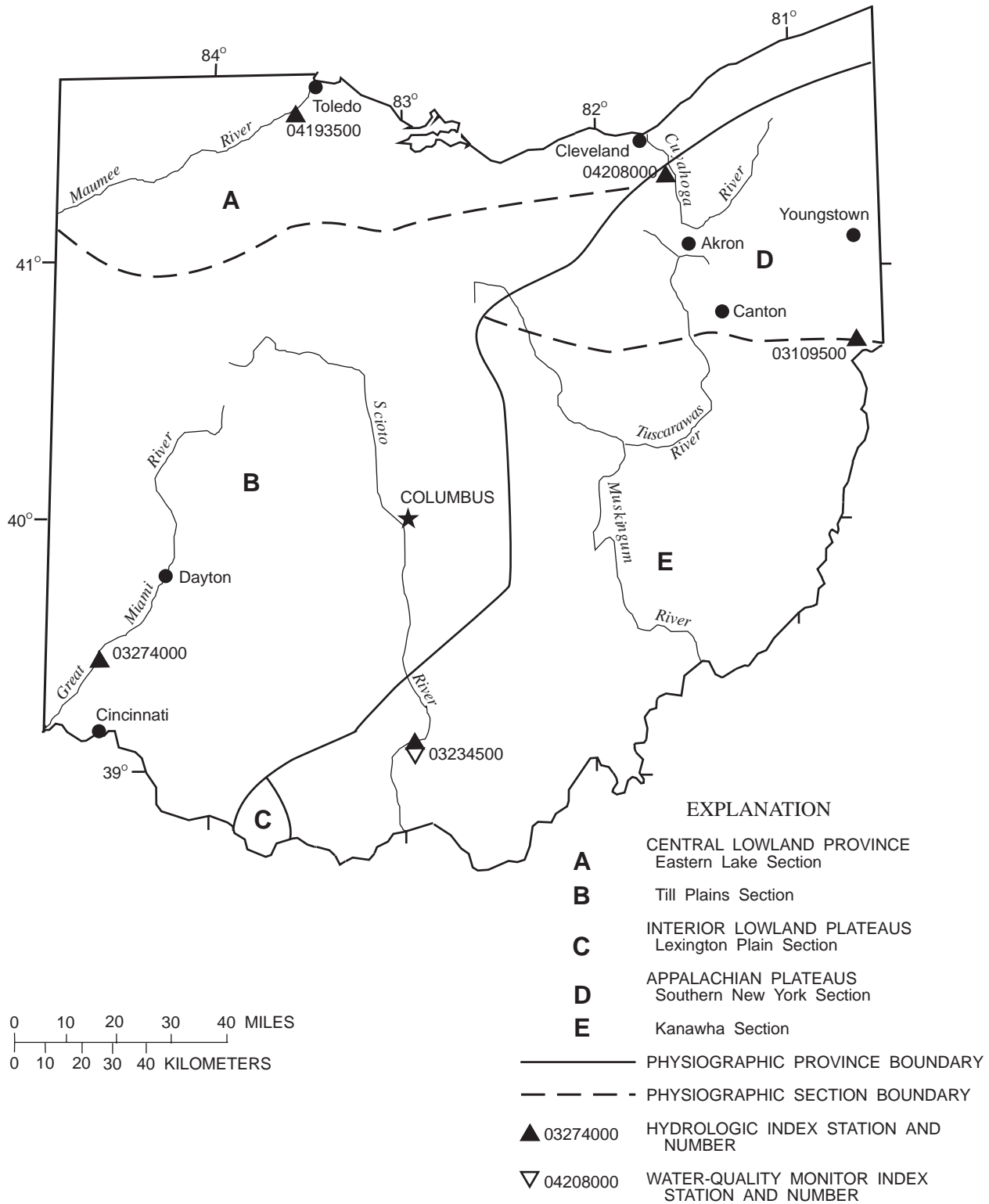


Figure 2. Physiographic divisions and location of Hydrologic Index Stations.

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<sup>1</sup> 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.

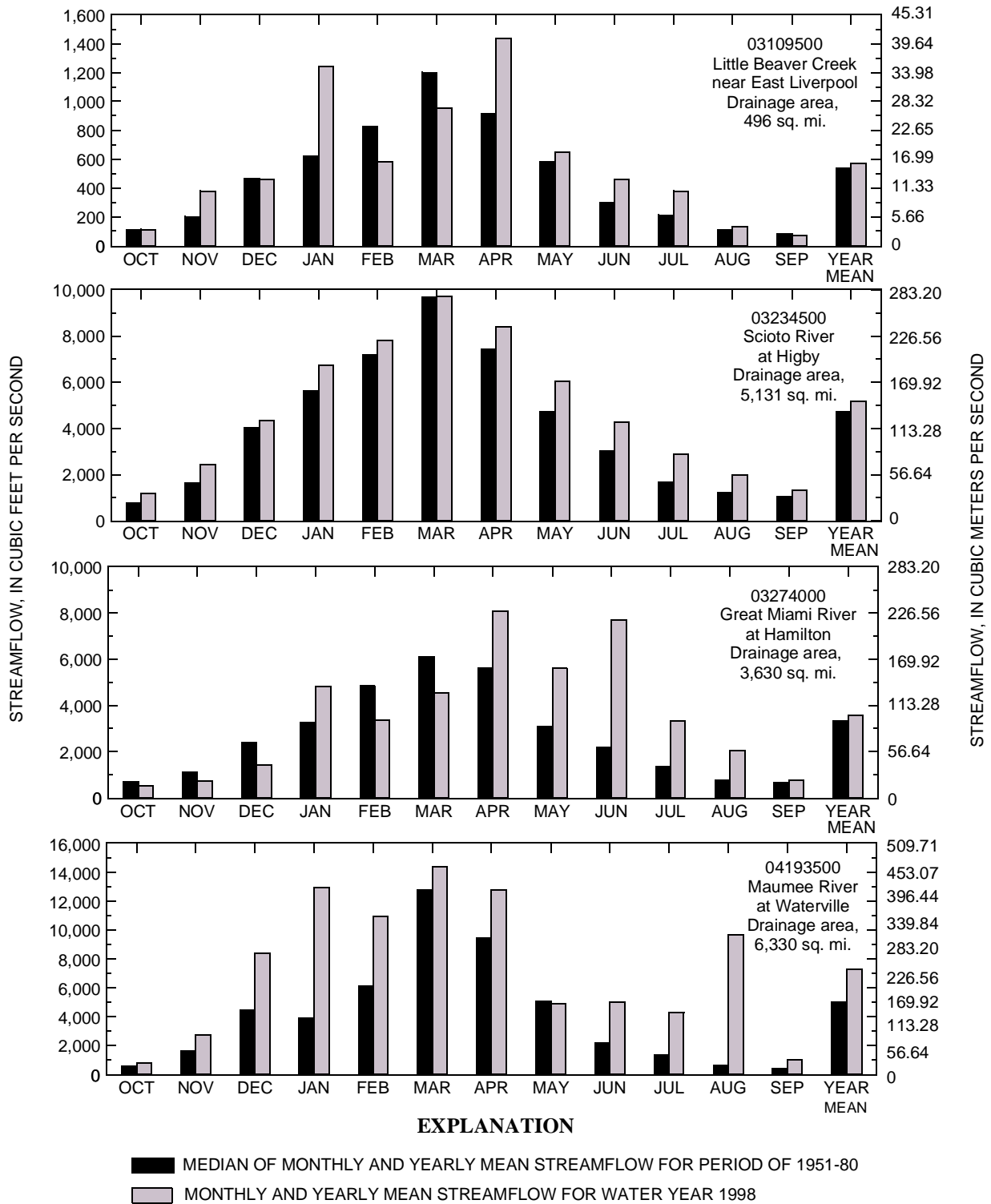
Streamflow was in the above-normal range statewide through July. Flows declined into the normal range in August, and by the end of the water year, streamflow was in the normal range statewide except for southwest Ohio, where it fell into the below-normal range.

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

<sup>1</sup>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 *Escherichia 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.

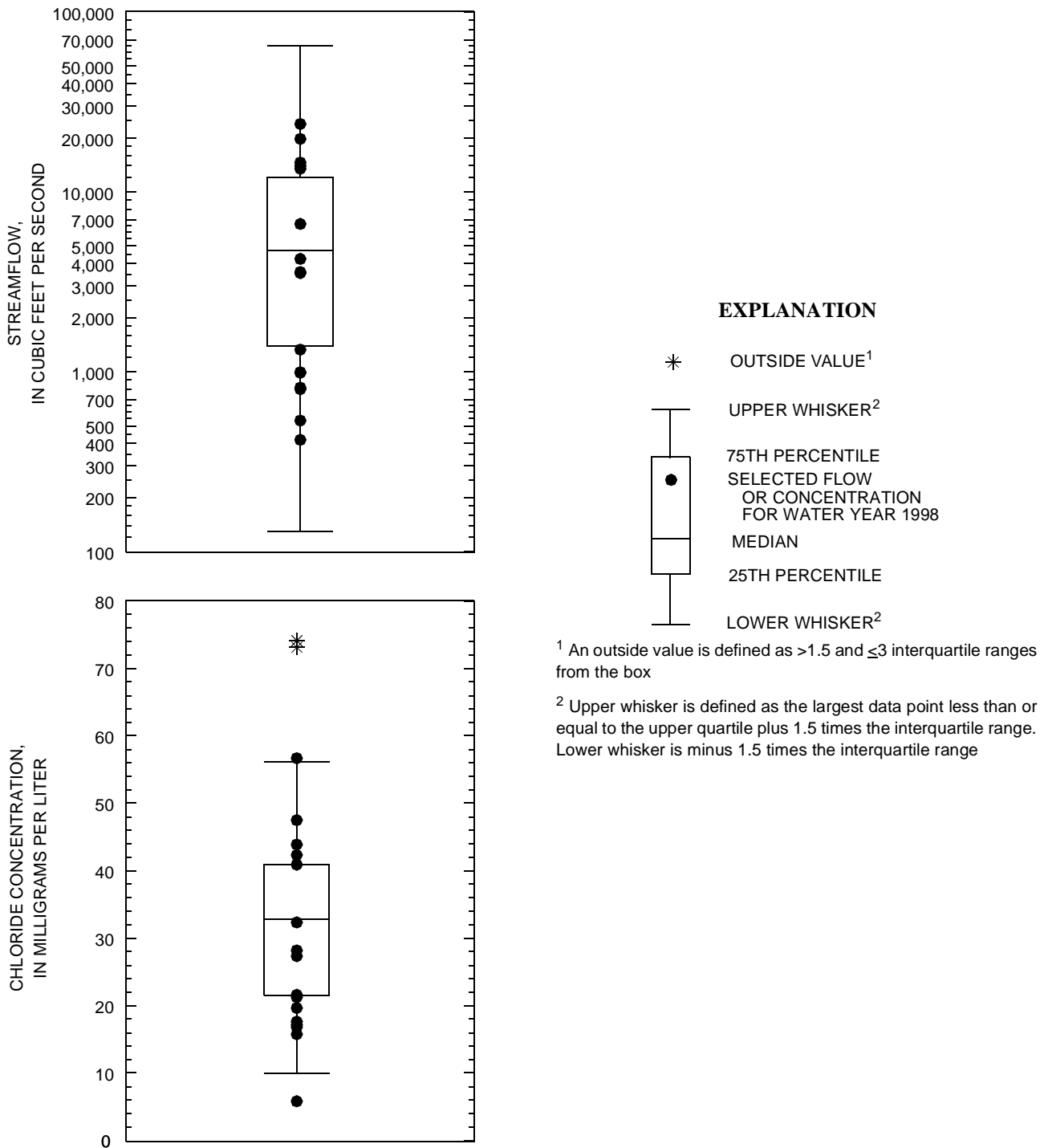
One sample collected during 1998 for nitrate plus nitrite concentrations exceeded the U.S. Environmental Protection Agency maximum contaminant level for finished drinking water (10 milligrams per liter, as N). In Ohio, fertilizers are a major source of nitrate. Concentrations in the Maumee River in 1998 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

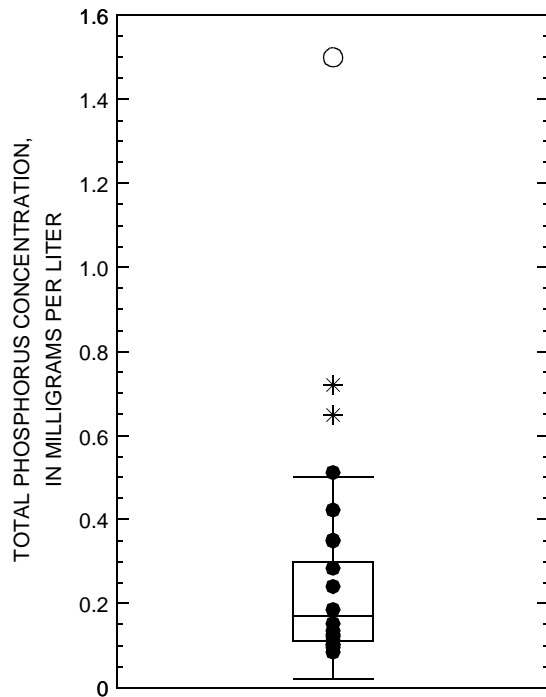
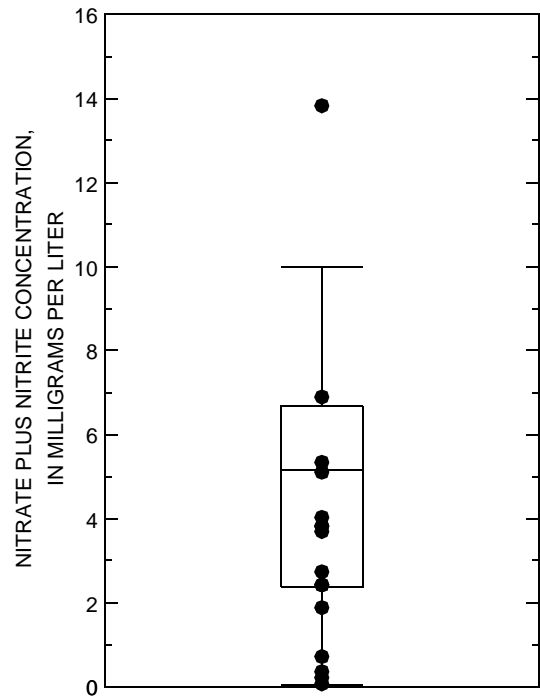
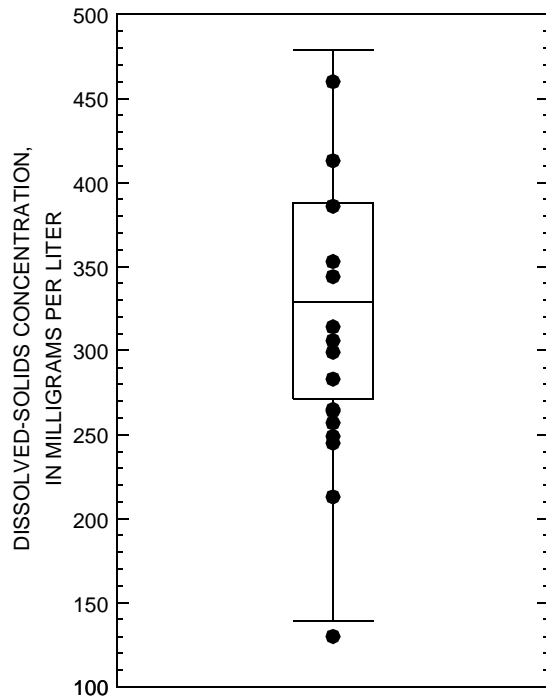
Ground water serves the needs of 46 percent of Ohio's population. An estimated 800 million gallons of ground water per day is withdrawn for public-supply, domestic, industrial, and agricultural purposes. Many people in Ohio depend on ground water as the only practical source of supply.

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

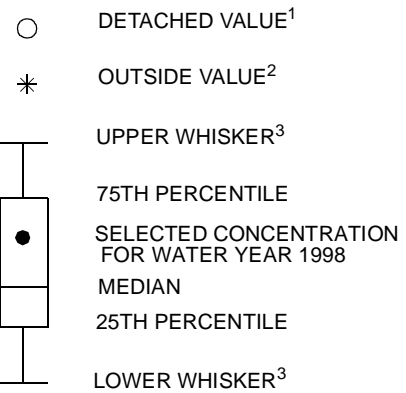


**Figure 4.** Streamflow and concentration of chloride measured in water year 1998 and the distribution of those characteristics from measurements made during water years 1988-97 for the Maumee River at Waterville.

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**EXPLANATION**



<sup>1</sup> A detached value is defined as a value that is greater than 3 times the interquartile range (beyond the box)

<sup>2</sup> An outside value is defined as  $>1.5$  and  $\leq 3$  interquartile ranges from the box

<sup>3</sup> Upper whisker is defined as the largest data point less than or equal to the upper quartile plus 1.5 times the interquartile range. Lower whisker is minus 1.5 times the interquartile range

**Figure 5.** Concentrations of dissolved solids, nitrate plus nitrite, and total phosphorus 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.

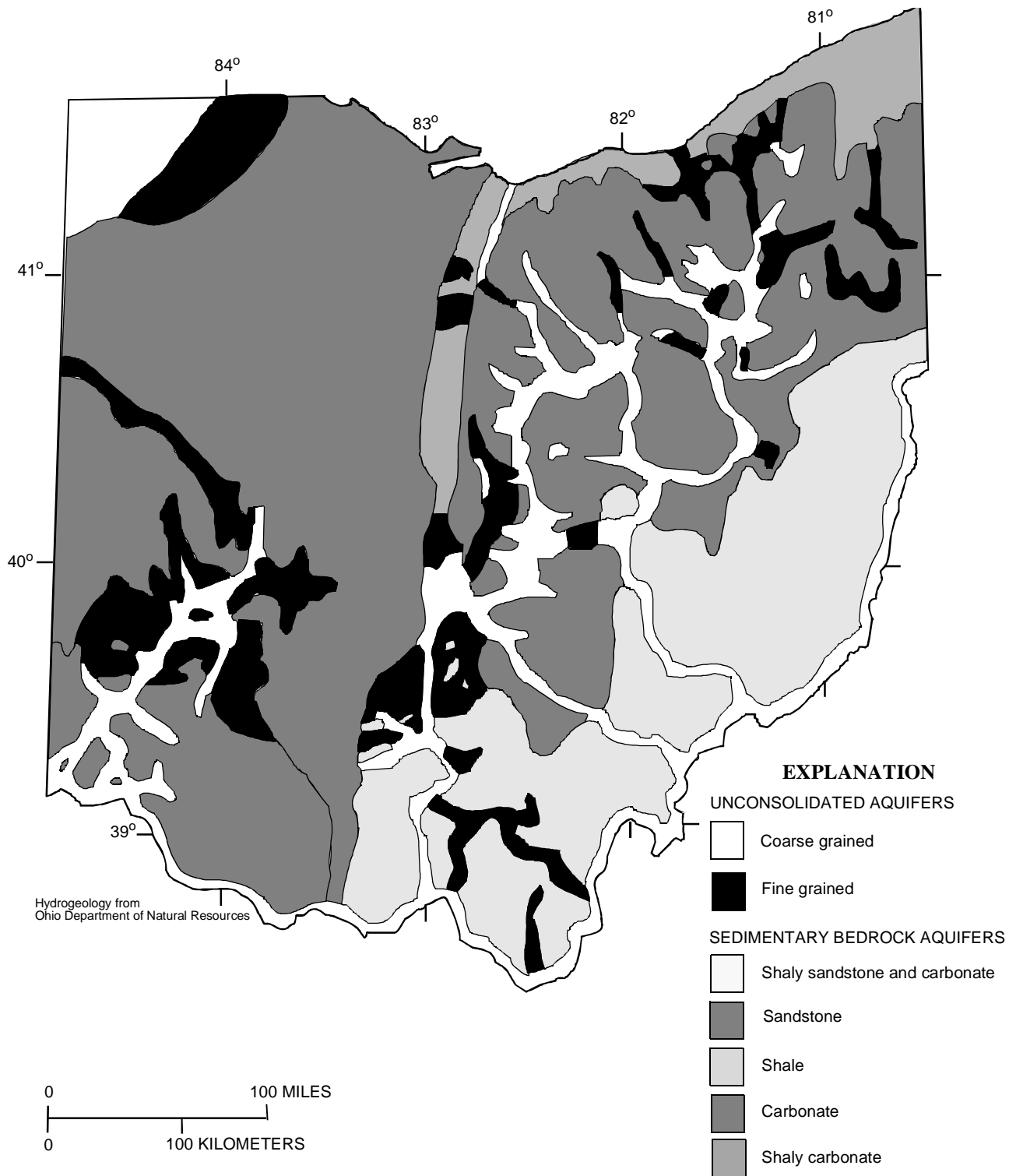


Figure 6. Geographic distribution of principal aquifers in Ohio.



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<sup>2</sup> 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.

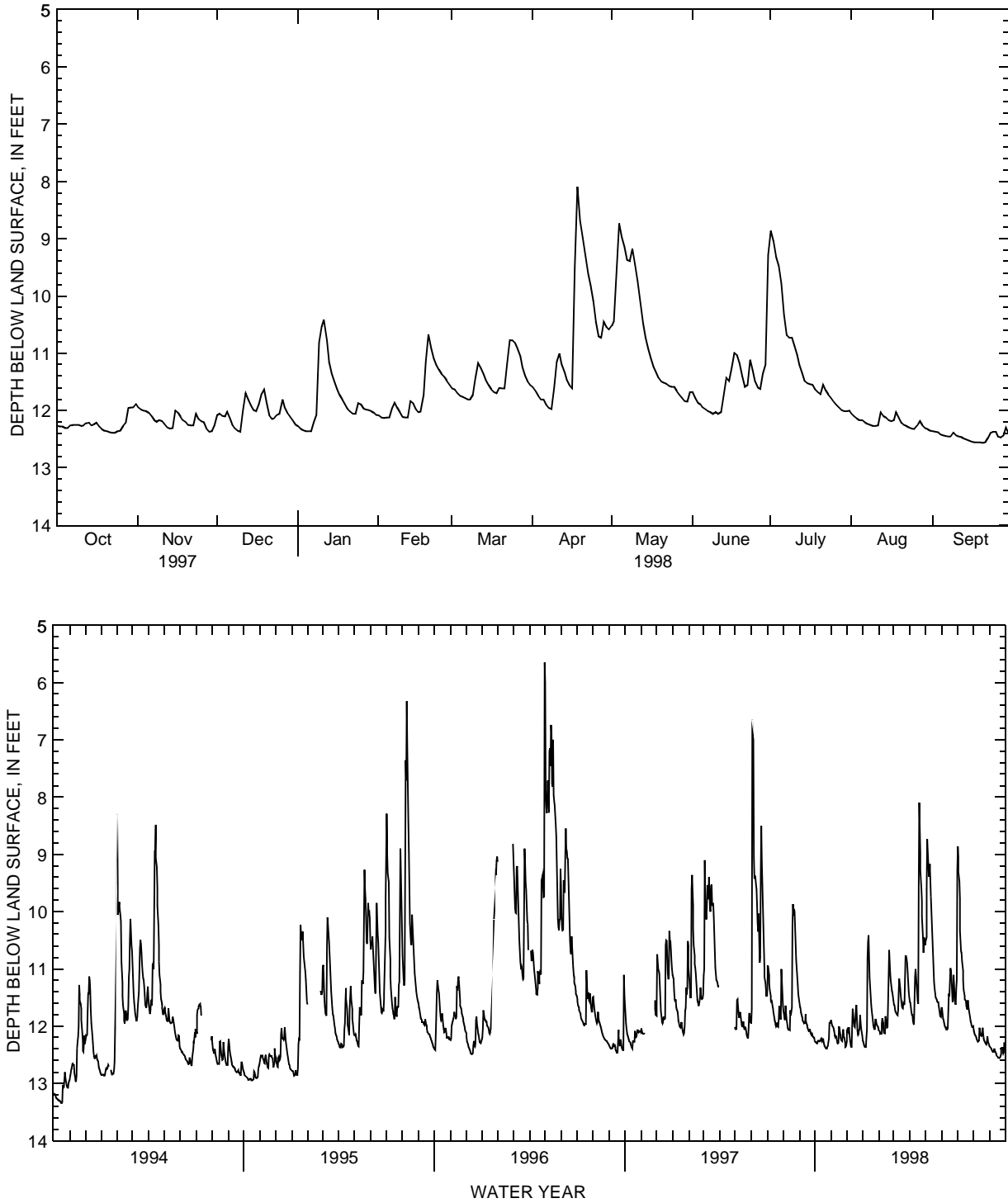
Water levels stabilized in December and rose into the above-normal range for much of the State in response to above-normal precipitation in January and February. Levels in eastern Ohio remained below normal.

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.

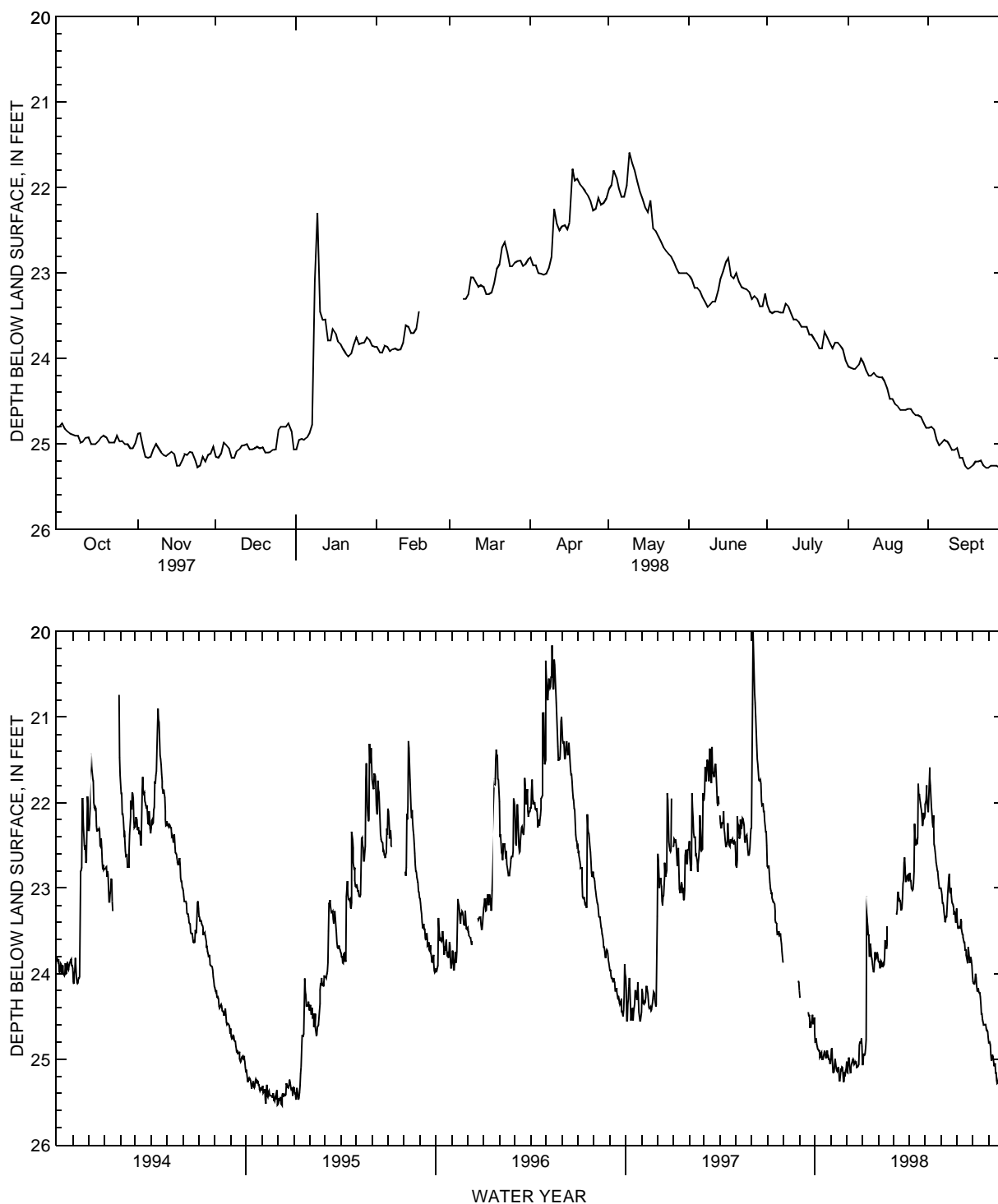
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<sup>2</sup>For ground-water levels, "normal" is defined as being between the 25th and 75th percentiles of the range values recorded during the reference period, 1960-75.



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

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**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<sub>2</sub> 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<sub>2</sub> and NO<sub>x</sub> 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://www.rvares.er.usgs.gov/nawqa/nawqa\\_home.html](http://www.rvares.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.

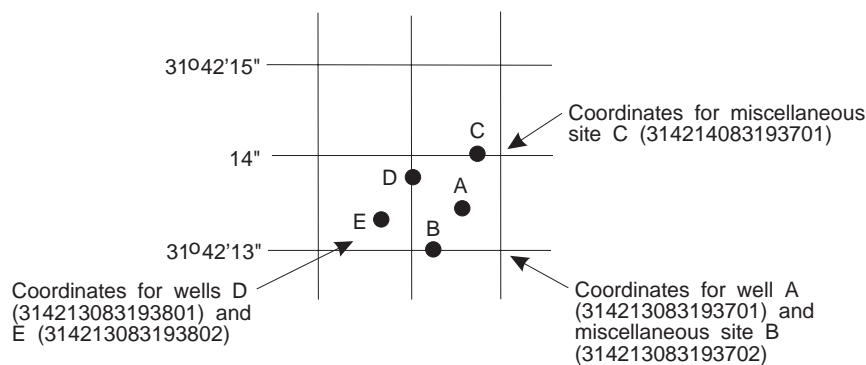
#### **Downstream Order System**

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 indentation in a "List of Stations" in the front of the report. Each indentation represents one rank. This downstream order and system of indentation show which stations are on tributaries between any two stations and the rank of the tributary on which each station is situated.

The station-identification number is assigned according to 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 digital recorders that 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 CF5M), 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<sup>3</sup>/s; to the nearest tenth between 1.0 and 10 ft<sup>3</sup>/s; to whole numbers between 10 and 1,000 ft<sup>3</sup>/s; and to three significant figures for more than 1,000 ft<sup>3</sup>/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 series of discrete values collected at short intervals and 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." 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

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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 ( $\mu\text{g/L}$ ) 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 ensure 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 accessed 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<sup>3</sup>) and periphyton and benthic organisms in grams per square meter (g/m<sup>2</sup>).

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<sup>3</sup>/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 ( $\text{CaCO}_3$ ).

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,  $\mu\text{g}/\text{kg}$ ) 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,  $\mu\text{g}/\text{g}$ ) 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,  $\mu\text{g}/\text{L}$ ) 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,  $\text{mg}/\text{L}$ ) 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 ( $\text{m}^2$ ), acres, or hectares.

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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 ( $1 \times 10^{-12}$ ) of the amount of radioactivity represented by a curie (Ci). A curie is the amount of radioactivity that yields  $3.7 \times 10^{10}$  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 [ $\text{mg C}/(\text{m}^2 \text{ or } \text{m}^3/\text{time})$ ] 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 [ $\text{mg O}_2/(\text{m}^2 \text{ or } \text{m}^3/\text{time})$ ] 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.



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

- 3-A11. *Measurement of discharge by 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 soluble 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.
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**SURFACE-WATER RECORDS**  
**Beaver River Basin**

**03091500 MAHONING RIVER AT PRICETOWN, OHIO**

LOCATION.--Lat 41°07'53", long 80°58'17", in T.2 N., R.5 W., Mahoning County, Hydrologic Unit 05030103, on left bank 0.3 mi downstream from Milton Dam, 0.5 mi southwest of Pricetown, and 3 mi upstream from Kale Creek.

DRAINAGE AREA.--273 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1929 to current year.

REVISED RECORDS.--WSP 728: 1930(M). WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 905.00 ft above sea level. Prior to Aug. 14, 1929, nonrecording gage at same site and datum.

REMARKS.--Records good. Flow regulated by Berlin Lake beginning 1942 and Milton Reservoir 1923. Diversion upstream from station from Berlin Lake for part of municipal supply of Mahoning Valley Sanitary District. Water-quality data collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 6,770 ft<sup>3</sup>/s Jan. 25, 1937, gage height, 15.01 ft, from rating curve extended above 4,200 ft<sup>3</sup>/s on basis of velocity-area studies.

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	180	118	112	180	250	82	119	1480	123	1170	167	226
2	170	118	111	180	250	82	49	1490	121	1470	165	234
3	151	118	111	180	170	84	48	1490	118	1470	163	234
4	151	118	111	177	124	84	48	1490	115	1160	163	246
5	151	118	111	132	124	84	49	1480	115	947	163	253
6	151	118	109	97	100	84	48	1480	116	695	163	253
7	151	117	109	136	86	84	49	1390	116	345	163	253
8	151	118	109	170	86	84	46	892	116	234	163	247
9	151	117	129	173	86	85	47	541	116	232	163	281
10	151	116	145	258	86	84	45	462	116	183	166	305
11	151	116	145	731	86	84	45	353	116	153	165	301
12	151	116	354	1330	86	84	45	280	117	153	171	297
13	151	116	485	1400	71	84	46	211	116	163	201	295
14	151	117	485	1400	75	82	47	146	114	170	219	294
15	151	116	377	1390	75	82	48	144	114	170	209	292
16	151	116	305	1380	75	82	54	143	111	170	211	324
17	151	116	303	1380	77	82	297	141	109	170	213	334
18	151	116	229	1370	78	83	736	140	123	170	208	332
19	151	116	180	1370	79	84	1050	139	154	170	201	332
20	151	116	180	1380	80	84	1380	137	165	170	201	332
21	151	114	180	1270	80	85	1440	136	165	174	199	359
22	151	114	180	1190	80	86	1440	135	178	173	201	374
23	151	114	180	1190	80	76	1440	135	187	173	204	373
24	151	114	180	1190	80	71	1440	133	187	172	207	372
25	151	114	180	1190	80	71	1440	131	187	172	211	371
26	151	113	291	922	80	372	835	131	185	172	212	368
27	147	111	353	599	82	759	402	131	185	172	214	365
28	130	114	353	350	82	534	1090	131	187	172	214	342
29	120	114	353	250	---	221	1440	129	370	172	214	326
30	118	114	353	250	---	174	1440	128	654	170	215	324
31	118	---	249	250	---	209	---	125	---	168	217	---
TOTAL	4607	3473	7052	23465	2788	4326	16703	15474	4896	11455	5946	9239
MEAN	149	116	227	757	99.6	140	557	499	163	370	192	308
MAX	180	118	485	1400	250	759	1440	1490	654	1470	219	374
MIN	118	111	109	97	71	71	45	125	109	153	163	226

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1998, BY WATER YEAR (WY)

MEAN	231	236	277	280	319	369	290	282	277	236	251	265
MAX	855	891	987	1059	1211	1098	867	1324	983	582	904	1134
(WY)	1991	1986	1997	1991	1959	1956	1994	1996	1947	1990	1958	1975
MIN	61.8	37.9	28.3	47.0	31.4	11.1	10.0	21.5	37.0	41.6	92.9	77.2
(WY)	1943	1966	1966	1966	1967	1944	1944	1943	1971	1982	1942	1942

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1942 - 1998

ANNUAL TOTAL	105901	109424	
ANNUAL MEAN	290	300	276
HIGHEST ANNUAL MEAN			490
LOWEST ANNUAL MEAN			131
HIGHEST DAILY MEAN	1370	1490	3370
LOWEST DAILY MEAN	34	45	.40
ANNUAL SEVEN-DAY MINIMUM	34	46	.94
INSTANTANEOUS PEAK FLOW		1510	4120
INSTANTANEOUS PEAK STAGE		5.75	10.62
INSTANTANEOUS LOW FLOW		45	.40
10 PERCENT EXCEEDS	752	932	680
50 PERCENT EXCEEDS	193	163	177
90 PERCENT EXCEEDS	41	82	60

## SURFACE-WATER RECORDS Beaver River Basin

### 03093000 EAGLE CREEK AT PHALANX STATION, OHIO

LOCATION.--Lat 41°15'40", long 80°57'16", Trumbull County, Hydrologic Unit 05030103, on right bank 75 ft downstream from county road bridge, 1 mi north of Phalanx Station, 2 mi downstream from Tinkers Creek, and 4 mi upstream from mouth.

DRAINAGE AREA.--97.6 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1926 to September 1934, October 1937 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 953: 1938-41. WSP 1385: 1927-30, 1931-32(M), 1934, 1938-41(P). WSP 1555: 1928(M), 1929. WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 887.14 ft above sea level (levels by Mahoning Valley Sanitary District). Prior to Sept. 14, 1929, nonrecording gage at same site and datum. Sept. 14, 1929, to Sept. 30, 1977, at same site and datum 0.28 ft higher.

REMARKS.--Records fair. Water-quality data collected at this site. U.S. Army Corps of Engineers satellite 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	28	20	95	53	67	146	87	164	32	38	15	17
2	27	25	71	55	59	153	136	208	30	29	15	17
3	20	31	55	76	56	105	99	395	27	23	14	16
4	18	33	70	136	52	103	78	450	26	21	15	16
5	16	33	93	176	49	118	67	654	24	22	14	16
6	17	29	70	120	46	94	59	181	24	21	14	15
7	16	28	60	129	42	73	54	119	24	20	15	15
8	15	47	57	1120	40	86	58	119	25	20	14	20
9	15	51	57	1800	38	422	275	132	24	21	14	20
10	14	45	126	1280	37	657	788	98	24	20	24	20
11	14	36	565	324	37	290	352	77	24	18	25	17
12	15	31	326	161	50	168	151	72	99	18	18	15
13	15	29	151	130	73	126	108	65	143	17	16	13
14	15	34	105	108	56	128	94	58	100	17	15	12
15	15	64	82	88	47	124	288	52	60	17	15	11
16	15	67	69	96	42	129	528	47	88	17	14	10
17	16	55	65	93	66	153	1910	43	57	17	14	10
18	15	40	61	82	366	191	575	38	40	18	14	10
19	15	33	61	73	299	211	229	36	32	17	13	10
20	15	35	56	69	179	161	533	33	30	16	13	10
21	15	43	53	65	156	236	366	32	26	16	13	10
22	15	45	50	60	115	324	167	30	24	46	12	11
23	18	55	151	105	91	193	120	29	23	56	13	11
24	16	41	157	303	80	131	95	29	23	38	12	9.9
25	16	30	171	166	67	100	80	29	23	23	18	9.8
26	17	26	175	111	57	93	293	29	21	19	69	9.9
27	32	26	119	96	53	88	1320	28	22	18	28	9.8
28	46	45	90	91	59	77	429	27	49	17	21	9.9
29	28	180	72	83	---	92	154	26	52	16	19	9.9
30	20	127	64	83	---	100	127	25	35	16	19	9.8
31	18	---	58	81	---	81	---	25	---	16	18	---
TOTAL	577	1384	3455	7413	2379	5153	9620	3350	1231	688	553	391.0
MEAN	18.6	46.1	111	239	85.0	166	321	108	41.0	22.2	17.8	13.0
MAX	46	180	565	1800	366	657	1910	654	143	56	69	20
MIN	14	20	50	53	37	73	54	25	21	16	12	9.8
CFSM	.19	.47	1.14	2.45	.87	1.70	3.29	1.11	.42	.23	.18	.13
IN.	.22	.53	1.32	2.83	.91	1.96	3.67	1.28	.47	.26	.21	.15

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1998, BY WATER YEAR (WY)

	46.4	86.8	140	164	201	239	197	121	71.4	49.1	31.0	40.3
MEAN	46.4	86.8	140	164	201	239	197	121	71.4	49.1	31.0	40.3
MAX	338	458	511	547	469	436	550	359	330	232	172	409
(WY)	1927	1986	1991	1952	1981	1963	1957	1984	1989	1958	1956	1926
MIN	8.31	12.3	18.5	26.3	10.3	68.6	37.1	10.6	10.5	8.09	7.16	7.14
(WY)	1964	1954	1964	1961	1934	1931	1946	1934	1933	1934	1962	1964

#### SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1926 - 1998	
ANNUAL TOTAL	44958		36194.0			
ANNUAL MEAN	123		99.2		115	
HIGHEST ANNUAL MEAN					170	
LOWEST ANNUAL MEAN					34.3	
HIGHEST DAILY MEAN	2070	Jun 2	1910	Apr 17	5500	Jan 22 1959
LOWEST DAILY MEAN	14	Oct 10	9.8	Sep 25	.90	Aug 4 1939
ANNUAL SEVEN-DAY MINIMUM	15	Oct 8	9.9	Sep 24	4.1	Jul 24 1934
INSTANTANEOUS PEAK FLOW			2610	Apr 17	8150	Sep 15 1979
INSTANTANEOUS PEAK STAGE			11.91	Apr 17a	13.71	Sep 15 1979
INSTANTANEOUS LOW FLOW			9.8	Sep 24	.90	Aug 4 1939
ANNUAL RUNOFF (CFSM)	1.26		1.02		1.18	
ANNUAL RUNOFF (INCHES)	17.14		13.80		15.97	
10 PERCENT EXCEEDS	253		179		262	
50 PERCENT EXCEEDS	58		45		45	
90 PERCENT EXCEEDS	18		15		13	

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





**SURFACE-WATER RECORDS**  
**Beaver River Basin**

**03097550 MAHONING RIVER AT OHIO EDISON POWER PLANT AT NILES, OHIO**

LOCATION.--Lat 41°10'21", long 80°45'26", Trumbull County, Hydrologic Unit 05030103, on right bank 20 ft downstream from Conrail Spur Line, 100 ft downstream from Meander Creek, 0.2 mi upstream from Belmont Road, 0.4 mi downstream from Mosquito Creek in Niles.

DRAINAGE AREA.--854 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1987 to current year.

GAGE.--Water-stage recorder. Datum of gage is 843.08 ft above sea level.

REMARKS.--Records fair. Water diverted upstream from station for municipal supply for cities of Niles, Warren, and Youngstown. Some sewage returned to river upstream from station. Water also diverted upstream and downstream from station for industrial use, some of which is returned to river upstream from station. Flow regulated by Berlin Lake, 37 mi upstream, beginning in 1942, by Milton Reservoir, 29 mi upstream, by Michael J. Kirwan Reservoir, 32 mi upstream on West Branch, beginning in 1966 by Mosquito Creek Lake, 11 mi upstream, beginning in 1943, by Meander Creek Reservoir. U.S. Army Corp of Engineers satellite 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	351	262	426	400	582	585	516	2990	375	727	502	355
2	359	257	359	344	561	819	499	2990	370	1230	501	367
3	338	250	318	367	544	679	427	3210	367	1370	486	374
4	308	246	358	494	452	576	372	3280	347	1370	476	373
5	308	244	381	640	396	577	347	3460	352	1010	489	366
6	297	246	370	559	389	555	319	3130	351	909	486	346
7	294	277	334	569	367	475	298	2850	358	658	483	399
8	293	316	319	3480	346	486	310	2650	350	440	482	415
9	295	313	311	5950	336	1110	1150	1970	360	369	488	412
10	288	296	625	5200	328	1960	3050	1450	364	386	687	370
11	286	276	1420	2420	332	1400	2010	1140	376	418	588	370
12	285	257	1220	1980	348	735	979	775	536	458	383	365
13	296	251	939	2680	368	566	637	591	721	464	299	357
14	295	351	807	2810	366	516	552	456	633	485	339	354
15	294	377	721	2750	343	492	1060	366	529	489	414	355
16	295	384	561	2710	331	503	3250	343	515	486	419	352
17	295	360	475	2620	416	504	5370	336	399	513	418	381
18	293	319	453	2490	871	553	3710	375	325	499	407	391
19	280	295	384	2260	1470	679	2410	383	342	494	405	408
20	277	290	335	2110	1110	684	4160	382	396	486	393	446
21	277	284	322	1920	921	978	4070	377	398	512	387	415
22	275	316	344	1640	692	1720	3230	372	381	640	382	421
23	265	313	463	1680	539	1020	2850	373	390	650	386	429
24	271	309	599	2220	469	694	2580	374	392	509	391	429
25	272	283	720	2050	428	523	2260	373	408	403	546	438
26	276	268	784	1730	398	491	3040	372	419	384	540	443
27	320	262	728	1280	383	771	4790	366	423	433	422	446
28	296	372	649	953	396	1010	3180	359	454	447	307	444
29	287	531	586	710	---	758	2540	357	481	439	344	420
30	258	552	553	615	---	555	2830	351	550	472	365	407
31	251	---	538	602	---	498	---	360	---	495	358	---
TOTAL	9075	9357	17402	58233	14482	23472	62796	37161	12662	18645	13573	11848
MEAN	293	312	561	1878	517	757	2093	1199	422	601	438	395
MAX	359	552	1420	5950	1470	1960	5370	3460	721	1370	687	446
MIN	251	244	311	344	328	475	298	336	325	369	299	346
MED	293	293	475	1920	397	585	2340	382	391	489	418	395
CFSM	.34	.37	.66	2.20	.61	.89	2.45	1.40	.49	.70	.51	.46
IN.	.40	.41	.76	2.54	.63	1.02	2.74	1.62	.55	.81	.59	.52

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

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	645	838	1013	1317	1206	1275	1120	975	1000	664	569	613
MAX	2074	1935	2736	3088	2853	2881	2946	3113	3117	1403	1147	1652
(WY)	1991	1993	1997	1993	1990	1993	1994	1996	1989	1990	1992	1990
MIN	247	212	272	268	333	493	540	293	293	370	407	326
(WY)	1989	1992	1992	1992	1992	1990	1988	1992	1992	1988	1988	1994

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1988 - 1998
ANNUAL TOTAL	324604	288706	
ANNUAL MEAN	889	791	
HIGHEST ANNUAL MEAN			935
LOWEST ANNUAL MEAN			1262
HIGHEST DAILY MEAN	5670	Jun 2	546
LOWEST DAILY MEAN	244	Nov 5	1992
ANNUAL SEVEN-DAY MINIMUM	251	Oct 31	9120
INSTANTANEOUS PEAK FLOW			May 12 1996
INSTANTANEOUS PEAK STAGE			183
INSTANTANEOUS LOW FLOW			Feb 9 1992
ANNUAL RUNOFF (CFSM)	1.04	.93	196
ANNUAL RUNOFF (INCHES)	14.14	12.58	196
10 PERCENT EXCEEDS	2080	2150	196
50 PERCENT EXCEEDS	506	428	196
90 PERCENT EXCEEDS	295	295	196

**SURFACE-WATER RECORDS**  
**Beaver River Basin**

**03098600 MAHONING RIVER BELOW WEST AVENUE AT YOUNGSTOWN, OHIO**

LOCATION.--Lat 41°06'18", long 80°39'46", Mahoning County, Hydrologic Unit 05030103, on left bank 200 ft below West Avenue Bridge, 0.4 mi upstream from Spring Common Bridge, 0.6 mi downstream from Mill Creek, in Youngstown.  
 DRAINAGE AREA.--978 mi<sup>2</sup>.

**WATER-DISCHARGE RECORDS**

PERIOD OF RECORD.--October 1987 to current year.  
 GAGE.--Water-stage recorder. Datum of gage is 824.10 ft above sea level.  
 REMARKS.--Records good except for periods of estimated record which are poor. Water diverted upstream from station for municipal supply for city of Youngstown. Some sewage returned to river upstream from station. Water also diverted upstream and downstream from station by a private company for industrial use, some of which is returned to river upstream from station. Flow regulated by Berlin Lake, 49 mi upstream, beginning in 1942, by Milton Reservoir, 41 mi upstream, by Michael J. Kirwan Reservoir, 44 mi upstream on West Branch, beginning in 1966 by Mosquito Creek Lake, 23 mi upstream, beginning in 1943, by Meander Creek Reservoir, 12 mi upstream, beginning in 1929, and by reservoir on Squaw Creek, 6 mi upstream, and 2 small reservoirs on Mill Creek 0.6 mi upstream. U.S. Army Corps of Engineers satellite 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	476	294	611	518	677	804	628	3370	e400	e1000	e500	e480
2	434	306	491	450	647	1040	616	3450	e390	e1500	e510	e490
3	392	288	424	495	623	862	520	e3600	e380	e1700	e490	e500
4	340	278	541	696	534	751	428	e3600	e380	e1700	e485	e500
5	335	274	549	841	484	744	382	e3800	e370	e1300	e480	e490
6	324	273	506	759	489	701	345	e3500	e370	e1100	e480	e470
7	317	349	445	982	438	592	317	e3300	e380	e960	e480	e560
8	312	491	416	6270	394	657	332	e2900	e380	e650	e475	e600
9	311	468	405	9060	378	1570	2130	e2300	e385	e460	e480	e540
10	313	404	980	7000	366	2490	4250	e1700	e390	e470	e660	e490
11	297	352	1870	3120	364	1760	2590	e1300	e440	e490	e600	e480
12	295	315	1540	2310	421	943	1280	e960	e600	e500	e500	e480
13	316	300	1100	3010	438	714	821	e710	e860	e490	e410	e470
14	319	597	933	3130	428	653	871	e560	e780	e495	e440	e460
15	313	638	841	3030	391	621	1800	e450	e660	e500	e485	e450
16	313	601	690	3030	379	618	6070	e400	e580	e490	e485	e450
17	310	503	593	2900	543	615	7340	e380	e540	e490	e485	e480
18	309	421	567	2740	1170	692	4610	e430	e400	e480	e480	e500
19	293	377	499	2470	1900	871	3210	e440	e420	e470	e475	e520
20	292	366	438	2290	1470	879	5470	e440	e480	e470	e460	e560
21	292	359	422	2100	1180	1500	4930	e430	e470	e500	e450	e520
22	294	440	451	1800	896	2380	3740	e425	e450	e700	e440	e540
23	275	425	639	2020	693	1460	3190	e420	e460	e710	e445	e540
24	279	395	750	2630	609	944	2850	e410	e460	e560	e540	e540
25	291	349	975	2380	548	687	2490	e410	e460	e460	e680	e540
26	299	335	989	1970	492	652	4290	e405	e480	e400	e660	e545
27	447	323	881	1480	462	899	6200	e410	e500	e450	e580	e560
28	358	659	788	1100	496	1170	3780	e400	e540	e460	e460	e570
29	326	825	719	842	---	936	2880	e390	e580	e470	e480	e540
30	277	789	684	732	---	698	3300	e380	e700	e485	e500	e530
31	263	---	657	711	---	600	---	e380	---	e500	e490	---
TOTAL	10012	12794	22394	72866	17910	30503	81660	42050	14685	21410	15585	15395
MEAN	323	426	722	2351	640	984	2722	1356	490	691	503	513
MAX	476	825	1870	9060	1900	2490	7340	3800	860	1700	680	600
MIN	263	273	405	450	364	592	317	380	370	400	410	450

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

MEAN	709	931	1171	1548	1390	1511	1375	1138	1177	781	630	707
MAX	2303	2117	3184	3608	3323	3456	3502	3639	3693	1932	1316	1881
(WY)	1991	1993	1997	1993	1990	1993	1994	1996	1989	1990	1992	1990
MIN	264	222	312	302	432	596	684	437	377	430	419	346
(WY)	1992	1992	1992	1992	1992	1990	1995	1992	1988	1988	1991	1991

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1988 - 1998
ANNUAL TOTAL	380409	357264	
ANNUAL MEAN	1042	979	1087
HIGHEST ANNUAL MEAN			1445
LOWEST ANNUAL MEAN			643
HIGHEST DAILY MEAN	7300	Jun 2	11400
LOWEST DAILY MEAN	263	Oct 31	181
ANNUAL SEVEN-DAY MINIMUM	282	Oct 31	202
INSTANTANEOUS PEAK FLOW		9680	Jan 9
INSTANTANEOUS PEAK STAGE		12.60	Jan 9
INSTANTANEOUS LOW FLOW		261	Oct 23
10 PERCENT EXCEEDS	2280	2490	2550
50 PERCENT EXCEEDS	595	503	585
90 PERCENT EXCEEDS	335	335	352

e Estimated.

**SURFACE-WATER RECORDS**  
**Beaver River Basin**

**03098600 MAHONING RIVER BELOW WEST AVENUE AT YOUNGSTOWN, OHIO—Continued**

WATER-QUALITY RECORDS

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

PERIOD OF DAILY RECORD--

SPECIFIC CONDUCTANCE: July 1992 to current year.

pH: July 1992 to current year.

WATER TEMPERATURES: June 1992 to current year.

DISSOLVED OXYGEN: July 1992 to current year.

INSTRUMENTATION: Data Collection Platform. Set for 1-hour interval.

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

EXTREMES FOR PERIOD OF RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 950 microsiemens Jan. 17, 1996; minimum, 189 microsiemens Aug. 1, 1992.

pH: Maximum, 8.8 units May 14, 23, 31, 1994; minimum, 7.0 units Apr. 15, 1994.

WATER TEMPERATURES: Maximum, 32.5°C Jul. 10, 1993 and Jul. 15, 1995; minimum, 1.0°C on several days during winter.

DISSOLVED OXYGEN: Maximum, 14.5 mg/L Apr. 18, 1996; minimum, 4.3 mg/L June 13, 1997, May 31 and June 23, 1998.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 689 microsiemens June 12; minimum, 227 microsiemens Apr. 18.

pH: Maximum, 8.0 units Apr. 7, 8; minimum, 7.2 units Apr. 11-13 and 17, 18.

WATER TEMPERATURES: Maximum, 31.0°C June 26; minimum, 2.5°C Jan. 19-22.

DISSOLVED OXYGEN: Maximum, 12.8 mg/L Jan. 21; minimum, 4.3 mg/L May 31 and June 23.

**SURFACE-WATER RECORDS**  
**Beaver River Basin**

**03098600 MAHONING RIVER BELOW WEST AVENUE AT YOUNGSTOWN, OHIO—Continued**

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	532	509	520	549	515	533	556	548	551	522	502	510
2	522	496	505	568	543	556	576	555	567	554	522	535
3	507	498	502	552	543	547	589	561	575	---	---	---
4	513	507	511	572	530	556	585	561	577	---	---	---
5	511	494	500	541	529	535	570	553	564	---	---	---
6	526	507	517	549	527	540	555	544	549	---	---	---
7	507	484	493	561	527	537	567	544	559	---	---	---
8	505	484	493	577	551	562	582	555	567	---	---	---
9	507	487	497	553	546	551	634	581	596	---	---	---
10	501	486	490	546	521	529	665	537	615	279	256	270
11	516	501	512	533	519	525	544	479	505	324	259	288
12	519	500	508	537	520	530	479	436	455	409	324	364
13	517	493	502	549	533	542	436	398	420	422	400	408
14	517	484	496	615	532	586	434	398	416	400	381	388
15	495	485	490	603	570	582	461	434	446	400	370	380
16	500	489	495	653	595	622	486	450	467	396	372	386
17	516	500	512	611	589	603	504	479	490	410	394	401
18	512	488	499	631	576	593	515	496	502	433	399	408
19	511	496	503	635	612	629	517	502	508	435	417	424
20	516	493	504	612	583	593	520	517	519	447	435	440
21	511	505	508	613	595	605	543	517	533	455	445	449
22	528	511	521	628	608	615	556	536	543	466	455	460
23	526	503	511	617	597	606	559	527	544	508	463	491
24	527	506	515	599	589	594	545	508	525	494	463	479
25	554	511	539	593	573	582	516	502	510	463	448	456
26	543	510	530	598	575	588	513	484	497	453	441	445
27	554	510	542	620	590	603	490	476	481	454	448	453
28	553	524	542	635	598	617	480	470	474	465	451	458
29	529	498	516	598	546	576	479	468	472	467	459	463
30	513	499	507	556	540	545	499	471	485	492	467	482
31	516	506	512	---	---	---	505	488	498	493	481	485
MONTH	554	484	509	653	515	573	665	398	516	554	256	430

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	495	482	487	558	509	532	528	515	522	367	361	364
2	488	474	480	525	463	484	547	521	531	374	365	368
3	511	481	494	463	455	456	526	504	514	371	341	360
4	525	505	510	501	457	481	534	525	531	343	334	338
5	589	525	555	501	481	491	553	532	544	348	314	335
6	589	569	583	501	492	497	558	540	549	353	314	334
7	602	582	593	515	498	504	560	543	551	364	353	358
8	612	589	597	531	513	520	596	553	568	376	363	368
9	623	604	613	531	461	497	609	410	540	382	369	374
10	622	616	619	463	388	422	410	353	377	383	373	374
11	642	617	629	388	337	364	366	308	331	390	374	379
12	669	640	653	365	337	351	353	312	329	415	390	403
13	669	649	656	421	365	387	379	353	365	437	415	426
14	670	653	663	473	421	452	414	372	389	460	437	445
15	653	630	642	515	467	487	430	406	416	658	460	487
16	651	624	630	553	515	540	421	293	366	520	490	504
17	662	632	654	534	518	524	353	232	303	521	512	517
18	632	542	590	566	522	534	268	227	241	542	517	531
19	558	454	500	670	508	544	357	268	314	534	513	519
20	454	439	446	509	478	490	361	343	353	539	509	526
21	461	446	453	499	463	490	344	325	333	530	510	516
22	459	446	453	463	431	443	364	339	353	520	508	514
23	475	458	466	461	447	451	377	364	370	513	505	509
24	492	464	480	470	448	457	387	375	380	533	509	522
25	497	475	485	---	---	---	399	387	391	520	505	509
26	515	497	507	506	475	489	403	347	384	510	503	505
27	521	506	516	497	472	486	350	280	325	520	501	511
28	560	521	539	468	448	455	280	234	248	504	492	499
29	---	---	---	483	459	466	358	263	316	582	492	511
30	---	---	---	484	467	476	367	358	363	530	517	522
31	---	---	---	515	477	499	---	---	---	586	505	518
MONTH	670	439	553	670	337	476	609	227	403	658	314	450

**SURFACE-WATER RECORDS**  
**Beaver River Basin**

**03098600 MAHONING RIVER BELOW WEST AVENUE AT YOUNGSTOWN, OHIO—Continued**

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	516	501	507	---	---	---	---	---	---	580	551	564
2	534	505	513	---	---	---	---	---	---	575	550	559
3	571	511	524	---	---	---	---	---	---	603	553	587
4	544	518	530	---	---	---	---	---	---	624	593	608
5	---	---	---	---	---	---	---	---	---	636	599	617
6	684	495	531	---	---	---	---	---	---	---	---	---
7	495	483	489	---	---	---	---	---	---	---	---	---
8	494	474	481	---	---	---	---	---	---	---	---	---
9	522	480	490	---	---	---	---	---	---	---	---	---
10	495	475	486	---	---	---	418	368	401	480	442	462
11	591	472	507	551	488	531	430	362	393	457	433	444
12	689	422	483	510	444	472	445	410	426	488	434	458
13	422	379	401	449	428	437	528	445	488	487	456	476
14	431	402	412	443	430	437	534	519	527	470	457	460
15	434	414	426	480	433	441	546	526	534	476	461	468
16	448	414	432	451	425	440	549	470	503	481	465	475
17	459	425	439	433	422	426	474	462	469	479	459	465
18	482	459	473	---	---	---	478	452	456	482	460	469
19	495	467	482	---	---	---	575	478	533	487	458	473
20	482	463	471	---	---	---	---	---	---	474	449	461
21	483	466	473	---	---	---	---	---	---	472	443	457
22	466	448	453	447	427	438	---	---	---	453	442	448
23	455	450	453	447	417	432	---	---	---	457	436	445
24	467	453	461	---	---	---	---	---	---	461	439	447
25	465	452	459	---	---	---	568	520	554	457	443	449
26	462	444	452	---	---	---	568	498	535	466	445	455
27	444	431	435	---	---	---	537	501	527	472	445	457
28	455	441	450	---	---	---	557	537	549	456	442	451
29	---	---	---	---	---	---	594	554	581	455	441	448
30	---	---	---	---	---	---	617	589	597	456	444	448
31	---	---	---	---	---	---	619	567	587	---	---	---
MONTH	689	379	471	551	417	450	619	362	509	636	433	483
YEAR	689	227	488									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, 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	7.7	7.5	7.6	7.5	7.5	7.5	7.5	7.5	7.5	7.7	7.6	7.7
2	7.6	7.5	7.5	7.5	7.5	7.5	7.6	7.5	7.5	7.7	7.7	7.7
3	7.6	7.4	7.5	7.5	7.4	7.5	7.6	7.5	7.5	7.7	7.6	7.6
4	7.6	7.5	7.5	7.4	7.4	7.4	7.6	7.5	7.5	7.6	7.6	7.6
5	7.6	7.4	7.5	7.5	7.4	7.4	7.6	7.5	7.5	7.6	7.6	7.6
6	7.6	7.4	7.5	7.4	7.4	7.4	7.6	7.5	7.6	7.6	7.5	7.6
7	7.5	7.4	7.4	7.4	7.4	7.4	7.6	7.6	7.6	7.6	7.5	7.6
8	7.4	7.4	7.4	7.4	7.4	7.4	7.6	7.6	7.6	---	---	---
9	7.4	7.3	7.4	7.4	7.4	7.4	7.7	7.6	7.6	---	---	---
10	7.4	7.3	7.4	7.4	7.4	7.4	7.7	7.6	7.6	7.4	7.3	7.4
11	7.4	7.3	7.4	7.4	7.4	7.4	7.6	7.6	7.6	7.4	7.4	7.4
12	7.4	7.3	7.4	7.4	7.4	7.4	7.6	7.5	7.6	7.6	7.4	7.5
13	7.4	7.3	7.4	7.4	7.4	7.4	7.5	7.5	7.5	7.6	7.6	7.6
14	7.4	7.3	7.3	7.5	7.4	7.4	7.6	7.5	7.5	7.7	7.6	7.7
15	7.4	7.3	7.4	7.5	7.5	7.5	7.7	7.6	7.7	7.7	7.6	7.7
16	7.4	7.3	7.4	7.5	7.5	7.5	7.7	7.7	7.7	7.6	7.6	7.6
17	7.4	7.4	7.4	7.5	7.5	7.5	7.7	7.6	7.6	7.6	7.6	7.6
18	7.4	7.4	7.4	7.6	7.5	7.5	7.7	7.6	7.6	7.6	7.6	7.6
19	7.4	7.4	7.4	7.6	7.5	7.5	7.7	7.6	7.6	7.7	7.6	7.6
20	7.4	7.4	7.4	7.6	7.5	7.5	7.7	7.6	7.6	7.7	7.6	7.6
21	7.4	7.4	7.4	7.6	7.5	7.5	7.7	7.6	7.6	7.7	7.6	7.6
22	7.5	7.4	7.4	7.5	7.5	7.5	7.6	7.6	7.6	7.7	7.6	7.7
23	7.5	7.4	7.5	7.5	7.5	7.5	7.7	7.6	7.6	7.7	7.6	7.6
24	7.5	7.4	7.4	7.5	7.5	7.5	7.7	7.7	7.7	7.6	7.6	7.6
25	7.5	7.4	7.4	7.7	7.5	7.6	7.7	7.7	7.7	7.6	7.6	7.6
26	7.5	7.4	7.4	7.6	7.5	7.6	7.7	7.6	7.6	7.6	7.6	7.6
27	7.5	7.4	7.5	7.6	7.5	7.6	7.7	7.6	7.6	7.6	7.6	7.6
28	7.5	7.4	7.5	7.6	7.5	7.6	7.7	7.6	7.7	7.6	7.5	7.5
29	7.5	7.4	7.5	7.6	7.5	7.5	7.7	7.6	7.7	7.6	7.5	7.5
30	7.6	7.4	7.5	7.5	7.5	7.5	7.7	7.6	7.7	7.5	7.5	7.5
31	7.6	7.5	7.5	---	---	---	7.7	7.6	7.6	7.6	7.5	7.5
MONTH	7.7	7.3	7.4	7.7	7.4	7.5	7.7	7.5	7.6	7.7	7.3	7.6



**SURFACE-WATER RECORDS**  
**Beaver River Basin**

**03098600 MAHONING RIVER BELOW WEST AVENUE AT YOUNGSTOWN, OHIO—Continued**

TEMPERATURE, WATER (DEG. C), 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	20.0	19.0	19.0	11.5	11.0	11.0	9.0	8.5	8.5	5.5	5.0	5.0
2	19.0	18.0	18.5	12.0	11.0	11.5	8.5	8.0	8.5	7.0	5.0	5.5
3	19.5	18.5	19.0	12.5	11.0	11.5	8.5	7.5	8.0	9.0	7.0	8.0
4	20.5	19.0	19.5	13.0	12.5	13.0	9.0	8.5	8.5	10.0	9.0	9.5
5	21.5	20.0	21.0	13.5	12.5	13.0	8.5	8.0	8.5	9.5	8.5	9.0
6	22.5	21.5	22.0	13.5	13.0	13.0	8.0	6.5	7.0	10.0	8.5	9.5
7	23.5	22.0	22.5	15.0	13.5	15.0	6.5	6.0	6.0	12.5	10.0	11.5
8	24.0	22.5	23.0	15.0	14.5	14.5	6.5	6.0	6.5	---	---	---
9	23.5	23.0	23.5	14.5	14.0	14.5	7.0	6.0	6.5	---	---	---
10	24.0	23.0	23.5	14.5	13.5	14.0	7.0	6.5	7.0	6.5	6.0	6.0
11	23.0	22.0	22.5	14.0	14.0	14.0	6.5	4.0	5.0	6.0	5.0	5.5
12	22.5	21.0	21.5	14.0	13.0	14.0	4.5	4.0	4.0	5.0	4.0	4.5
13	22.0	21.0	21.5	13.5	13.0	13.0	5.0	4.0	4.0	4.5	3.5	4.0
14	21.5	20.0	21.0	13.0	10.5	11.5	4.0	3.5	4.0	3.5	3.0	3.0
15	20.0	19.0	19.5	10.5	9.5	10.0	4.5	4.0	4.0	3.5	3.0	3.0
16	19.0	18.0	19.0	9.5	8.5	9.0	6.0	4.5	5.5	3.5	3.5	3.5
17	18.0	17.0	17.5	9.5	8.5	9.0	7.0	6.0	6.5	3.5	3.0	3.5
18	17.5	16.5	17.0	8.5	6.5	7.0	7.5	6.5	7.0	3.0	3.0	3.0
19	17.5	16.0	17.0	7.5	7.0	7.5	8.5	7.5	8.0	3.0	2.5	3.0
20	17.0	16.5	16.5	8.5	7.5	8.0	8.0	6.5	7.0	3.0	2.5	3.0
21	16.5	16.0	16.5	9.0	8.5	8.5	8.5	6.5	7.0	3.0	2.5	2.5
22	16.0	15.0	15.5	10.0	9.0	9.0	9.0	8.5	9.0	3.5	2.5	3.0
23	15.0	14.5	14.5	10.5	8.5	10.0	9.5	5.0	8.5	4.0	3.5	3.5
24	15.0	14.5	14.5	8.5	7.5	8.0	5.0	4.5	5.0	4.0	3.0	3.5
25	15.0	14.0	14.5	7.5	5.5	6.0	6.0	4.5	5.0	3.5	3.0	3.0
26	14.5	14.0	14.5	8.5	5.5	7.0	6.0	5.5	6.0	4.0	3.5	3.5
27	14.0	13.0	13.5	9.0	8.0	8.5	6.0	5.5	5.5	5.0	4.0	4.5
28	13.0	12.5	13.0	9.0	8.5	8.5	5.5	5.0	5.5	5.5	5.0	5.5
29	13.5	12.5	13.0	9.5	8.5	9.0	5.5	5.0	5.0	6.5	5.5	6.0
30	13.0	10.5	12.0	10.0	9.0	9.5	6.5	5.5	6.5	7.0	6.5	7.0
31	11.0	10.0	10.5	---	---	---	6.5	5.5	6.0	7.5	7.0	7.0
MONTH	24.0	10.0	18.0	15.0	5.5	10.5	9.5	3.5	6.5	12.5	2.5	5.0

TEMPERATURE, WATER (DEG. C), 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	7.5	6.5	7.0	11.5	9.5	10.5	21.0	20.0	20.5	15.5	15.0	15.0
2	7.5	6.5	7.0	9.5	8.0	9.0	20.0	17.5	19.0	15.5	14.5	15.0
3	8.0	7.0	7.5	8.0	7.5	7.5	18.0	17.0	17.5	15.5	14.5	15.0
4	7.5	7.5	7.5	8.5	7.0	7.5	17.0	15.5	16.0	16.5	15.5	16.0
5	8.0	7.0	7.5	9.5	8.5	9.0	15.5	13.5	14.5	16.5	16.0	16.5
6	8.5	7.0	8.0	9.5	8.5	9.0	14.0	12.0	13.0	17.0	15.5	16.5
7	9.0	7.5	8.5	10.0	8.5	9.5	13.0	11.5	12.0	17.0	16.5	17.0
8	8.0	6.5	7.5	10.5	8.5	10.0	18.5	12.5	16.0	17.0	16.0	16.5
9	7.0	6.0	6.5	11.0	8.5	9.5	18.5	13.5	17.0	17.0	16.0	16.5
10	8.0	6.5	7.0	8.5	6.5	7.0	13.5	12.0	12.5	17.0	17.0	17.0
11	10.5	7.5	9.5	6.5	5.5	6.0	13.0	11.5	12.5	17.5	16.5	17.0
12	11.0	10.0	10.5	6.0	5.0	5.5	14.5	12.5	13.5	17.5	16.5	17.0
13	10.5	9.5	10.0	6.5	5.5	6.0	16.0	13.5	14.5	19.0	17.0	18.0
14	10.5	9.5	10.0	7.0	6.5	7.0	17.0	16.0	16.5	22.0	18.5	20.5
15	10.0	9.0	9.5	8.0	7.0	7.5	17.5	15.5	16.5	24.5	21.5	23.0
16	10.5	9.5	10.0	8.5	6.5	7.5	15.5	13.0	14.0	26.0	24.5	25.0
17	10.5	10.0	10.0	7.0	6.0	6.5	14.0	13.5	13.5	27.5	25.0	26.0
18	11.5	8.5	10.5	10.0	7.0	8.5	14.0	13.0	13.5	28.0	25.5	27.0
19	8.5	6.0	7.0	10.5	10.0	10.5	14.0	12.5	13.5	28.5	26.5	27.5
20	7.5	6.0	7.0	10.5	10.0	10.5	12.5	11.5	12.0	28.5	26.0	27.0
21	8.0	7.5	7.5	10.5	7.5	9.5	13.5	12.0	12.5	28.0	26.5	27.0
22	8.5	7.5	8.0	7.5	5.5	6.0	14.5	13.0	14.0	27.0	25.5	26.0
23	9.5	8.5	9.0	7.0	5.0	6.0	15.0	14.0	14.5	26.5	24.5	25.5
24	10.5	9.5	10.0	8.5	7.0	8.0	15.0	14.0	14.5	25.5	24.0	24.5
25	10.5	10.0	10.0	10.0	8.0	9.0	15.5	14.0	15.0	25.0	24.0	24.0
26	11.0	10.0	10.5	13.0	10.0	11.5	15.5	12.5	14.0	25.0	23.0	24.0
27	11.5	10.5	11.0	16.0	12.5	14.5	12.5	11.5	12.0	25.5	23.0	24.5
28	12.0	11.0	11.5	15.0	13.0	14.0	13.0	11.0	12.0	26.5	24.5	25.5
29	---	---	---	16.0	13.5	15.0	14.5	13.0	13.5	27.0	25.5	26.5
30	---	---	---	17.5	15.5	16.5	15.0	14.0	14.5	28.5	26.5	27.5
31	---	---	---	20.0	17.5	18.5	---	---	---	28.0	27.5	28.0
MONTH	12.0	6.0	9.0	20.0	5.0	9.5	21.0	11.0	14.5	28.5	14.5	21.5



**SURFACE-WATER RECORDS**  
**Beaver River Basin**

**03098600 MAHONING RIVER BELOW WEST AVENUE AT YOUNGSTOWN, OHIO—Continued**

TEMPERATURE, WATER (DEG. C), 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	27.5	26.0	27.0	---	---	---	---	---	---	29.0	27.5	28.5
2	27.0	25.0	26.0	---	---	---	---	---	---	28.5	27.5	28.0
3	25.0	22.5	23.5	---	---	---	---	---	---	28.0	26.0	27.0
4	23.5	21.5	22.5	---	---	---	28.0	23.5	25.5	27.5	25.5	26.5
5	22.5	21.0	21.5	---	---	---	28.5	27.5	28.0	28.0	25.5	26.5
6	22.5	20.5	21.0	---	---	---	28.0	25.5	27.0	28.5	26.0	27.5
7	20.5	20.0	20.0	---	---	---	30.0	26.0	28.0	28.5	25.5	27.0
8	20.5	19.0	20.0	---	---	---	31.0	29.0	30.0	25.5	23.5	24.5
9	22.0	19.5	20.5	28.0	25.5	26.5	31.0	29.5	30.0	24.0	22.0	23.0
10	23.0	22.0	22.0	28.0	26.5	27.5	30.0	26.5	28.0	24.5	21.5	23.0
11	23.5	22.0	22.5	28.5	26.5	27.5	28.0	27.0	27.5	25.5	23.0	24.0
12	25.0	22.0	24.0	28.0	26.0	27.0	28.5	27.0	27.5	26.5	24.0	25.0
13	23.5	21.5	22.5	28.0	26.0	27.0	29.0	27.0	28.0	27.5	25.5	26.5
14	21.5	21.0	21.5	29.0	26.5	28.0	29.5	28.0	28.5	27.5	25.5	26.5
15	21.5	21.0	21.0	29.0	27.0	28.0	30.5	28.5	29.5	29.0	27.5	28.0
16	23.5	21.5	22.5	29.5	26.5	28.0	30.0	27.5	29.0	28.5	28.0	28.5
17	22.5	21.5	22.0	29.5	27.5	29.0	29.5	28.0	29.0	28.5	27.5	28.0
18	24.5	21.5	23.0	29.0	27.0	28.0	30.0	28.0	29.0	28.0	26.0	27.0
19	25.5	23.0	24.0	29.0	26.5	28.0	29.5	27.5	28.5	28.0	26.0	27.0
20	27.5	25.5	26.5	29.0	27.0	28.0	28.5	26.0	27.5	27.0	25.0	25.5
21	28.5	26.0	27.5	30.0	27.5	28.5	28.5	26.0	27.5	26.0	25.0	25.5
22	30.5	27.5	28.5	29.5	27.0	28.0	29.5	27.0	28.0	26.0	24.5	25.5
23	30.0	28.5	29.0	28.5	26.5	27.5	30.0	27.5	29.0	24.5	22.5	23.5
24	29.5	27.5	28.5	27.5	26.5	27.0	30.0	26.5	28.0	22.5	21.0	21.5
25	30.0	28.0	28.5	27.5	25.0	26.5	28.0	25.0	26.5	22.0	21.0	21.5
26	31.0	28.5	29.5	27.5	25.5	27.0	26.5	25.0	25.5	21.5	20.0	20.5
27	30.5	28.0	28.5	28.0	27.0	27.5	27.5	25.5	26.5	22.0	20.5	21.5
28	---	---	---	---	---	---	28.5	26.0	27.0	22.5	21.0	21.5
29	---	---	---	---	---	---	29.5	28.0	28.5	23.5	20.5	22.0
30	---	---	---	---	---	---	29.5	28.0	29.0	23.5	22.0	23.0
31	---	---	---	---	---	---	29.0	27.5	28.5	---	---	---
MONTH	31.0	19.0	24.0	30.0	25.0	27.5	31.0	23.5	28.0	29.0	20.0	25.0
YEAR	31.0	2.5	16.0									

OXYGEN DISSOLVED (MG/L), 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	9.2	7.3	7.9	9.1	8.4	8.8	9.6	9.1	9.3	11.9	11.1	11.5
2	8.9	7.4	8.0	8.8	8.1	8.5	9.6	9.2	9.4	11.9	11.0	11.4
3	8.9	7.5	8.0	8.6	7.8	8.4	9.7	9.0	9.4	11.1	10.5	10.7
4	9.0	7.4	8.0	8.0	7.6	7.8	9.4	9.0	9.2	10.6	10.2	10.3
5	8.7	7.0	7.7	8.9	7.8	8.2	9.7	9.2	9.4	11.0	10.4	10.7
6	8.6	6.8	7.4	8.7	7.8	8.2	10.1	9.4	9.8	10.7	10.2	10.4
7	7.8	6.6	7.1	7.8	7.2	7.5	10.5	9.9	10.2	10.3	9.2	9.7
8	7.3	6.3	6.8	8.1	7.5	7.9	10.5	10.1	10.3	---	---	---
9	7.1	6.2	6.5	8.5	7.9	8.1	10.8	10.2	10.4	---	---	---
10	6.6	5.9	6.3	8.3	7.8	8.0	10.5	10.0	10.2	10.9	10.5	10.7
11	6.9	5.9	6.3	8.3	7.8	7.9	11.9	10.5	11.3	11.4	10.7	11.1
12	7.0	6.2	6.5	8.4	7.8	8.0	11.9	11.7	11.8	11.9	11.2	11.6
13	7.1	6.0	6.5	8.0	7.0	7.6	11.9	11.5	11.7	12.0	11.7	11.8
14	7.1	6.1	6.6	8.0	6.7	7.4	11.9	11.6	11.8	12.1	11.8	11.9
15	7.1	6.3	6.7	8.5	8.0	8.3	12.0	11.5	11.8	12.5	11.8	12.1
16	7.3	6.5	6.9	9.1	8.5	8.8	11.8	10.8	11.4	12.3	12.0	12.1
17	7.9	6.9	7.3	9.3	8.7	8.9	11.0	10.5	10.8	12.3	12.0	12.2
18	8.1	7.2	7.6	9.9	8.8	9.4	10.8	10.2	10.5	12.4	12.1	12.2
19	8.0	7.2	7.5	9.9	9.3	9.5	10.5	9.9	10.2	12.6	12.1	12.3
20	7.8	7.1	7.4	9.8	9.3	9.5	10.8	9.9	10.3	12.6	12.2	12.4
21	8.5	7.1	7.7	9.7	9.0	9.3	10.6	9.6	10.3	12.8	12.1	12.5
22	8.6	7.8	8.1	9.5	8.9	9.1	9.6	9.1	9.4	12.7	12.2	12.5
23	9.0	8.0	8.4	9.7	8.7	9.2	11.0	9.2	9.8	12.5	12.0	12.2
24	8.8	8.1	8.4	10.2	9.4	9.8	11.1	10.7	10.9	12.3	11.9	12.1
25	8.6	8.2	8.4	10.6	9.8	10.2	11.3	10.5	11.0	12.4	12.0	12.1
26	8.3	7.9	8.2	9.9	8.9	9.5	11.0	10.4	10.7	12.3	11.7	12.1
27	9.1	7.9	8.6	9.6	8.8	9.1	11.0	10.7	10.9	12.1	11.5	11.8
28	9.3	8.4	8.8	9.3	8.7	9.0	11.2	10.8	11.0	11.7	11.1	11.4
29	9.2	8.4	8.8	9.4	9.1	9.2	11.5	10.8	11.2	11.3	10.6	11.0
30	10.1	8.4	9.2	9.2	8.8	9.0	11.1	10.6	10.7	10.9	10.3	10.6
31	10.2	9.0	9.6	---	---	---	11.2	10.5	10.9	10.8	10.3	10.5
MONTH	10.2	5.9	7.7	10.6	6.7	8.7	12.0	9.0	10.5	12.8	9.2	11.5





**SURFACE-WATER RECORDS**  
**Yellow Creek Basin**

**03110000 YELLOW CREEK NEAR HAMMONDSVILLE, OHIO**

LOCATION.--Lat 40°32'16", long 80°43'31", in sec. 29, T.8 N., R.2 W., Jefferson County, Hydrologic Unit 05030101, on right bank 1,000 ft upstream from Lowery Run, 0.9 mi upstream from Brush Creek and 1.6 mi southwest of Hammondsville.

DRAINAGE AREA.--147 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1940 to current year.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 692.10 ft above sea level (Ohio State Highway Department benchmark).

REMARKS.--Records fair. Water-quality and sediment data collected at this site. U.S. Army Corps of Engineers satellite 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	38	15	136	70	151	492	145	334	273	769	17	23
2	31	15	113	110	142	397	136	450	149	344	15	19
3	25	36	92	72	133	330	118	633	98	211	14	17
4	21	37	101	66	125	283	110	534	77	146	13	16
5	18	36	118	59	138	240	102	706	65	128	13	15
6	16	34	105	58	145	207	93	602	62	99	12	14
7	13	34	95	83	131	185	87	469	54	81	11	14
8	12	100	86	1740	131	218	98	752	48	123	11	18
9	11	160	79	2070	127	427	236	969	43	119	10	23
10	9.4	161	131	1180	124	509	459	673	44	81	10	19
11	8.6	128	444	629	125	380	299	494	49	65	11	17
12	8.2	68	270	439	151	304	232	452	58	54	12	14
13	8.1	48	194	364	175	256	198	365	109	46	12	13
14	8.1	158	151	300	160	239	181	291	174	41	10	13
15	8.1	299	121	260	149	207	179	237	100	37	9.1	12
16	8.0	185	101	272	144	176	469	201	121	37	8.5	11
17	8.0	119	91	240	173	158	754	171	126	36	8.1	11
18	7.2	89	80	218	365	157	467	142	99	34	7.9	10
19	7.2	74	76	193	837	175	495	124	78	30	7.0	10
20	7.2	64	68	181	603	162	803	110	78	31	6.8	9.5
21	7.2	59	62	159	423	340	625	98	58	39	6.4	12
22	6.9	56	58	154	320	704	467	87	48	30	6.3	13
23	6.8	68	73	240	266	497	365	80	42	42	5.5	13
24	6.9	60	75	366	250	368	295	73	39	48	11	11
25	8.0	52	101	319	214	291	248	72	36	33	287	11
26	10	46	131	273	187	251	344	69	33	26	386	11
27	33	46	120	242	172	221	1300	62	225	23	93	11
28	60	50	109	220	217	199	663	55	315	21	51	11
29	33	130	99	203	---	184	468	52	148	18	36	10
30	22	152	96	193	---	170	379	115	428	18	32	9.9
31	16	---	83	171	---	153	---	76	---	18	27	---
TOTAL	482.9	2579	3659	11144	6278	8880	10815	9548	3277	2828	1159.6	411.4
MEAN	15.6	86.0	118	359	224	286	361	308	109	91.2	37.4	13.7
MAX	60	299	444	2070	837	704	1300	969	428	769	386	23
MIN	6.8	15	58	58	124	153	87	52	33	18	5.5	9.5
CFSM	.11	.58	.80	2.45	1.53	1.95	2.45	2.10	.74	.62	.25	.09
IN.	.12	.65	.93	2.82	1.59	2.25	2.74	2.42	.83	.72	.29	.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1941 - 1998, BY WATER YEAR (WY)

MEAN	47.2	95.6	172	220	276	351	298	214	119	66.1	48.6	37.1
MAX	242	611	879	745	649	848	627	538	588	266	492	232
(WY)	1991	1986	1991	1952	1956	1945	1948	1956	1989	1958	1980	1975
MIN	4.92	5.08	10.8	20.8	23.6	55.1	75.9	40.0	10.1	6.12	3.95	2.33
(WY)	1954	1992	1964	1977	1954	1969	1941	1988	1988	1965	1962	1963

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1941 - 1998

ANNUAL TOTAL	52471.4	61061.9										
ANNUAL MEAN	144	167								162		
HIGHEST ANNUAL MEAN										266		1980
LOWEST ANNUAL MEAN										73.9		1992
HIGHEST DAILY MEAN	1260	May 26				2070	Jan 9			6440	Jan 27	1952
LOWEST DAILY MEAN	6.8	Oct 23				5.5	Aug 23			.80	Sep 25	1963
ANNUAL SEVEN-DAY MINIMUM	7.1	Oct 18				6.9	Aug 17			.80	Sep 25	1963
INSTANTANEOUS PEAK FLOW						2460	Jan 9a			9580	Jan 27	1952
INSTANTANEOUS PEAK STAGE						6.58	Jan 9			12.17	Jan 27	1952
INSTANTANEOUS LOW FLOW						5.3	Aug 23			.80	Sep 24	1963
ANNUAL RUNOFF (CFSM)	.98					1.14				1.10		
ANNUAL RUNOFF (INCHES)	13.28					15.45				14.99		
10 PERCENT EXCEEDS	360					427				388		
50 PERCENT EXCEEDS	105					98				76		
90 PERCENT EXCEEDS	11					11				11		

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

## SURFACE-WATER RECORDS

### Short Creek Basin

#### 03111500 SHORT CREEK NEAR DILLONVALE, OHIO

LOCATION.--Lat 40°11'36", long 80°44'04", in sec. 30, T.4 N., R.2 W., Jefferson County, Hydrologic Unit 05030106, on right bank 350 ft downstream from bridge on State Highway 150, 2.1 mi east of Dillonvale, 2.2 mi downstream from Jug Run, and 2.9 mi upstream from Little Short Creek.

DRAINAGE AREA.--123 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1941 to current year.

REVISED RECORDS.--WSP 1003: 1942-43. WSP 1907: Drainage area. WDR-OH-82-1: 1981.

GAGE.--Water-stage recorder. Datum of gage is 675.1 ft above sea level (State of Ohio benchmark). Prior to Oct. 21, 1982, at datum 1.00 ft higher; prior to Oct. 21, 1941, nonrecording gage at same site at 676.1 ft datum.

REMARKS.--Record fair except for periods of estimated record, which are poor. Water-quality and sediment data collected at this site. U.S. Army Corps of Engineers satellite telemeter at station. Water year 1986 streamflow records published in water year 1987 report.

#### 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	58	45	141	e43	109	418	132	194	167	721	61	69
2	54	53	117	e80	106	274	128	392	113	352	55	62
3	43	46	103	73	101	235	120	504	100	270	52	57
4	38	49	126	70	102	213	116	400	97	226	49	52
5	35	48	115	64	127	193	112	363	92	203	48	51
6	32	43	101	79	133	178	107	319	94	173	47	49
7	30	62	94	146	126	167	104	274	87	158	45	62
8	29	202	87	1480	136	222	121	862	82	315	42	135
9	29	166	84	1350	129	348	293	512	82	207	41	85
10	29	100	158	489	123	302	267	382	125	164	58	70
11	28	82	221	319	124	228	175	319	106	141	60	61
12	26	75	145	252	166	193	150	322	135	126	50	54
13	26	68	122	228	158	178	139	272	213	116	45	51
14	26	481	108	189	140	175	135	239	209	110	43	48
15	27	243	96	177	128	160	130	216	156	113	42	47
16	25	143	89	173	124	148	204	199	206	113	40	46
17	25	105	83	155	150	142	221	184	264	105	39	45
18	25	85	77	147	483	144	166	168	188	95	39	44
19	25	76	75	135	619	149	280	157	368	90	35	43
20	25	70	72	129	330	145	445	153	211	93	32	41
21	24	66	69	118	267	317	272	143	151	88	32	47
22	24	144	70	114	222	386	223	132	128	84	31	66
23	25	126	81	225	203	252	197	126	116	90	42	59
24	26	93	76	223	202	209	177	127	109	89	103	45
25	36	77	114	176	176	184	165	170	98	77	421	49
26	40	75	104	155	160	174	191	132	95	73	433	49
27	88	68	91	143	156	164	374	122	201	67	150	43
28	63	119	e80	136	313	153	223	114	605	64	110	45
29	49	178	e66	129	---	151	197	110	1150	64	91	44
30	43	137	e55	126	---	141	201	117	892	66	82	39
31	41	---	e46	117	---	134	---	113	---	73	85	---
TOTAL	1094	3325	3066	7440	5313	6477	5765	7837	6640	4726	2503	1658
MEAN	35.3	111	98.9	240	190	209	192	253	221	152	80.7	55.3
MAX	88	481	221	1480	619	418	445	862	1150	721	433	135
MIN	24	43	46	43	101	134	104	110	82	64	31	39
CFSM	.29	.90	.80	1.95	1.54	1.70	1.56	2.06	1.80	1.24	.66	.45
IN.	.33	1.01	.93	2.25	1.61	1.96	1.74	2.37	2.01	1.43	.76	.50

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1998, BY WATER YEAR (WY)

	53.0	76.4	117	158	204	248	224	173	117	79.2	62.9	51.5
MEAN	53.0	76.4	117	158	204	248	224	173	117	79.2	62.9	51.5
MAX	195	515	414	469	459	725	489	391	422	331	610	305
(WY)	1955	1986	1991	1950	1975	1945	1961	1967	1989	1990	1980	1974
MIN	13.8	13.8	12.1	20.9	24.8	54.7	69.3	51.4	28.1	17.4	11.5	8.62
(WY)	1954	1954	1944	1967	1954	1969	1946	1976	1988	1954	1945	1947

#### SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1942 - 1998	
ANNUAL TOTAL	40367		55844		130	
ANNUAL MEAN	111		153		46.1	
HIGHEST ANNUAL MEAN					225	
LOWEST ANNUAL MEAN					1980	
HIGHEST DAILY MEAN	801	Jan 6	1480	Jan 8	3620	Mar 6 1945
LOWEST DAILY MEAN	24	Oct 21	24	Oct 21	2.8	Sep 21 1947
ANNUAL SEVEN-DAY MINIMUM	25	Oct 16	25	Oct 16	4.9	Dec 14 1943
INSTANTANEOUS PEAK FLOW			2780	Jan 8a	8200	Jun 15 1990
INSTANTANEOUS PEAK STAGE			8.07	Jan 8	12.27	Jun 15 1990
INSTANTANEOUS LOW FLOW			24	Oct 20	2.8	Sep 21 1947
ANNUAL RUNOFF (CFSM)	.90		1.24		1.06	
ANNUAL RUNOFF (INCHES)	12.21		16.89		14.36	
10 PERCENT EXCEEDS	212		285		270	
50 PERCENT EXCEEDS	86		117		80	
90 PERCENT EXCEEDS	32		42		23	

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

## SURFACE-WATER RECORDS

### Wheeling Creek Basin

#### 03111548 WHEELING CREEK BELOW BLAINE, OHIO

LOCATION.--Lat 40°04'01", long 80°48'31", Belmont County, Hydrologic Unit 05030106, on left bank at bridge on Pease Township Road 320 near U.S. Route 40, 0.5 mi east of Blaine, and 4.8 mi upstream from mouth.

DRAINAGE AREA.--97.7 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1982 to September 1987, October 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 699.11 ft above sea level. Prior to Oct. 1, 1988, at datum 1.00 ft higher.

REMARKS.--Records fair. U.S. Army Corps of Engineers satellite telemeter at station. 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	80	37	126	61	97	334	94	174	150	396	78	53
2	71	41	98	70	96	220	91	561	101	287	72	51
3	66	37	87	66	92	192	85	563	85	241	68	50
4	65	39	103	64	96	174	85	341	82	217	67	46
5	64	38	95	61	121	159	78	297	79	203	67	46
6	63	37	85	70	142	145	75	246	78	180	68	46
7	62	41	79	276	132	136	72	259	74	166	61	60
8	60	106	73	1270	120	204	83	801	71	218	58	70
9	60	93	71	1510	109	318	194	384	70	233	58	64
10	58	57	147	405	103	228	171	277	94	160	66	56
11	53	47	161	267	103	173	122	236	86	143	73	49
12	47	42	113	213	139	153	105	217	94	131	64	47
13	40	45	102	202	133	142	99	191	220	126	58	44
14	35	528	95	170	114	140	98	172	224	118	53	43
15	27	205	90	159	106	129	97	156	199	114	53	42
16	25	128	83	152	105	118	163	145	323	115	52	43
17	23	101	71	137	137	112	167	136	246	114	50	45
18	24	86	68	131	646	114	123	125	139	106	46	44
19	23	80	66	122	549	113	255	119	439	99	38	43
20	22	76	64	117	278	119	337	117	170	99	34	44
21	21	70	63	113	223	189	205	110	123	99	33	52
22	21	180	66	112	189	214	180	104	105	95	32	56
23	21	129	72	245	173	146	167	101	96	90	37	54
24	22	95	73	180	174	128	150	98	91	94	318	50
25	31	78	111	145	153	116	142	102	85	89	483	55
26	34	73	90	131	138	110	196	98	154	84	117	51
27	67	66	79	122	133	108	299	94	1490	79	83	49
28	42	179	73	117	375	103	179	89	3360	77	69	52
29	33	179	69	112	---	98	159	121	1220	75	64	52
30	34	134	70	109	---	97	177	158	600	125	61	56
31	32	---	66	103	---	91	---	109	---	102	59	---
TOTAL	1326	3047	2709	7012	4976	4823	4448	6701	10348	4475	2540	1513
MEAN	42.8	102	87.4	226	178	156	148	216	345	144	81.9	50.4
MAX	80	528	161	1510	646	334	337	801	3360	396	483	70
MIN	21	37	63	61	92	91	72	89	70	75	32	42
CFSM	.44	1.04	.89	2.32	1.82	1.59	1.52	2.21	3.53	1.48	.84	.52
IN.	.50	1.16	1.03	2.67	1.89	1.84	1.69	2.55	3.94	1.70	.97	.58

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1998, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998		
MEAN	46.3	68.8	108	162	159	206	159	168	142	92.6	60.1	51.7
MAX	138	107	395	294	243	330	279	344	345	230	127	95.2
(WY)	1991	1994	1991	1991	1990	1993	1994	1996	1998	1990	1997	1990
MIN	17.9	23.7	44.4	51.5	67.9	85.8	82.8	76.4	34.7	35.8	29.3	24.6
(WY)	1989	1992	1989	1992	1992	1990	1992	1992	1992	1991	1993	1995

#### SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	FOR 1999 WATER YEAR	FOR 2000 WATER YEAR
ANNUAL TOTAL	42101	53918		
ANNUAL MEAN	115	148		
HIGHEST ANNUAL MEAN			119	1998
LOWEST ANNUAL MEAN			148	1992
HIGHEST DAILY MEAN	1240	Aug 18	3900	Jan 28 1994
LOWEST DAILY MEAN	21	Oct 21	11	Oct 8 1988
ANNUAL SEVEN-DAY MINIMUM	22	Oct 18	12	Oct 2 1988
INSTANTANEOUS PEAK FLOW		5470	Jun 28a	Jun 28 1998
INSTANTANEOUS PEAK STAGE		8.21	Jun 28	Jun 28 1998
INSTANTANEOUS LOW FLOW		17	Oct 23	Sep 21 1985
ANNUAL RUNOFF (CFSM)	1.18	1.51		1.21
ANNUAL RUNOFF (INCHES)	16.03	20.53		16.49
10 PERCENT EXCEEDS	201	243	230	
50 PERCENT EXCEEDS	84	99	75	
90 PERCENT EXCEEDS	40	44	28	

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







**SURFACE-WATER RECORDS**  
**Muskingum River Basin**

**03115969 MONTROSE RUN AT MONTROSE, OHIO**

LOCATION.--Lat 41°07'51", long 81°38'25", Summit County, Hydrologic Unit 05040001, on left bank of small pond at the Windsong Care Center at 120 Brookmont Dr., 0.25 mi west of Cleveland-Massillon Road, 0.4 mi southwest of intersection of State Route 18 and I-77, 1.6 mi northwest of Akron corporate boundary.

DRAINAGE AREA.--0.263 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1, 1992, to current year (station discontinued).

GAGE.--Water-stage recorder. Datum of gage is 989 ft above sea level, from topographic map.

REMARKS.--Record 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	.00	.00	.03	.00	.01	.17	.60	.48	.00	.11	.00	.00
2	.00	.00	.00	.01	.00	.04	.07	1.4	.44	.03	.00	.00
3	.00	.00	.27	.04	.00	.17	.02	3.1	.07	.00	.00	.00
4	.00	.00	.22	1.1	.00	.23	.01	1.8	.00	.00	.00	.00
5	.00	.00	.03	.07	.00	.06	.00	.16	.00	.00	.00	.00
6	.00	.00	.00	.33	.00	.04	.00	.08	.00	.00	.00	.00
7	.00	.28	.11	3.5	.00	.03	.00	.17	.00	.03	.00	1.9
8	.00	.16	.09	3.0	.00	.82	.71	.17	.00	.99	.00	2.4
9	.00	.06	.03	2.6	.00	2.6	2.7	.05	.00	.04	.37	.28
10	.00	.00	2.3	.15	.00	.40	.39	.03	.01	.00	.83	.03
11	.00	.00	.26	.07	.11	.11	.01	.01	.00	.00	.05	.01
12	.00	.00	.08	.05	.71	.14	.00	.00	3.8	.00	.01	.00
13	.00	.00	.03	.13	.04	.08	.00	.00	1.3	.00	.00	.00
14	.00	.77	.01	.04	.02	.09	1.5	.00	.04	.00	.00	.00
15	.00	.27	.00	.17	.00	.12	.10	.00	1.0	.39	.00	.00
16	.00	.10	.00	.06	.29	.07	4.3	.00	.64	.12	.00	.00
17	.00	.02	.00	.02	3.9	.17	.98	.00	.13	.02	.00	.00
18	.00	.00	.00	.02	.86	.32	.04	.00	.04	.00	.00	.00
19	.00	.00	.00	.02	.27	.17	1.0	.00	.14	.09	.00	.00
20	.00	.00	.00	.02	.38	.91	.32	.00	.01	.06	.00	.00
21	.00	.00	.00	.01	.12	1.2	.05	.00	.00	.96	.00	1.1
22	.00	.15	.68	.01	.06	.13	.11	.00	.00	2.9	.00	.04
23	.00	.01	.17	1.1	.07	.08	.13	.00	.00	1.8	.00	.01
24	.00	.00	.33	.09	.06	.05	.13	.00	.00	.05	3.7	.00
25	.00	.00	.59	.04	.05	.04	.07	.00	.00	.01	7.8	.00
26	1.2	.00	.08	.02	.04	.07	4.7	.00	.20	.00	.20	.00
27	.90	.00	.02	.02	.16	.04	.34	.00	.59	.00	.04	.00
28	.02	2.6	.00	.01	.04	.17	.12	.00	1.4	.00	.01	.00
29	.00	.16	.00	.01	---	.11	.08	.00	.97	.00	.10	.00
30	.00	.07	.00	.05	---	.02	.28	.00	1.7	.00	.01	.00
31	.00	---	.01	.02	---	.01	---	.00	---	.00	.00	---
TOTAL	2.12	4.65	5.34	12.78	7.19	8.66	18.76	7.45	12.48	7.60	13.12	5.77
MEAN	.068	.16	.17	.41	.26	.28	.63	.24	.42	.25	.42	.19
MAX	1.2	2.6	2.3	3.5	3.9	2.6	4.7	3.1	3.8	2.9	7.8	2.4
MIN	.00	.00	.00	.00	.00	.01	.00	.00	.00	.00	.00	.00
CFSM	.26	.60	.66	1.59	.99	1.07	2.41	.92	1.60	.94	1.63	.74
IN.	.30	.67	.76	1.83	1.03	1.24	2.68	1.07	1.79	1.09	1.88	.83

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1998, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
MEAN	.17	.35	.29	.47	.26	.42	.52	.28	.40	.16	.23	.21
MAX	.39	.63	.65	.62	.40	.66	.74	.55	.52	.26	.42	.49
(WY)	1997	1994	1997	1996	1997	1993	1994	1997	1996	1995	1998	1996
MIN	.006	.16	.066	.24	.069	.25	.22	.082	.29	.009	.001	.053
(WY)	1995	1995	1996	1997	1993	1995	1997	1993	1993	1993	1993	1994

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1993 - 1998

ANNUAL TOTAL	99.71	105.92		
ANNUAL MEAN	.27	.29	.31	
HIGHEST ANNUAL MEAN			.39	1996
LOWEST ANNUAL MEAN			.25	1995
HIGHEST DAILY MEAN	8.4	7.8	8.4	Jun 1 1997
LOWEST DAILY MEAN	.00	.00	.00	Oct 1 1992
ANNUAL SEVEN-DAY MINIMUM	.00	.00	.00	Oct 1 1992
INSTANTANEOUS PEAK FLOW		59	71	Aug 9 1995
INSTANTANEOUS PEAK STAGE		12.61	12.84	Aug 9 1995
INSTANTANEOUS LOW FLOW		.00	.00	Oct 2 1996
ANNUAL RUNOFF (CFSM)	1.05	1.12	1.21	
ANNUAL RUNOFF (INCHES)	14.27	15.15	16.40	
10 PERCENT EXCEEDS	.70	.90	.84	
50 PERCENT EXCEEDS	.04	.01	.04	
90 PERCENT EXCEEDS	.00	.00	.00	

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

## SURFACE-WATER RECORDS Muskingum River Basin

### 03115970 SCHOCALOG RUN AT MONTROSE, OHIO

LOCATION.--Lat 41°07'37", long 81°37'54", Summit County, Hydrologic Unit 05040001, on northeast bank of small pond located at Rosemont Country Club golf course, about 300 feet north of Elgin Drive, about 700 feet east of Cleveland-Massillon Road, 1.2 miles west northwest of Akron corporate boundary, 1.2 miles southeast of intersection of SR-18 and I-77, at Fairlawn.

DRAINAGE AREA.--1.59 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1, 1993, to current year (station discontinued).

GAGE.--Water-stage recorder. Datum of gage is 981 ft above sea level, from topographic map.

REMARKS.--Record fair except for discharges less than 2.0 ft<sup>3</sup>/s, which are poor. Flow affected by pumping from gage pool to water golf course.

#### 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	1.0	.36	.36	.82	1.3	3.1	4.3	1.1	3.1	.33	.41
2	1.3	1.2	.30	.43	e.77	.68	1.4	10	3.1	.78	.16	.66
3	.93	1.1	.78	.64	e.74	.91	.93	10	2.2	.53	.07	.54
4	1.0	1.1	2.0	5.0	e.72	1.5	.93	23	1.1	.47	.02	.55
5	.95	.87	.47	1.5	.88	.71	.77	4.8	1.0	.47	.22	.57
6	.33	.59	.32	2.2	.92	.58	.72	3.7	.99	.42	.23	.48
7	.69	1.7	.59	12	.63	.54	.72	3.6	.93	.61	.21	7.3
8	.75	1.3	.78	30	.58	4.7	3.4	3.7	1.0	4.3	.16	10
9	.62	.62	.79	18	.56	19	12	2.8	.88	1.1	.78	3.3
10	1.1	.13	13	3.3	.56	5.7	5.7	2.5	1.5	.52	3.2	1.3
11	1.2	.00	4.3	1.9	1.1	1.8	1.9	2.3	.97	.31	.83	.99
12	1.1	.00	2.8	2.1	4.2	1.5	1.4	2.3	7.9	.28	.45	.89
13	1.0	.00	1.9	3.2	1.4	1.2	1.2	2.0	11	.18	.29	.82
14	1.3	2.3	1.5	2.6	.90	1.3	6.5	1.6	1.6	.13	.17	.68
15	1.0	1.1	1.6	2.5	.70	1.4	3.9	1.4	4.7	.47	.18	.45
16	.88	.59	1.8	1.9	1.5	1.1	24	1.0	4.3	.82	.19	.59
17	.09	.18	1.4	1.0	21	1.4	10	1.0	1.8	.27	.39	.68
18	.02	.03	.89	e.87	10	2.4	2.8	.94	.63	.19	.29	.53
19	1.5	.02	.81	.82	4.1	1.4	5.6	.77	.79	.34	.13	.77
20	1.2	.02	.18	e.78	3.8	4.5	4.8	.72	.39	.21	.12	.79
21	.98	.01	.12	e.74	2.6	9.9	2.4	.78	.25	1.0	.20	3.9
22	1.2	.56	2.3	e.72	1.9	1.9	2.1	.85	.15	13	.37	.96
23	.97	.12	2.1	5.7	1.9	1.2	2.0	.76	.59	9.7	.23	.69
24	.75	.03	1.3	2.1	.79	1.2	1.6	1.0	.30	1.8	16	.63
25	.96	.02	3.8	1.4	.69	.78	1.5	1.1	.08	.98	47	.70
26	2.7	.02	1.2	1.1	.63	.88	20	.71	.87	.77	22	.63
27	6.1	.03	.53	1.0	1.1	1.0	8.4	.60	2.2	.25	1.4	.63
28	1.5	11	.40	.96	.73	1.3	2.5	.52	4.5	.48	1.3	.57
29	1.3	2.2	.40	.93	---	1.8	2.5	.85	6.2	.48	1.4	.59
30	1.1	.58	.47	1.1	---	1.1	3.8	.90	7.4	.46	.99	.52
31	1.0	---	.81	.92	---	.93	---	1.2	---	.40	.78	---
TOTAL	37.12	28.42	50.00	107.77	66.22	75.61	138.57	91.70	70.42	44.82	100.09	42.12
MEAN	1.20	.95	1.61	3.48	2.37	2.44	4.62	2.96	2.35	1.45	3.23	1.40
MAX	6.1	11	13	30	21	19	24	23	11	13	47	10
MIN	.02	.00	.12	.36	.56	.54	.72	.52	.08	.13	.02	.41
CFSM	.75	.60	1.01	2.19	1.49	1.53	2.91	1.86	1.48	.91	2.03	.88
IN.	.87	.66	1.17	2.52	1.55	1.77	3.24	2.15	1.65	1.05	2.34	.99

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1998, BY WATER YEAR (WY)

MEAN	1.48	2.37	2.25	3.51	2.28	2.74	3.90	2.66	2.94	1.29	1.88	1.60
MAX	2.65	4.28	5.55	4.31	3.79	4.27	5.54	4.07	3.85	1.69	3.23	3.35
(WY)	1997	1994	1997	1996	1997	1994	1996	1996	1994	1998	1996	1996
MIN	.33	.81	.84	2.60	.95	1.63	2.07	.98	2.33	.76	.67	.49
(WY)	1995	1995	1996	1997	1995	1995	1995	1994	1995	1997	1996	1994

#### SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	FOR 1994 WATER YEAR	FOR 1995 WATER YEAR	FOR 1996 WATER YEAR	FOR 1997 WATER YEAR	FOR 1998 WATER YEAR
ANNUAL TOTAL	868.77	852.86					
ANNUAL MEAN	2.38	2.34	2.41	3.01	1.64	1.97	1.95
HIGHEST ANNUAL MEAN							
LOWEST ANNUAL MEAN							
HIGHEST DAILY MEAN	48	Jun 1	47	Aug 25	53	Jan 28	1994
LOWEST DAILY MEAN	.00	Nov 11	.00	Nov 11	.00	Jun 14	1994
ANNUAL SEVEN-DAY MINIMUM	.11	Nov 19	.11	Nov 19	.02	Aug 26	1994
INSTANTANEOUS PEAK FLOW			78	Aug 25a	101	Apr 12	1994
INSTANTANEOUS PEAK STAGE			13.58	Aug 25	14.30	Apr 12	1994
INSTANTANEOUS LOW FLOW			.00	Oct 6	.00	Apr 22	1994
ANNUAL RUNOFF (CFSM)	1.50	1.47			1.51		
ANNUAL RUNOFF (INCHES)	20.33	19.95			20.56		
10 PERCENT EXCEEDS	4.4	4.8			4.8		
50 PERCENT EXCEEDS	1.4	.98			1.1		
90 PERCENT EXCEEDS	.33	.23			.28		

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

**SURFACE-WATER RECORDS**  
**Muskingum River Basin**

**03115971 SCHOCALOG RUN AT FAIRLAWN, OHIO**

LOCATION.--Lat 41°07'28", long 81°37'23", Summit County, Hydrologic Unit 05040001, on right upstream side of triple barrel culvert under Trunko Road, 0.7 mi east of Cleveland-Massillon Road, 0.7 mi west of Akron corporate boundary, 1.6 mi southeast of intersection of State Route 18 and I-77.

DRAINAGE AREA.--2.13 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1, 1991, to current year (station discontinued).

GAGE.--Water-stage recorder. Datum of gage is 978 ft above sea level, from topographic map.

REMARKS.--Record fair except for discharges less than 1.0 ft<sup>3</sup>/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	1.7	1.7	.15	.50	.93	2.8	4.6	5.8	1.2	4.9	.39	.37
2	1.2	e1.6	.04	.61	.91	1.8	2.0	16	4.3	1.1	.16	.68
3	1.0	e1.5	.59	.95	.85	1.8	1.3	16	3.1	.62	.06	.54
4	.98	e1.5	2.6	7.2	.86	3.5	1.2	31	1.3	.62	.02	.50
5	.93	e1.1	.28	1.9	.88	2.0	1.0	6.2	1.2	.55	.25	.53
6	.47	e.80	.18	2.9	.99	1.6	.98	4.6	.91	.53	.53	.50
7	.52	e2.3	.64	16	.75	1.5	1.0	5.0	1.0	.70	.26	9.9
8	.77	2.5	.79	36	.71	6.1	5.1	5.8	.97	6.3	.26	13
9	.54	1.1	.64	23	.72	20	17	3.8	1.1	1.5	.61	4.5
10	1.2	.31	18	4.1	.73	7.3	9.1	3.4	2.2	.66	4.5	1.3
11	1.0	.03	5.7	2.1	1.4	3.2	2.9	3.3	1.3	.42	1.3	.82
12	.93	.01	2.5	2.1	5.9	2.7	1.9	3.2	12	.27	.53	.72
13	.86	.01	1.6	3.7	1.7	2.7	1.7	2.9	15	.28	.35	.65
14	1.3	4.4	1.2	2.7	1.0	2.5	9.5	2.4	2.3	.13	.14	.59
15	.85	1.8	1.4	3.0	.95	2.7	6.4	2.1	6.8	.85	.20	.36
16	.74	1.0	1.9	2.2	2.0	2.4	34	1.7	6.3	2.0	.10	.46
17	.20	.38	1.7	1.2	26	2.6	17	1.6	2.7	.52	.26	.66
18	.01	.11	1.3	.99	14	4.5	4.2	1.5	.95	.34	.38	.47
19	.77	.05	.92	.97	5.6	3.4	9.9	1.2	1.1	.30	.14	.60
20	.86	.02	.28	.93	4.7	5.9	8.6	1.2	.58	.50	.15	.77
21	.64	.03	.10	.81	3.2	12	3.1	1.2	.35	1.3	.09	5.1
22	.73	.96	3.2	.84	2.2	4.0	2.4	1.3	.17	19	.69	.96
23	.62	.27	2.9	7.9	2.2	2.8	2.3	1.2	.46	13	.18	.55
24	.84	.07	1.7	2.6	1.8	2.6	1.8	1.4	.48	2.1	19	.53
25	1.3	.03	5.3	1.6	1.6	2.4	1.7	1.6	.11	.93	55	.59
26	4.7	.03	1.5	1.4	1.5	1.8	26	.96	1.0	.75	24	.50
27	12	.02	.72	1.2	2.5	1.5	11	1.1	3.2	.41	2.5	.51
28	2.1	17	.49	1.1	1.9	1.8	3.1	.60	5.8	.47	1.5	.38
29	1.9	2.6	.44	1.1	---	2.8	3.0	1.0	9.7	.43	1.6	.42
30	1.7	.36	.56	1.4	---	1.5	5.1	1.4	10	.58	1.0	.35
31	1.8	---	.87	1.1	---	1.4	---	1.3	---	.35	.79	---
TOTAL	45.16	43.59	60.19	134.10	88.48	115.6	198.88	131.76	97.58	62.41	116.94	47.81
MEAN	1.46	1.45	1.94	4.33	3.16	3.73	6.63	4.25	3.25	2.01	3.77	1.59
MAX	12	17	18	36	26	20	34	31	15	19	55	13
MIN	.01	.01	.04	.50	.71	1.4	.98	.60	.11	.13	.02	.35
CFSM	.68	.68	.91	2.03	1.48	1.75	3.11	2.00	1.53	.95	1.77	.75
IN.	.79	.76	1.05	2.34	1.55	2.02	3.47	2.30	1.70	1.09	2.04	.83

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

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	1.83	3.41	3.04	4.86	2.77	3.98	5.42	3.38	3.48	2.53	2.33	2.49
MAX	3.83	5.94	6.26	7.76	4.51	7.05	8.00	6.18	5.61	8.66	3.93	6.17
(WY)	1997	1994	1997	1996	1997	1993	1993	1996	1992	1992	1992	1992
MIN	.29	1.17	1.11	2.18	1.31	2.22	2.69	1.70	1.23	.46	.10	.47
(WY)	1995	1995	1996	1992	1995	1995	1997	1992	1992	1993	1993	1994

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	FOR 1999 WATER YEAR	FOR 2000 WATER YEAR	FOR 2001 WATER YEAR	FOR 2002 WATER YEAR	FOR 2003 WATER YEAR
ANNUAL TOTAL	1092.67	1142.50					
ANNUAL MEAN	2.99	3.13					
HIGHEST ANNUAL MEAN							3.29
LOWEST ANNUAL MEAN							3.98
HIGHEST DAILY MEAN	75	55	75	75	75	75	2.26
LOWEST DAILY MEAN	.01	.01	.01	.01	.01	.01	1995
ANNUAL SEVEN-DAY MINIMUM	.20	.19	.01	.01	.01	.01	1997
INSTANTANEOUS PEAK FLOW		108	108	108	108	108	1997
INSTANTANEOUS PEAK STAGE		12.75	12.75	12.75	12.75	12.75	1998
INSTANTANEOUS LOW FLOW		.00	.00	.00	.00	.00	1998
ANNUAL RUNOFF (CFSM)	1.41	1.47	1.47	1.47	1.47	1.47	1998
ANNUAL RUNOFF (INCHES)	19.08	19.95	19.95	19.95	19.95	19.95	1998
10 PERCENT EXCEEDS	6.0	7.0	7.0	7.0	7.0	7.0	1998
50 PERCENT EXCEEDS	1.6	1.3	1.3	1.3	1.3	1.3	1998
90 PERCENT EXCEEDS	.45	.28	.28	.28	.28	.28	1998

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

**SURFACE-WATER RECORDS**  
**Muskingum River Basin**

**03115973 SCHOCALOG RUN AT COPLEY JUNCTION, OHIO**

LOCATION.--Lat 41°06'11", long 81°36'12", Summit County, Hydrologic Unit 05040001, on right upstream side of six barrel culvert under the Akron Canton and Youngstown Railroad, 150 ft east of Schocalog Road, 0.25 mi west of Copley Junction, 0.3 mi downstream of Schocalog Lake, 0.8 mi southeast of intersection of I-77 and Ridgewood Road.

DRAINAGE AREA.--3.65 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1, 1991, to current year.

GAGE.--Water-stage recorder. Datum of gage is 969 ft above sea level, from topographic map.

REMARKS.-- Records good, except for periods of estimated record and discharges less than 2.0 ft<sup>3</sup>/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	2.0	1.0	1.7	1.2	2.3	e4.6	e7.6	6.3	2.1	12	.80	1.3
2	2.2	1.2	1.4	1.1	1.7	e3.0	e3.5	31	3.6	3.4	.73	1.0
3	2.0	1.7	.68	1.2	1.8	e3.0	e2.2	20	6.9	1.8	.66	1.1
4	1.4	1.6	3.8	5.9	1.8	e5.8	e2.0	46	2.6	1.4	.43	1.0
5	.86	1.9	2.3	4.1	1.8	e3.4	e1.7	12	1.9	1.3	.44	1.7
6	.48	.72	1.4	3.5	1.9	e2.7	e1.6	7.2	1.8	1.2	.68	1.8
7	.44	.88	1.3	15	1.9	e2.5	e1.7	6.0	1.6	1.1	.80	10
8	.69	2.4	1.7	58	1.6	e8.0	e7.0	7.4	1.4	4.9	.67	18
9	.83	1.6	1.5	36	e1.3	e33	e29	5.6	1.8	5.0	.74	11
10	1.2	1.1	19	10	e1.3	e13	e17	4.8	4.2	2.8	3.4	3.8
11	1.2	.97	13	4.9	e2.0	e5.6	e5.0	4.3	3.1	2.2	3.6	2.2
12	1.1	.64	5.0	3.3	e10	e4.5	e3.3	3.9	13	1.3	1.4	1.6
13	1.2	.88	3.0	3.3	e3.0	e4.5	e2.9	3.5	23	.98	.89	1.4
14	1.6	2.6	2.4	3.8	e1.7	e4.2	e16	3.1	7.6	.92	.66	1.4
15	1.7	4.6	2.1	3.3	e1.6	e4.5	e11	2.8	6.6	1.0	.39	1.4
16	1.5	2.6	2.2	4.0	e3.5	e4.1	e56	2.5	8.6	2.6	.38	1.1
17	.97	1.8	2.4	2.9	e44	e4.3	e30	2.2	8.4	1.8	.30	1.4
18	.66	1.2	2.0	2.2	e25	e7.4	e7.0	1.9	3.4	1.3	.32	1.4
19	.75	.45	1.6	2.0	e9.3	e5.8	e17	1.6	2.1	1.0	.28	1.3
20	1.1	.55	1.3	1.9	e7.9	e9.0	e15	1.4	1.9	.94	.25	1.5
21	1.2	.38	1.6	1.7	e5.4	e20	e5.5	1.5	1.4	.98	.26	5.5
22	1.2	.95	1.9	1.6	e3.7	e7.0	e4.1	1.5	1.3	20	.35	3.9
23	1.4	1.1	5.5	7.1	e3.7	e4.7	3.8	1.6	1.0	19	.42	1.9
24	1.3	1.1	1.3	6.7	e3.1	e4.4	3.0	1.6	1.3	6.2	14	1.3
25	1.0	1.1	6.3	3.8	e2.7	e4.1	2.6	1.9	1.1	2.4	73	1.3
26	3.5	.87	4.3	2.8	e2.5	e3.0	28	1.7	1.1	1.6	48	1.5
27	17	.37	2.2	2.6	e4.3	e2.5	24	1.4	2.8	1.4	7.1	1.6
28	3.5	17	1.5	2.3	e3.2	e3.0	6.6	1.3	4.6	1.1	3.4	1.4
29	.24	8.6	1.3	2.1	---	e4.7	4.5	1.2	14	1.0	2.6	1.2
30	.75	2.4	1.1	2.0	---	e2.5	5.8	1.6	10	.88	2.3	1.2
31	1.4	---	1.1	2.2	---	e2.4	---	2.5	---	.99	1.7	---
TOTAL	56.37	64.26	97.88	202.5	154.0	191.2	324.4	191.3	144.2	104.49	170.95	86.2
MEAN	1.82	2.14	3.16	6.53	5.50	6.17	10.8	6.17	4.81	3.37	5.51	2.87
MAX	17	17	19	58	44	33	56	46	23	20	73	18
MIN	.24	.37	.68	1.1	1.3	2.4	1.6	1.2	1.0	.88	.25	1.0
CFSM	.50	.59	.87	1.79	1.51	1.69	2.96	1.69	1.32	.92	1.51	.79
IN.	.57	.65	1.00	2.06	1.57	1.95	3.31	1.95	1.47	1.06	1.74	.88

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

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	2.41	4.98	4.59	7.12	4.49	6.71	8.39	5.25	5.43	4.03	3.76	4.19
MAX	5.32	9.51	9.83	10.9	6.80	11.0	12.2	10.0	9.73	13.6	6.96	9.96
(WY)	1997	1993	1997	1993	1997	1993	1994	1996	1997	1992	1992	1992
MIN	.28	2.05	1.81	3.33	1.99	3.34	4.33	2.52	2.01	.95	.28	.61
(WY)	1995	1995	1996	1992	1995	1995	1995	1992	1992	1993	1993	1994

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	FOR 1999 WATER YEAR	FOR 2000 WATER YEAR	FOR 2001 WATER YEAR	FOR 2002 WATER YEAR	FOR 2003 WATER YEAR	FOR 2004 WATER YEAR	FOR 2005 WATER YEAR	FOR 2006 WATER YEAR	FOR 2007 WATER YEAR	FOR 2008 WATER YEAR	FOR 2009 WATER YEAR	FOR 2010 WATER YEAR	FOR 2011 WATER YEAR	FOR 2012 WATER YEAR	FOR 2013 WATER YEAR	FOR 2014 WATER YEAR	FOR 2015 WATER YEAR	FOR 2016 WATER YEAR	FOR 2017 WATER YEAR	FOR 2018 WATER YEAR	FOR 2019 WATER YEAR	FOR 2020 WATER YEAR	
ANNUAL TOTAL		1779.96			1787.75																				
ANNUAL MEAN		4.88			4.90																				
HIGHEST ANNUAL MEAN																									
LOWEST ANNUAL MEAN																									
HIGHEST DAILY MEAN																									
LOWEST DAILY MEAN																									
ANNUAL SEVEN-DAY MINIMUM																									
INSTANTANEOUS PEAK FLOW																									
INSTANTANEOUS PEAK STAGE																									
INSTANTANEOUS LOW FLOW																									
ANNUAL RUNOFF (CFSM)																									
ANNUAL RUNOFF (INCHES)																									
10 PERCENT EXCEEDS																									
50 PERCENT EXCEEDS																									
90 PERCENT EXCEEDS																									

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

# SURFACE-WATER RECORDS

## Muskingum River Basin

### 03117000 TUSCARAWAS RIVER AT MASSILLON, OHIO

LOCATION.--Lat 40°46'13", long 81°31'27", in sec. 20 T.10 N., R.9 W., Stark County, Hydrologic Unit 05040001, on left bank at sewage-treatment works, 0.7 mi south of Massillon, and 3 mi downstream from Newman Creek.

DRAINAGE AREA.--518 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1937 to current year. Prior to April 1938 monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 916.00 ft above sea level. Prior to Aug.19, 1944, nonrecording gage at same site and datum.

REMARKS.--Records good except for periods of estimated record, which are fair. Some water diverted through the Portage Lakes into the Ohio Canal at Long Lake, 28 mi and 3 mi south of Akron. Part of the diverted water flows through the Ohio Canal into the Cuyahoga River basin. Flow affected by industrial plants upstream from station and supplemented at times by diversion from Nimisila Reservoir, capacity, 6,500 acre-ft, since 1939. Water-quality data collected at this site. U.S. Army Corps of Engineers satellite 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	109	133	293	160	282	420	342	560	161	2170	109	229
2	112	137	240	196	269	420	393	1050	159	e1600	102	183
3	111	134	202	195	258	398	343	2480	148	e1000	100	164
4	115	132	226	209	246	389	299	2080	146	e700	99	148
5	114	119	262	359	246	398	273	1810	144	e560	99	128
6	109	114	219	348	240	383	253	1200	144	e500	99	111
7	109	125	188	377	221	340	238	752	146	e470	103	110
8	106	152	182	2050	210	351	255	661	147	e530	102	183
9	106	166	180	3340	204	1030	565	580	150	e580	112	207
10	103	147	323	3430	199	1960	1350	460	147	e510	169	192
11	105	136	1050	2420	199	1390	1010	392	146	e430	272	146
12	100	116	707	1270	261	805	571	363	170	e380	234	116
13	100	110	433	756	394	611	410	337	433	e350	172	107
14	102	188	320	560	337	511	394	309	513	e310	142	107
15	185	259	269	471	276	457	612	290	397	e280	127	106
16	265	232	231	450	253	417	1460	254	345	e260	121	105
17	276	193	207	420	350	393	3240	224	453	e240	107	105
18	286	163	194	380	1670	418	3170	224	374	e220	99	106
19	236	138	188	355	2060	475	2080	216	286	e210	92	100
20	147	132	182	343	1480	464	1690	203	231	e190	88	109
21	120	129	174	327	1010	850	1320	191	176	e180	84	136
22	116	142	181	304	759	1380	870	170	166	180	82	189
23	105	156	305	385	601	893	658	166	162	424	81	150
24	98	163	336	744	493	634	519	160	162	442	271	115
25	105	151	374	584	432	504	434	158	150	254	1480	102
26	117	135	478	449	389	455	484	158	140	167	2910	101
27	281	144	363	397	367	429	1440	158	231	141	2420	98
28	383	157	296	372	365	374	1300	158	322	129	1140	97
29	216	419	258	348	---	356	776	174	742	120	505	97
30	146	368	239	331	---	353	573	189	1270	121	357	96
31	129	---	212	305	---	356	---	165	---	118	289	---
TOTAL	4712	4990	9312	22635	14071	18614	27322	16292	8361	13766	12167	3943
MEAN	152	166	300	730	503	600	911	526	279	444	392	131
MAX	383	419	1050	3430	2060	1960	3240	2480	1270	2170	2910	229
MIN	98	110	174	160	199	340	238	158	140	118	81	96

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 1998, BY WATER YEAR (WY)

MEAN	207	307	446	547	718	889	734	517	399	306	232	213
MAX	1206	1628	1621	1989	1659	1827	1591	1641	1852	1812	1273	1465
(WY)	1991	1986	1991	1952	1959	1978	1994	1996	1947	1969	1958	1979
MIN	70.0	81.4	81.5	94.6	98.0	283	172	121	81.2	79.1	82.9	69.9
(WY)	1964	1945	1964	1945	1964	1969	1946	1941	1988	1954	1962	1954

#### SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1938 - 1998	
ANNUAL TOTAL	175132		156185			
ANNUAL MEAN	480		428		458	
HIGHEST ANNUAL MEAN					661	
LOWEST ANNUAL MEAN					245	
HIGHEST DAILY MEAN	5000		3430		9360	
LOWEST DAILY MEAN	93		81		49	
ANNUAL SEVEN-DAY MINIMUM	103		90		53	
INSTANTANEOUS PEAK FLOW			3680		10700	
INSTANTANEOUS PEAK STAGE			9.13		16.43	
INSTANTANEOUS LOW FLOW			81		49	
10 PERCENT EXCEEDS	1030		1000		1070	
50 PERCENT EXCEEDS	310		253		233	
90 PERCENT EXCEEDS	116		107		102	

e Estimated.

**SURFACE-WATER RECORDS  
Muskingum River Basin**

**03117500 SANDY CREEK AT WAYNESBURG, OHIO**

LOCATION.--Lat 40°40'21", long 81°15'36", in sec. 21, T.17 N., R.7 W., Stark County, Hydrologic Unit 05040001, on upstream side of left pier of bridge on State Highway 183 in Waynesburg, 300 ft downstream from Little Sandy Creek, and 0.6 mi upstream from Indian Run.

DRAINAGE AREA.--253 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1938 to current year. Prior to December 1938 monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 923: 1939-40. WSP 1555: 1940(M), 1943(M), 1947(M), 1952, 1956(M). WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 955.00 ft above sea level.

REMARKS.--Records good except for periods of estimated record, which are fair. Water-quality and sediment data collected at this site. U.S. Army Corps of Engineers satellite 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	45	73	133	113	200	333	218	585	298	1450	60	80
2	46	76	128	106	190	364	213	1490	301	822	56	72
3	46	77	116	108	181	e308	190	2050	193	577	54	66
4	44	78	155	116	173	e320	176	1750	159	382	51	60
5	43	85	174	122	177	e360	167	1300	141	284	52	55
6	42	88	146	119	190	e290	156	929	133	236	50	49
7	44	100	130	159	182	254	147	702	124	201	46	47
8	42	121	116	1890	168	290	161	616	116	447	45	49
9	42	144	107	2850	157	749	321	611	115	457	46	55
10	45	127	247	2980	150	806	714	512	124	274	103	54
11	48	111	547	1670	149	610	506	449	123	216	98	50
12	51	104	361	973	174	473	347	425	140	186	63	49
13	51	99	249	690	191	392	290	397	274	166	54	46
14	52	175	197	493	168	358	273	332	286	150	49	44
15	60	256	165	396	152	328	441	299	199	141	44	44
16	77	188	141	418	146	285	1590	274	246	132	42	42
17	85	144	127	380	213	260	2790	254	516	128	39	42
18	83	117	114	333	574	273	1370	216	306	119	42	40
19	82	107	110	293	841	324	1080	197	255	108	39	39
20	78	101	103	259	734	301	1280	184	218	107	37	39
21	70	96	96	226	641	518	972	172	172	104	37	42
22	71	105	97	210	494	779	783	160	148	104	38	41
23	71	116	139	325	393	652	612	152	144	141	34	40
24	72	103	151	456	362	516	500	145	132	138	73	38
25	75	91	213	353	320	415	424	145	121	107	368	40
26	78	86	245	300	276	358	597	139	111	94	744	39
27	104	81	192	274	263	317	1250	132	242	84	255	39
28	99	83	168	258	263	286	979	124	591	79	142	36
29	86	111	149	242	---	264	813	118	532	73	114	34
30	78	136	142	234	---	244	625	162	646	68	97	32
31	76	---	123	219	---	219	---	223	---	65	89	---
TOTAL	1986	3379	5281	17565	8122	12246	19985	15244	7106	7640	3061	1403
MEAN	64.1	113	170	567	290	395	666	492	237	246	98.7	46.8
MAX	104	256	547	2980	841	806	2790	2050	646	1450	744	80
MIN	42	73	96	106	146	219	147	118	111	65	34	32
CFSM	.25	.45	.67	2.24	1.15	1.56	2.63	1.94	.94	.97	.39	.18
IN.	.29	.50	.78	2.58	1.19	1.80	2.94	2.24	1.04	1.12	.45	.21

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 1998, BY WATER YEAR (WY)

	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	97.1	172	285	351	468	567	468	339	217	139	95.1	81.1																																																
MAX	476	1008	1104	1111	987	1179	867	961	750	651	871	513																																																
(WY)	1991	1986	1991	1952	1956	1945	1957	1996	1989	1990	1980	1975																																																
MIN	15.5	18.4	22.1	55.1	53.5	114	118	80.4	45.1	33.2	22.3	16.1																																																
(WY)	1964	1964	1964	1954	1964	1969	1946	1941	1988	1965	1962	1963																																																

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1939 - 1998
ANNUAL TOTAL	93556	103018	
ANNUAL MEAN	256	282	272
HIGHEST ANNUAL MEAN			429
LOWEST ANNUAL MEAN			140
HIGHEST DAILY MEAN	2240	May 26	11000
LOWEST DAILY MEAN	42	Sep 28	12
ANNUAL SEVEN-DAY MINIMUM	43	Oct 4	12
INSTANTANEOUS PEAK FLOW		3490	15000
INSTANTANEOUS PEAK STAGE		6.99	10.05
INSTANTANEOUS LOW FLOW		32	6.9
ANNUAL RUNOFF (CFSM)	1.01	1.12	1.08
ANNUAL RUNOFF (INCHES)	13.76	15.15	14.63
10 PERCENT EXCEEDS	620	614	635
50 PERCENT EXCEEDS	170	152	139
90 PERCENT EXCEEDS	51	46	35

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

**SURFACE-WATER RECORDS**  
**Muskingum River Basin**

**03118000 MIDDLE BRANCH NIMISHILLEN CREEK AT CANTON, OHIO**

LOCATION.--Lat 40°50'29", long 81°21'14" in NE 1/4 sec. 27, T.11 N., R.8 W., Stark County, Hydrologic Unit 05040001, on right bank at downstream side of bridge on Martindale Road, 2.4 mi upstream from mouth, and 0.5 mi northeast of Canton.

DRAINAGE AREA.--43.1 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1941 to current year.

REVISED RECORDS.--WSP 1033: 1942(M), 1943(P), 1944(M). WSP 1305: 1946(M). WSP 1143: 1948. WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 1,046.60 ft above sea level.  
REMARKS.--Records fair. Part of municipal water supply for city of Canton is pumped from its northeast well field; a portion of pumpage is believed to be derived from creek as recharge to aquifer supplying well field about 1 mi downstream from gage. Mean pumpage for water year 1998, 11.3 ft<sup>3</sup>/s. At times low flow regulated by small pools above station. 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	8.3	6.9	14	14	24	28	28	70	17	123	8.6	14
2	8.4	6.8	13	12	23	30	28	231	16	70	9.0	29
3	8.6	7.0	11	11	21	28	26	288	16	41	8.7	30
4	8.4	6.1	14	14	20	29	23	324	16	31	8.6	24
5	8.4	5.1	15	26	21	30	21	220	13	26	8.4	15
6	8.4	4.4	14	27	20	29	19	139	12	21	7.2	5.6
7	8.2	4.7	14	34	18	27	17	101	12	17	6.9	5.4
8	7.5	5.6	12	295	16	32	18	90	11	28	7.0	5.1
9	7.1	6.3	11	485	16	111	30	80	11	27	7.4	4.2
10	6.9	6.5	42	345	15	168	55	68	11	21	20	4.7
11	6.8	6.6	122	168	15	93	49	59	11	16	59	5.3
12	6.8	5.9	72	95	19	58	37	53	15	14	40	5.7
13	6.7	5.4	43	68	20	44	31	48	32	13	25	6.1
14	6.8	12	31	55	18	38	40	44	24	12	7.8	6.4
15	6.5	14	24	46	17	35	66	42	15	12	8.2	6.2
16	6.1	14	19	43	16	31	208	42	31	11	9.4	5.9
17	6.1	12	17	40	31	29	388	40	29	10	12	5.7
18	6.1	9.6	15	37	106	32	242	36	17	21	11	4.9
19	6.2	8.1	13	33	132	37	153	34	11	20	9.4	6.8
20	5.8	7.3	12	31	89	39	210	32	8.1	6.8	7.9	6.0
21	5.9	6.8	11	29	65	52	149	30	6.5	7.4	5.7	5.9
22	6.0	8.2	15	26	50	75	97	28	5.5	9.9	5.6	6.0
23	5.7	8.3	24	39	41	57	73	26	4.6	27	4.8	5.8
24	5.8	7.6	28	61	36	43	60	27	4.2	29	7.8	5.3
25	6.6	6.9	38	50	31	35	53	27	3.6	24	265	5.1
26	7.6	6.5	42	40	28	32	84	26	3.0	19	429	5.0
27	10	6.1	33	34	27	32	204	23	6.4	16	210	4.5
28	8.7	7.5	26	31	27	30	133	20	12	13	90	4.2
29	7.8	11	21	30	---	29	85	20	15	9.6	53	3.4
30	7.6	14	18	28	---	27	70	19	38	9.0	33	3.0
31	7.1	---	16	26	---	25	---	17	---	9.2	11	---
TOTAL	222.9	237.2	800	2273	962	1385	2697	2304	426.9	713.9	1396.4	244.2
MEAN	7.19	7.91	25.8	73.3	34.4	44.7	89.9	74.3	14.2	23.0	45.0	8.14
MAX	10	14	122	485	132	168	388	324	38	123	429	30
MIN	5.7	4.4	11	11	15	25	17	17	3.0	6.8	4.8	3.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 1998, BY WATER YEAR (WY)

MEAN	13.9	24.1	38.8	47.9	59.4	72.7	60.8	46.1	34.9	24.2	18.3	15.6
MAX	84.7	103	140	170	153	142	227	138	150	102	108	97.2
(WY)	1991	1986	1991	1952	1971	1951	1994	1996	1989	1972	1958	1990
MIN	.74	1.09	2.78	1.40	1.88	23.7	14.9	10.5	5.17	3.16	2.32	1.25
(WY)	1992	1992	1964	1963	1963	1969	1946	1988	1988	1954	1962	1991

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1942 - 1998

ANNUAL TOTAL	17117.0	13662.5	
ANNUAL MEAN	46.9	37.4	37.9
HIGHEST ANNUAL MEAN			67.3
LOWEST ANNUAL MEAN			16.0
HIGHEST DAILY MEAN	430	Mar 6	485
LOWEST DAILY MEAN	4.4	Nov 6	3.0
ANNUAL SEVEN-DAY MINIMUM	5.5	Nov 4	4.4
INSTANTANEOUS PEAK FLOW			518
INSTANTANEOUS PEAK STAGE			4.97
INSTANTANEOUS LOW FLOW			2.7
10 PERCENT EXCEEDS	109		77
50 PERCENT EXCEEDS	32		19
90 PERCENT EXCEEDS	7.3		5.9

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





**SURFACE-WATER RECORDS**  
**Muskingum River Basin**

**03121850 HUFF RUN AT MINERAL CITY, OHIO**

LOCATION.--Lat 40°35'50", long 81°21'33", Tuscarawas County, Hydrologic Unit 05040001, on left abutment of bridge on County Road 90, adjacent to intersection of Sandy Township Road 46, 500 ft southeast of State Route 800, at southeast edge of Mineral City and 1.4 mi upstream from Conotton Creek.  
 DRAINAGE AREA.--12.3 mi<sup>2</sup>.

**WATER-DISCHARGE RECORDS**

PERIOD OF RECORD.--October 1997 to September 1998.

GAGE.--Water-stage recorder. Altitude of gage 890 ft above sea level, from topographic map.

REMARKS.--Records fair except those for estimated record, which are poor. Data Collection Platform 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	e2.6	2.6	4.4	4.1	9.8	16	13	20	25	35	3.2	4.8
2	e2.7	2.7	3.9	3.9	9.5	14	11	131	9.4	14	3.1	4.5
3	e2.8	2.9	3.7	4.3	9.0	13	9.6	96	7.5	9.5	3.1	4.2
4	e2.8	2.8	6.1	4.3	8.5	14	8.9	87	7.0	7.8	3.0	4.1
5	e2.7	2.7	5.2	4.1	9.7	13	8.2	54	6.9	7.0	3.0	4.2
6	e2.6	2.5	4.6	4.1	9.3	12	7.3	38	6.6	6.0	3.0	3.9
7	e2.5	3.4	4.3	15	8.3	12	7.0	31	6.2	5.5	3.0	3.8
8	e2.4	4.6	4.1	221	7.8	16	10	31	5.9	18	2.9	3.8
9	e2.3	4.3	3.9	147	7.4	37	22	31	5.8	7.6	2.9	3.7
10	e2.3	3.5	16	38	7.3	36	17	24	5.8	6.2	4.7	3.6
11	e2.2	3.3	14	17	7.6	29	11	e20	9.8	5.4	3.5	3.5
12	e2.1	3.3	8.9	30	9.1	25	9.5	e16	6.5	5.1	3.1	3.4
13	e2.1	3.3	6.8	35	8.1	21	8.4	e13	17	4.8	2.9	3.3
14	e2.1	12	5.9	21	7.4	21	8.7	9.6	7.2	4.7	2.8	3.3
15	e2.1	7.2	5.0	20	7.1	18	8.5	8.8	6.9	4.5	2.8	3.3
16	2.1	5.5	4.6	20	7.4	15	211	8.4	8.8	4.5	2.7	3.3
17	2.2	4.3	4.2	16	12	13	139	7.8	8.5	4.4	2.7	3.2
18	2.4	3.6	3.6	15	28	14	61	7.3	7.1	4.1	2.6	3.2
19	2.0	3.5	3.5	12	39	14	57	7.0	6.4	4.1	2.5	3.1
20	2.1	3.4	3.5	11	29	14	56	7.0	5.9	5.0	2.5	3.2
21	2.0	3.4	3.4	11	25	40	39	6.7	5.4	4.2	2.5	3.3
22	2.0	4.3	3.3	11	21	37	30	6.4	5.0	4.0	2.5	3.1
23	2.1	4.0	4.5	22	18	28	23	6.3	4.9	5.4	2.4	2.9
24	2.2	3.6	4.7	21	17	23	20	6.3	4.8	4.3	48	2.9
25	2.6	3.3	8.5	19	14	19	17	6.5	4.7	3.9	64	3.4
26	3.4	3.2	7.6	17	13	16	40	6.2	5.0	3.7	22	3.0
27	7.4	3.2	6.6	15	13	15	47	6.0	7.1	3.6	7.4	3.0
28	3.8	3.9	6.0	14	13	13	28	5.8	7.5	3.5	5.6	3.1
29	3.0	5.1	5.5	13	---	13	24	8.1	17	3.5	5.2	2.9
30	2.8	4.8	5.3	12	---	12	21	7.9	48	3.4	6.4	2.9
31	2.7	---	4.4	11	---	11	---	14	---	3.4	6.2	---
TOTAL	81.1	120.2	176.0	808.8	375.3	594	973.1	728.1	279.6	206.1	232.2	103.9
MEAN	2.62	4.01	5.68	26.1	13.4	19.2	32.4	23.5	9.32	6.65	7.49	3.46
MAX	7.4	12	16	221	39	40	211	131	48	35	64	4.8
MIN	2.0	2.5	3.3	3.9	7.1	11	7.0	5.8	4.7	3.4	2.4	2.9
CFSM	.21	.33	.46	2.12	1.09	1.56	2.64	1.91	.76	.54	.61	.28
IN.	.25	.36	.53	2.45	1.14	1.80	2.94	2.20	.85	.62	.70	.31

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

	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998
MEAN	2.62	4.01	5.68	26.1	13.4	19.2	32.4	23.5	9.32	6.65	7.49	3.46
MAX	2.62	4.01	5.68	26.1	13.4	19.2	32.4	23.5	9.32	6.65	7.49	3.46
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998
MIN	2.62	4.01	5.68	26.1	13.4	19.2	32.4	23.5	9.32	6.65	7.49	3.46
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998

SUMMARY STATISTICS

FOR 1998 WATER YEAR

ANNUAL TOTAL	4678.4
ANNUAL MEAN	12.8
HIGHEST DAILY MEAN	221
LOWEST DAILY MEAN	2.0
ANNUAL SEVEN-DAY MINIMUM	2.1
INSTANTANEOUS PEAK FLOW	504
INSTANTANEOUS PEAK STAGE	4.35
INSTANTANEOUS LOW FLOW	1.7
ANNUAL RUNOFF (CFSM)	1.04
ANNUAL RUNOFF (INCHES)	14.15
10 PERCENT EXCEEDS	26
50 PERCENT EXCEEDS	6.3
90 PERCENT EXCEEDS	2.8

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

**SURFACE-WATER RECORDS**  
**Muskingum River Basin**

**03121850 HUFF RUN AT MINERAL CITY, OHIO—Continued**

WATER-QUALITY RECORDS

PERIOD OF RECORD.--October 1997 to September 1998.

PERIOD OF DAILY RECORD--

SPECIFIC CONDUCTANCE: October 1997 to September 1998.

pH: October 1997 to September 1998.

WATER TEMPERATURES: October 1997 to September 1998.

DISSOLVED OXYGEN: October 1997 to September 1998.

INSTRUMENTATION: Data Collection Platform. Set for 1-hour interval.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1710 microsiemens Aug. 22-24; minimum, 255 microsiemens Jan. 8.

pH: Maximum, 7.4 units Apr. 27; minimum, 3.9 units Aug. 24.

WATER TEMPERATURES: Maximum, 28.5°C Jul. 23; minimum, 1.0°C Jan. 20, 21, and Feb. 1.

DISSOLVED OXYGEN: Maximum, 13.7 mg/L Mar. 11 (observed); minimum, 5.2 mg/L Aug. 15 and 16.

**SURFACE-WATER RECORDS  
Muskingum River Basin**

**03121850 HUFF RUN AT MINERAL CITY, OHIO—Conintued**

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	---	---	---	---	---	---	---	---	---	1170	1110	1150
2	---	---	---	---	---	---	---	---	---	1210	1150	1190
3	---	---	---	---	---	---	---	---	---	1240	1210	1230
4	---	---	---	---	---	---	---	---	---	1220	1190	1200
5	---	---	---	---	---	---	---	---	---	1190	1160	1180
6	---	---	---	---	---	---	---	---	---	1210	1150	1180
7	---	---	---	---	---	---	---	---	---	1260	868	1140
8	---	---	---	---	---	---	---	---	---	868	255	489
9	---	---	---	---	---	---	---	---	---	356	291	327
10	---	---	---	---	---	---	---	---	---	434	337	389
11	---	---	---	---	---	---	---	---	---	524	434	478
12	---	---	---	---	---	---	---	---	---	625	524	570
13	---	---	---	---	---	---	---	---	---	662	613	638
14	---	---	---	---	---	---	---	---	---	752	662	700
15	---	---	---	---	---	---	---	---	---	776	751	759
16	---	---	---	---	---	---	---	---	---	762	719	733
17	---	---	---	---	---	---	---	---	---	767	735	750
18	---	---	---	---	---	---	---	---	---	788	766	773
19	---	---	---	---	---	---	---	---	---	829	788	804
20	---	---	---	---	---	---	---	---	---	843	827	833
21	---	---	---	---	---	---	---	---	---	877	838	850
22	---	---	---	---	---	---	---	---	---	878	870	873
23	---	---	---	---	---	---	---	---	---	918	615	805
24	---	---	---	---	---	---	1380	1150	1230	652	603	626
25	---	---	---	---	---	---	1180	1050	1130	662	645	651
26	---	---	---	---	---	---	1050	920	954	693	662	673
27	---	---	---	---	---	---	988	966	974	726	693	705
28	---	---	---	---	---	---	1000	988	997	755	726	737
29	---	---	---	---	---	---	1050	1000	1030	790	755	768
30	---	---	---	---	---	---	1080	1050	1070	809	790	794
31	---	---	---	---	---	---	1110	1080	1090	844	809	825
MONTH	---	---	---	---	---	---	1380	920	1060	1260	255	801

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	889	844	862	844	730	784	949	868	897	796	721	771
2	910	889	901	787	734	764	1010	858	897	---	---	---
3	933	903	918	805	787	794	963	909	935	---	---	---
4	1070	933	964	850	794	806	982	963	971	---	---	---
5	1060	975	998	807	777	789	1000	978	987	---	---	---
6	1020	948	976	834	807	813	1110	1000	1020	---	---	---
7	994	952	978	843	827	834	1030	985	1010	---	---	---
8	1020	994	1010	844	766	829	1180	974	1040	---	---	---
9	1050	1020	1030	766	508	629	976	598	856	---	---	---
10	1130	1030	1060	588	538	550	722	604	681	---	---	---
11	1150	1050	1070	609	557	583	839	722	763	---	---	---
12	1080	1030	1060	666	605	634	819	791	809	934	895	919
13	1030	997	1000	716	665	685	862	817	846	1030	925	963
14	1060	1010	1040	724	707	714	898	858	874	1040	976	1010
15	1080	1060	1070	778	724	744	894	825	850	1070	1020	1050
16	1140	1060	1090	862	778	795	872	274	543	1110	1070	1090
17	1140	955	1050	848	821	828	438	325	388	1140	1090	1120
18	976	627	796	875	835	844	537	438	489	1230	1130	1160
19	627	505	526	865	808	829	579	537	563	1220	1170	1190
20	616	535	556	870	820	833	560	521	541	1280	1200	1220
21	607	564	587	880	447	688	616	558	586	1260	1220	1240
22	649	607	631	632	468	545	669	612	642	1290	1250	1270
23	721	648	668	694	535	589	720	669	699	1310	1290	1290
24	703	674	684	1160	584	774	777	720	750	1330	1270	1300
25	744	703	722	1050	637	738	829	777	804	1360	1310	1330
26	790	744	768	1030	719	800	866	656	806	1330	1310	1320
27	838	783	799	755	725	736	864	513	621	1360	1330	1340
28	829	777	795	793	754	769	888	646	701	1380	1350	1360
29	---	---	---	818	785	804	776	667	692	1390	1160	1350
30	---	---	---	858	814	837	760	724	737	1370	1210	1260
31	---	---	---	887	852	873	---	---	---	---	---	---
MONTH	1150	505	879	1160	447	749	1180	274	767	1390	721	1180

**SURFACE-WATER RECORDS**  
**Muskingum River Basin**

**03121850 HUFF RUN AT MINERAL CITY, OHIO—Continued**

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	---	---	---	662	560	606	1520	1500	1510	1320	1170	1260
2	1160	953	1070	791	662	740	1550	1510	1530	1390	1320	1360
3	1230	1160	1190	916	791	861	---	---	---	1450	1390	1420
4	1280	1230	1260	1060	900	956	---	---	---	1480	1440	1470
5	1330	1280	1290	1090	989	1010	---	---	---	1530	1480	1500
6	1350	1320	1330	1110	1050	1070	---	---	---	1530	1440	1480
7	1350	1330	1340	1210	1110	1140	1670	1600	1620	1520	1490	1510
8	1380	1350	1370	1270	674	878	1660	1610	1620	1550	1510	1530
9	1400	1380	1390	988	769	875	1640	1610	1620	1580	1540	1560
10	1410	1380	1400	1140	988	1050	1640	1440	1550	1580	1550	1560
11	1400	1320	1380	1220	1110	1130	1530	1460	1490	1600	1550	1580
12	1410	998	1370	1200	1160	1180	1600	1480	1560	1600	1580	1590
13	1070	849	963	1230	1190	1210	1610	1550	1580	1620	1590	1600
14	1140	959	1060	1390	1230	1270	1660	1560	1600	1620	1600	1610
15	1220	1130	1160	1280	1250	1260	1680	1620	1640	1640	1600	1620
16	1220	1030	1130	1290	1270	1280	1650	1610	1640	1640	1610	1620
17	1120	1010	1070	1310	1290	1300	1660	1620	1640	1630	1610	1620
18	1160	1050	1100	1320	1300	1310	1670	1630	1650	1650	1620	1640
19	1250	1160	1190	1340	1300	1320	1690	1650	1660	1660	1630	1640
20	1280	1250	1260	1360	1130	1290	1690	1650	1670	1660	1640	1650
21	1300	1270	1290	1340	1280	1300	1690	1650	1680	1670	1630	1650
22	1360	1300	1330	1360	1290	1330	1710	1640	1670	1690	1640	1660
23	1400	1360	1380	---	---	---	1710	1660	1690	1670	1650	1660
24	1430	1400	1410	1340	1290	1300	1710	432	1310	1690	1660	1680
25	1600	1410	1450	1340	1290	1320	705	402	553	1700	1620	1660
26	1460	1160	1390	1400	1330	1370	971	534	762	1680	1650	1670
27	1450	1180	1340	1420	1400	1410	1080	856	989	1670	1630	1650
28	1230	929	1110	1450	1420	1440	1190	1060	1130	1680	1640	1660
29	1090	719	925	1540	1440	1480	1290	1190	1240	1680	1650	1670
30	765	561	610	1480	1440	1470	1320	1190	1290	1680	1660	1670
31	---	---	---	1510	1440	1490	1200	1090	1150	---	---	---
MONTH	1600	561	1230	1540	560	1190	1710	402	1450	1700	1170	1580
YEAR	1710	255	1080									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, 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	---	---	---	---	---	---	---	---	---	6.4	6.3	6.3
2	---	---	---	---	---	---	---	---	---	6.3	6.3	6.3
3	---	---	---	---	---	---	---	---	---	6.4	6.3	6.3
4	---	---	---	---	---	---	---	---	---	6.5	6.3	6.4
5	---	---	---	---	---	---	---	---	---	6.4	6.3	6.3
6	---	---	---	---	---	---	---	---	---	6.4	6.2	6.3
7	---	---	---	---	---	---	---	---	---	6.4	6.1	6.3
8	---	---	---	---	---	---	---	---	---	6.4	6.0	6.2
9	---	---	---	---	---	---	---	---	---	6.1	5.9	6.0
10	---	---	---	---	---	---	---	---	---	6.1	6.0	6.0
11	---	---	---	---	---	---	---	---	---	6.0	5.9	6.0
12	---	---	---	---	---	---	---	---	---	6.3	5.9	6.1
13	---	---	---	---	---	---	---	---	---	6.6	6.2	6.4
14	---	---	---	---	---	---	---	---	---	6.6	6.5	6.5
15	---	---	---	---	---	---	---	---	---	6.7	6.5	6.6
16	---	---	---	---	---	---	---	---	---	6.7	6.5	6.6
17	---	---	---	---	---	---	---	---	---	6.8	6.5	6.6
18	---	---	---	---	---	---	---	---	---	6.6	6.5	6.6
19	---	---	---	---	---	---	---	---	---	6.6	6.5	6.6
20	---	---	---	---	---	---	---	---	---	6.6	6.5	6.6
21	---	---	---	---	---	---	---	---	---	6.6	6.5	6.5
22	---	---	---	---	---	---	---	---	---	6.7	6.5	6.6
23	---	---	---	---	---	---	---	---	---	6.7	6.4	6.6
24	---	---	---	---	---	---	6.6	6.3	6.5	6.7	6.7	6.7
25	---	---	---	---	---	---	6.6	6.3	6.5	6.7	6.6	6.7
26	---	---	---	---	---	---	6.4	6.3	6.4	6.6	6.6	6.6
27	---	---	---	---	---	---	6.4	6.4	6.4	6.6	6.5	6.6
28	---	---	---	---	---	---	6.4	6.4	6.4	6.6	6.5	6.6
29	---	---	---	---	---	---	6.4	6.4	6.4	6.7	6.5	6.5
30	---	---	---	---	---	---	6.4	6.4	6.4	6.7	6.5	6.5
31	---	---	---	---	---	---	6.4	6.4	6.4	6.5	6.5	6.5
MONTH	---	---	---	---	---	---	6.6	6.3	6.4	6.8	5.9	6.4



**SURFACE-WATER RECORDS**  
**Muskingum River Basin**

**03121850 HUFF RUN AT MINERAL CITY, OHIO—Continued**

TEMPERATURE, WATER (DEG. C), 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	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	4.5	2.0	3.0
4	---	---	---	---	---	---	---	---	---	6.5	4.5	5.5
5	---	---	---	---	---	---	---	---	---	7.5	5.0	6.5
6	---	---	---	---	---	---	---	---	---	9.0	7.5	8.5
7	---	---	---	---	---	---	---	---	---	11.0	9.0	9.5
8	---	---	---	---	---	---	---	---	---	12.5	9.5	10.5
9	---	---	---	---	---	---	---	---	---	9.5	7.5	9.0
10	---	---	---	---	---	---	---	---	---	7.5	7.0	7.5
11	---	---	---	---	---	---	---	---	---	7.0	5.5	6.0
12	---	---	---	---	---	---	---	---	---	5.5	4.5	5.0
13	---	---	---	---	---	---	---	---	---	6.0	3.5	5.0
14	---	---	---	---	---	---	---	---	---	3.5	1.0	2.0
15	---	---	---	---	---	---	---	---	---	3.5	1.5	3.0
16	---	---	---	---	---	---	---	---	---	4.0	3.5	3.5
17	---	---	---	---	---	---	---	---	---	3.5	3.0	3.5
18	---	---	---	---	---	---	---	---	---	3.5	2.5	3.0
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	2.5	1.0	1.5
21	---	---	---	---	---	---	---	---	---	2.0	1.0	1.5
22	---	---	---	---	---	---	---	---	---	3.5	1.5	2.5
23	---	---	---	---	---	---	---	---	---	4.0	3.0	3.5
24	---	---	---	---	---	---	4.5	4.0	4.5	3.5	3.0	3.5
25	---	---	---	---	---	---	5.5	4.5	5.0	3.0	2.5	3.0
26	---	---	---	---	---	---	5.0	4.0	4.5	4.0	2.5	3.0
27	---	---	---	---	---	---	4.0	3.0	4.0	4.5	3.0	3.5
28	---	---	---	---	---	---	3.0	1.5	2.5	5.0	3.0	4.0
29	---	---	---	---	---	---	---	---	---	4.0	2.5	3.5
30	---	---	---	---	---	---	2.0	1.5	2.0	4.0	3.5	3.5
31	---	---	---	---	---	---	---	---	---	4.0	2.5	3.5
MONTH	---	---	---	---	---	---	5.5	1.5	4.0	12.5	1.0	4.5

TEMPERATURE, WATER (DEG. C), 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	3.5	1.0	2.5	8.5	6.0	7.0	16.5	14.5	15.0	---	---	---
2	5.0	2.0	3.5	7.0	5.5	6.0	14.5	11.0	12.0	---	---	---
3	4.5	3.0	4.0	5.5	3.5	4.5	11.5	8.0	10.0	14.0	11.5	12.5
4	3.5	2.5	3.0	4.5	3.5	4.0	10.0	8.0	9.0	15.0	12.0	13.0
5	3.0	2.0	2.5	4.5	3.5	4.0	11.5	6.5	9.0	14.0	11.5	13.0
6	3.5	1.5	2.5	5.0	2.0	3.5	12.0	6.5	9.0	---	---	---
7	---	---	---	6.0	2.5	4.0	12.0	6.5	9.5	---	---	---
8	---	---	---	7.0	5.5	6.0	13.5	9.5	11.5	---	---	---
9	---	---	---	8.5	6.5	7.5	13.0	11.5	12.0	---	---	---
10	5.5	2.0	3.5	6.5	3.5	4.5	13.5	10.0	11.5	---	---	---
11	6.0	4.0	5.0	4.0	2.5	3.0	12.5	7.0	10.0	---	---	---
12	5.5	4.5	5.0	3.0	1.5	2.5	14.0	7.5	10.5	15.0	13.5	14.0
13	4.5	4.0	4.0	---	---	---	---	---	---	17.0	13.0	15.0
14	5.0	3.5	4.0	5.0	3.0	3.5	---	---	---	18.5	14.5	16.5
15	5.0	2.0	3.5	5.0	2.5	3.5	---	---	---	20.0	16.0	18.0
16	4.5	2.5	3.5	6.0	2.5	4.0	---	---	---	19.5	16.5	18.0
17	6.0	4.5	5.0	5.5	3.5	4.5	---	---	---	19.0	15.5	17.5
18	6.5	5.5	6.0	8.0	5.5	6.5	---	---	---	19.0	15.0	17.0
19	8.0	6.0	7.0	10.0	8.0	9.0	---	---	---	19.5	15.5	18.0
20	6.5	6.0	6.0	9.5	8.5	8.5	---	---	---	21.0	18.0	19.5
21	6.0	5.5	6.0	8.5	7.0	7.5	12.5	9.0	10.5	20.0	17.5	18.5
22	7.0	4.5	5.5	7.5	6.5	7.0	13.5	10.5	12.0	18.0	14.0	16.0
23	6.0	5.0	6.0	9.0	6.0	7.5	14.5	11.0	12.5	17.5	15.0	16.0
24	6.5	5.0	5.5	11.0	8.0	9.0	14.5	10.0	12.5	16.5	14.5	15.5
25	7.5	5.5	6.0	12.5	8.5	10.0	---	---	---	17.0	15.0	16.0
26	7.0	4.5	5.5	16.5	11.5	13.5	---	---	---	17.5	14.5	16.0
27	8.0	5.5	6.5	18.5	14.0	16.0	---	---	---	18.5	15.0	17.0
28	7.5	6.5	7.0	17.5	14.0	16.0	---	---	---	19.0	15.0	17.0
29	---	---	---	19.0	14.5	16.5	---	---	---	20.0	16.5	18.0
30	---	---	---	17.5	14.5	16.0	---	---	---	20.5	17.5	19.0
31	---	---	---	17.0	13.0	15.5	---	---	---	22.5	18.5	20.0
MONTH	8.0	1.0	4.5	19.0	1.5	7.5	16.5	6.5	11.0	22.5	11.5	16.5

**SURFACE-WATER RECORDS  
Muskingum River Basin**

**03121850 HUFF RUN AT MINERAL CITY, OHIO—Continued**

TEMPERATURE, WATER (DEG. C), 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	20.5	12.5	17.0	---	---	---	20.0	16.0	18.0	19.5	16.5	18.0
2	19.5	16.5	18.0	---	---	---	20.0	15.5	18.0	19.5	17.5	18.5
3	19.0	16.0	17.0	---	---	---	---	---	---	18.0	15.0	17.0
4	16.5	13.5	15.0	---	---	---	---	---	---	18.5	15.0	16.5
5	16.0	14.0	14.5	---	---	---	---	---	---	19.0	15.0	17.0
6	14.0	12.0	13.0	---	---	---	22.0	19.0	20.0	20.0	16.0	18.0
7	14.0	12.0	13.0	---	---	---	22.5	19.5	21.0	19.5	18.0	18.5
8	15.0	11.5	13.5	---	---	---	23.0	19.5	21.0	18.0	15.5	16.0
9	14.5	13.5	14.0	---	---	---	23.0	20.5	21.5	16.0	13.5	15.0
10	17.0	13.5	15.0	21.0	19.0	20.0	22.0	20.5	21.0	16.5	13.0	14.5
11	17.0	15.5	16.0	20.0	16.5	18.5	22.5	20.0	21.0	17.0	13.5	15.0
12	20.5	16.5	18.0	20.0	16.0	18.5	21.5	18.5	20.0	18.5	14.5	16.5
13	19.5	18.0	18.5	20.5	16.5	18.5	21.0	18.0	19.5	19.0	15.5	17.0
14	18.5	17.5	18.0	20.0	18.0	19.0	21.0	18.5	20.0	19.0	16.0	17.5
15	18.0	16.5	17.0	20.5	19.0	19.5	21.5	19.0	20.0	20.0	17.5	19.0
16	18.5	17.0	17.5	21.0	19.5	20.0	22.0	19.0	20.5	20.0	18.0	19.0
17	19.5	17.0	18.0	21.5	19.5	20.5	23.0	20.0	21.0	20.0	18.5	19.0
18	20.5	17.5	19.0	21.0	18.0	19.5	22.5	20.0	21.0	19.5	16.0	17.5
19	21.0	19.0	20.0	22.0	18.5	20.0	20.5	16.5	18.5	20.0	17.0	18.5
20	21.5	18.5	20.0	22.5	20.0	21.0	19.5	15.0	17.0	20.5	18.0	19.0
21	22.0	18.5	20.5	23.5	20.5	22.0	20.0	16.0	18.0	20.0	18.5	19.5
22	23.0	20.0	21.5	23.5	21.0	22.0	22.0	18.5	20.0	19.5	17.5	18.5
23	22.0	20.5	21.0	28.5	21.0	23.5	---	---	---	17.5	14.0	15.5
24	22.5	19.0	20.5	21.5	18.5	20.0	---	---	---	14.5	11.5	13.5
25	24.0	20.5	22.0	21.0	18.0	19.5	---	---	---	17.0	14.0	15.0
26	24.5	22.0	23.0	21.0	17.5	19.0	---	---	---	19.5	15.5	17.0
27	23.0	20.5	21.5	21.0	17.0	19.0	---	---	---	19.0	17.0	18.0
28	22.5	20.5	21.0	21.5	18.0	19.5	20.5	17.5	19.0	19.0	17.0	18.0
29	---	---	---	22.0	19.0	20.5	21.0	19.5	20.0	17.0	13.5	15.5
30	---	---	---	21.0	18.0	19.5	20.5	18.5	19.5	17.5	15.0	16.0
31	---	---	---	20.5	17.5	19.0	20.5	18.5	19.5	---	---	---
MONTH	24.5	11.5	18.0	28.5	16.0	20.0	23.0	15.0	20.0	20.5	11.5	17.0
YEAR	28.5	1.0	13.0									

OXYGEN DISSOLVED (MG/L), 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	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	12.6	11.5	11.8
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	---
18	---	---	---	---	---	---	---	---	---	---	---	---
19	---	---	---	---	---	---	---	---	---	---	---	---
20	---	---	---	---	---	---	---	---	---	---	---	---
21	---	---	---	---	---	---	---	---	---	---	---	---
22	---	---	---	---	---	---	---	---	---	---	---	---
23	---	---	---	---	---	---	---	---	---	---	---	---
24	---	---	---	---	---	---	12.2	10.9	11.6	---	---	---
25	---	---	---	---	---	---	12.2	11.0	11.5	---	---	---
26	---	---	---	---	---	---	12.4	11.5	12.0	---	---	---
27	---	---	---	---	---	---	---	---	---	---	---	---
28	---	---	---	---	---	---	---	---	---	---	---	---
29	---	---	---	---	---	---	---	---	---	---	---	---
30	---	---	---	---	---	---	---	---	---	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	---	---	---	---	---	---	12.4	10.9	11.7	12.6	11.5	11.8





# SURFACE-WATER RECORDS

## Muskingum River Basin

### 03124500 SUGAR CREEK AT STRASBURG, OHIO

LOCATION.--Lat 40°35'15", long 81°31'24", in NW 1/4 sec. 1, T.9 N., R.3 W., Tuscarawas County, Hydrologic Unit 05040001, on left bank 150 ft upstream from bridge on State Highway 21, 0.8 mi upstream from Broad Run, and 0.1 mi southeast of Strasburg.

DRAINAGE AREA.--311 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1931 to March 1933, January 1935 to July 1939, October 1961 to current year.

REVISED RECORDS.--WSP 1305: 1932-33(M). WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 896.24 ft above sea level. July 29, 1931, to Mar. 31, 1933, and Dec. 10, 1934, to July 31, 1939, nonrecording gage, and Oct. 1, 1961, to May 26, 1964, water-stage recorder at datum 2.00 ft higher.

REMARKS.--Records good except for periods of estimated record and June 30 to July 29, which are fair. Flood flow regulated by Beach City Lake 5.0 mi upstream, since August 1937. Part of municipal water supply for city of Canton, starting May 1962, is pumped from well field 4.3 mi upstream; pumpage is returned to Nimishillen Creek. Mean pumpage for water year 1998, 16.6 ft<sup>3</sup>/s. 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	21	27	65	61	e140	253	203	339	190	1860	54	110
2	24	25	64	61	e130	280	216	543	171	1870	50	89
3	24	27	53	64	e125	246	184	851	110	1840	47	78
4	21	30	52	70	e120	230	165	1500	94	1170	45	70
5	20	34	75	66	e130	234	156	1780	90	394	45	64
6	20	31	65	65	135	217	143	1750	91	262	44	58
7	17	31	53	82	130	197	134	1070	89	198	42	55
8	19	35	51	661	121	199	142	624	78	336	39	54
9	18	56	53	1710	113	575	224	645	72	382	39	59
10	16	60	81	1690	107	1460	322	521	83	228	63	61
11	15	46	406	1320	105	1060	259	415	127	163	143	54
12	17	39	253	536	128	589	195	358	107	128	91	49
13	17	37	143	368	194	440	166	311	214	110	58	46
14	18	57	102	286	175	382	159	266	286	105	47	43
15	15	127	84	232	148	336	189	228	173	102	43	42
16	19	86	72	217	133	289	458	199	222	99	40	40
17	18	64	66	198	167	264	1720	178	475	96	39	38
18	19	49	62	178	786	264	1730	159	318	93	41	38
19	20	44	59	157	1490	297	1690	143	184	90	37	37
20	19	42	58	144	1320	297	1450	133	141	88	34	36
21	18	40	55	132	738	470	929	123	114	86	32	38
22	18	42	57	123	517	1080	608	112	95	82	31	38
23	18	55	82	162	410	748	471	106	84	109	30	36
24	20	50	105	374	361	483	389	103	78	134	65	34
25	21	42	114	310	309	384	330	113	73	79	884	34
26	30	37	165	232	264	333	321	114	68	71	1560	37
27	35	36	135	e200	243	292	703	100	169	68	1750	36
28	76	39	110	e185	247	263	686	93	964	65	987	32
29	55	47	94	e170	---	252	434	93	1080	62	310	32
30	38	62	83	159	---	243	360	97	1840	57	183	30
31	30	---	66	148	---	215	---	102	---	56	135	---
TOTAL	736	1397	2983	10361	8986	12872	15136	13169	7880	10483	7008	1468
MEAN	23.7	46.6	96.2	334	321	415	505	425	263	338	226	48.9
MAX	76	127	406	1710	1490	1460	1730	1780	1840	1870	1750	110
MIN	15	25	51	61	105	197	134	93	68	56	30	30

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 1998, BY WATER YEAR (WY)

MEAN	92.5	187	321	403	491	646	495	317	238	195	157	101
MAX	583	929	1001	2025	1174	1297	953	1089	1008	2128	1219	1048
(WY)	1991	1986	1978	1937	1981	1963	1980	1996	1981	1969	1935	1979
MIN	.000	4.08	7.70	36.9	32.2	151	90.2	72.6	25.3	11.8	11.2	3.34
(WY)	1964	1964	1964	1977	1964	1987	1935	1986	1988	1965	1962	1966

#### SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1932 - 1998	
ANNUAL TOTAL	86919		92479			
ANNUAL MEAN	238		253		303	
HIGHEST ANNUAL MEAN					520	
LOWEST ANNUAL MEAN					160	
HIGHEST DAILY MEAN	1920		Jun 3		1870	
LOWEST DAILY MEAN	15		Oct 11		15	
ANNUAL SEVEN-DAY MINIMUM	17		Oct 9		17	
INSTANTANEOUS PEAK FLOW					2080	
INSTANTANEOUS PEAK STAGE					5.79	
INSTANTANEOUS LOW FLOW					15	
10 PERCENT EXCEEDS	584		632		799	
50 PERCENT EXCEEDS	127		110		132	
90 PERCENT EXCEEDS	29		32		26	

e Estimated.

**SURFACE-WATER RECORDS  
Muskingum River Basin**

**03129000 TUSCARAWAS RIVER AT NEWCOMERSTOWN, OHIO**

LOCATION.--Lat 40°15'41", long 81°36'33", in T.5 N., R.3 W., Tuscarawas County, Hydrologic Unit 05040001, on right bank 150 ft upstream from highway bridge, 0.2 mi south of Newcomerstown, 2 mi upstream from Buckhorn Creek, and 4 mi downstream from Dunlap Creek.

DRAINAGE AREA.--2,443 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1921 to current year.

REVISED RECORDS.--WSP 728: 1929(M). WSP 873: 1935. WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 780.00 ft above sea level. Gage located 1.5 mi upstream from 1921 to Oct. 1, 1934. From 1921 to Sept. 28, 1925, non-recording gage at 785.03 ft above sea level. From Sept. 28, 1925 to Oct. 1, 1934, recording gage at 785.03 ft above sea level. Gage moved to current location Oct. 1, 1934. From Oct. 1, 1934 to July 17, 1935, recording gage at 780.03 ft above sea level. From July 18, 1935 to Feb. 13, 1939, non-recording gage at 780.03 ft above sea level. From Feb. 13, 1939 to present, recording gage at 780.00 ft above sea level.

REMARKS.--Records good. Diversion from basin at Portage Lakes (see REMARKS for station 03117000). Flow regulated by eight flood-control reservoirs at points 40 mi to 64 mi upstream. Water-quality data collected at this site. U.S. Army of Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of about 21.5 ft, at site and datum used prior to Oct. 1, 1934, discharge, 83,000 ft<sup>3</sup>/s computed by U.S. Army Corps of Engineers.

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	570	513	2460	1180	1710	2480	2040	5800	1630	13800	745	1330
2	547	489	2260	928	1550	2700	2050	7060	1800	12900	722	1180
3	518	501	2060	934	1450	2910	2020	11600	1610	11100	686	981
4	503	508	1900	936	1370	3030	1840	10400	1380	7230	657	880
5	483	635	2010	958	1360	2880	1700	10200	1240	4610	641	811
6	471	744	2020	1120	1500	2700	1580	9420	1170	3840	625	756
7	452	746	1690	1310	1650	2530	1480	9100	1110	3440	610	707
8	442	761	1510	7180	1530	2320	1480	8750	1070	3620	596	751
9	431	958	1460	10700	1440	3300	1950	8640	1020	4110	585	792
10	426	1150	1640	11500	1370	6100	3840	8350	1070	3720	581	867
11	419	1210	3240	10600	1310	7390	5030	7460	1090	3060	1010	814
12	411	1160	4310	8970	1280	5840	4030	6480	1290	2720	1170	734
13	415	1090	3370	7060	1460	4310	3030	5640	1870	2500	878	666
14	414	1310	2530	7280	1670	3420	2700	4550	2630	2240	741	627
15	406	1950	2150	7660	1510	3040	2810	3890	2510	1960	654	606
16	412	2570	1760	7560	1350	2750	4630	3480	2210	1710	603	643
17	543	2200	1300	6670	1400	2410	9280	3080	2940	1630	583	583
18	583	1990	1080	5740	3050	2100	8970	2810	3780	1570	560	575
19	602	1980	976	4560	7350	2190	8530	2400	2800	1450	535	571
20	593	1910	916	3810	8250	2360	9050	2000	2320	1450	512	569
21	504	1810	891	3520	6770	2820	8400	1830	2060	1400	494	574
22	451	1720	868	3010	4900	4910	7800	1680	1750	1250	488	627
23	428	1840	944	2810	3780	5580	7430	1540	1500	1240	481	626
24	421	1880	1300	3240	3370	4260	6960	1450	1410	1730	554	629
25	436	1600	1570	3560	3150	3370	5990	1430	1280	1510	2470	592
26	450	1640	1770	2950	2770	2880	5200	1390	1120	1160	5970	554
27	598	1720	1890	2860	2590	2630	6570	1340	2730	974	6690	538
28	715	1770	1590	2830	2530	2440	7160	1270	7570	887	6510	519
29	893	1950	1390	2510	---	2310	7210	1200	11300	840	3920	500
30	702	2500	1270	2300	---	2200	6550	1260	12700	805	2040	489
31	567	---	1300	2100	---	2100	---	1330	---	774	1610	---
TOTAL	15806	42805	55425	138346	73420	102260	147310	146830	79960	101230	44921	21091
MEAN	510	1427	1788	4463	2622	3299	4910	4736	2665	3265	1449	703
MAX	893	2570	4310	11500	8250	7390	9280	11600	12700	13800	6690	1330
MIN	406	489	868	928	1280	2100	1480	1200	1020	774	481	489

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

	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	949	1706	2607	3370	3903	4953	4326	3119	2153	1522	1153	959																																																																	
MAX	4257	7201	8471	16130	9762	11090	7909	9194	8339	7663	8648	4882																																																																	
(WY)	1991	1986	1928	1937	1959	1945	1948	1996	1981	1969	1935	1926																																																																	
MIN	227	253	255	354	422	969	1155	541	430	291	233	245																																																																	
(WY)	1931	1931	1931	1931	1934	1931	1925	1934	1988	1930	1930	1930																																																																	

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1922 - 1998

ANNUAL TOTAL	895536	969404
ANNUAL MEAN	2454	2656
HIGHEST ANNUAL MEAN		2553
LOWEST ANNUAL MEAN		4227
HIGHEST DAILY MEAN	9360 Mar 11	13800 Jul 1
LOWEST DAILY MEAN	406 Oct 15	406 Oct 15
ANNUAL SEVEN-DAY MINIMUM	415 Oct 10	415 Oct 10
INSTANTANEOUS PEAK FLOW		13900 Jul 1
INSTANTANEOUS PEAK STAGE		9.69 Jul 1
INSTANTANEOUS LOW FLOW		406 Oct 15
10 PERCENT EXCEEDS	5240	7100
50 PERCENT EXCEEDS	1900	1680
90 PERCENT EXCEEDS	532	554

**SURFACE-WATER RECORDS  
Muskingum River Basin**

**03136500 KOKOSING RIVER AT MOUNT VERNON, OHIO**

LOCATION.--Lat 40°24'20", long 82°30'00", in sec. 2, T.6 N., R.13 W., Knox County, Hydrologic Unit 05040003, on right bank 300 ft downstream from Tilden Avenue Bridge at Mount Vernon, 0.8 mi downstream from North Branch, and 2.7 mi upstream from Dry Creek.

DRAINAGE AREA.--202 mi<sup>2</sup>.

PERIOD OF RECORD.--February 1953 to current year.

REVISED RECORDS.--WSP 2107: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 981.16 ft above sea level.

(Levels by U.S. Army Corps of Engineers.) Prior to May 21, 1991, gage at same site and at datum 3.00 ft higher.

REMARKS.--Records fair except for periods of estimated record, which are poor. Some regulation by Knox Lake, capacity, 3,750 acre-ft, 8.2 mi upstream on East Branch of North Branch Kokosing River beginning in 1954 and North Branch Kokosing River Lake, 14,886 acre-ft, 10.0 mi upstream on North Branch Kokosing River, beginning in June 1972. Water-quality data collected at this site. U.S. Army Corps of Engineers satellite 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	30	33	71	92	117	201	197	232	129	1340	68	49
2	29	32	62	89	114	197	185	958	115	987	64	46
3	29	31	55	88	109	175	169	1370	105	e700	60	e48
4	30	31	60	91	106	174	157	873	101	e660	76	48
5	30	31	73	93	104	193	144	554	102	e560	61	47
6	30	32	65	103	104	190	138	395	104	e500	54	45
7	28	38	61	358	101	175	134	332	98	e400	50	47
8	28	38	56	1570	99	182	166	651	95	e320	45	46
9	28	38	53	1150	96	381	244	643	95	e270	44	45
10	25	37	143	646	93	425	258	444	115	e230	51	44
11	24	35	e350	400	98	318	205	338	152	209	58	44
12	30	33	214	292	161	244	174	289	275	174	49	42
13	31	34	159	242	199	207	157	252	797	158	45	42
14	28	41	130	198	163	200	152	223	586	147	41	42
15	28	42	111	186	141	180	154	198	380	138	38	40
16	29	42	101	181	140	166	1210	181	548	127	37	39
17	29	40	93	168	309	162	2080	163	439	120	34	42
18	30	38	86	155	759	177	983	150	301	113	33	42
19	30	37	82	134	1180	197	675	141	265	111	30	41
20	30	35	79	130	677	222	715	137	222	115	29	41
21	30	34	76	118	454	998	489	126	187	110	26	41
22	29	37	81	119	343	856	408	117	175	118	26	41
23	29	38	105	164	282	472	342	113	201	170	27	40
24	30	37	122	214	239	340	285	114	186	138	45	39
25	37	36	224	186	212	278	244	126	158	123	92	45
26	37	34	222	161	192	246	253	119	148	e110	126	54
27	52	34	174	150	180	222	405	111	5260	e96	86	e46
28	46	39	144	142	170	210	303	105	5980	e86	70	e50
29	41	52	125	136	---	247	250	102	7050	e80	64	e52
30	38	62	115	131	---	225	235	99	2890	e76	59	e45
31	36	---	e100	123	---	200	---	109	---	73	56	---
TOTAL	981	1121	3592	8010	6942	8660	11511	9765	27259	8559	1644	1333
MEAN	31.6	37.4	116	258	248	279	384	315	909	276	53.0	44.4
MAX	52	62	350	1570	1180	998	2080	1370	7050	1340	126	54
MIN	24	31	53	88	93	162	134	99	95	73	26	39

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 1998, BY WATER YEAR (WY)

MEAN	63.6	144	241	277	348	422	379	272	203	154	82.4	66.2
MAX	275	635	979	1020	805	1068	845	820	909	636	438	587
(WY)	1991	1973	1991	1959	1975	1963	1964	1996	1998	1990	1980	1979
MIN	15.1	20.4	23.0	36.0	31.4	129	122	53.0	29.1	25.0	18.0	16.7
(WY)	1964	1972	1964	1964	1964	1983	1971	1955	1955	1965	1988	1954

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1953 - 1998

ANNUAL TOTAL	75785	89377										
ANNUAL MEAN	208	245										
HIGHEST ANNUAL MEAN									222			
LOWEST ANNUAL MEAN									325			1973
HIGHEST DAILY MEAN	4870	7050	Jun 1						14600		Jan 21	1959
LOWEST DAILY MEAN	24	24	Oct 11						8.6		Aug 22	1988
ANNUAL SEVEN-DAY MINIMUM	28	28	Oct 5						11		Sep 17	1985
INSTANTANEOUS PEAK FLOW		10000	Jun 29						38000		Jan 21	1959
INSTANTANEOUS PEAK STAGE		14.82	Jun 29						18.19		Jan 21	1959
INSTANTANEOUS LOW FLOW		24	Oct 11						8.6		Aug 22	1988
10 PERCENT EXCEEDS	438	441							483			
50 PERCENT EXCEEDS	101	115							104			
90 PERCENT EXCEEDS	34	33							30			

e Estimated.

# SURFACE-WATER RECORDS Muskingum River Basin

## 03139000 KILLBUCK CREEK AT KILLBUCK, OHIO

LOCATION.--Lat 40°28'53", long 81°59'10", Holmes County, Hydrologic Unit 05040003, on right bank at downstream side of U.S. Highway 62 bridge south of Killbuck, 1.2 mi downstream from Black Creek. Prior to Oct. 5, 1976, at site 0.9 mi upstream.

DRAINAGE AREA.--464 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1930 to current year.

REVISED RECORDS.--WSP 873: 1935. WSP 1555: 1935. WSP 1907: Drainage area. WRD-OH-70-1: 1969. WDR-OH-77-1: Drainage area. WDR-OH-87-1: 1984-86.

GAGE.--Water-stage recorder. Datum of gage is 788.05 ft above sea level. Prior to Oct. 1, 1949, nonrecording gage and Oct. 1, 1949 to Oct. 5, 1976, water-stage recorder and nonrecording gage, at site 0.9 mi upstream at same datum.

REMARKS.--Records good. Water-quality and sediment data collected at this site. U.S. Army Corps of Engineers satellite 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	73	91	154	195	208	496	408	605	227	2100	113	381
2	77	94	143	168	197	465	390	1060	156	1880	103	300
3	78	100	132	136	186	417	350	1840	141	1660	97	244
4	75	101	140	138	180	399	327	1750	139	1400	93	203
5	72	100	155	147	185	384	300	1470	134	1100	90	173
6	68	97	151	175	183	361	277	1240	145	751	87	149
7	67	101	133	227	174	333	260	1020	134	566	90	133
8	67	118	126	1090	164	352	296	977	124	649	89	128
9	69	129	122	1300	153	898	377	907	118	493	82	129
10	74	116	196	1340	149	1180	510	750	239	397	98	123
11	77	107	425	1290	150	988	508	640	193	330	188	114
12	76	103	396	1140	225	844	448	560	196	286	139	111
13	74	101	314	854	284	733	379	490	504	252	103	104
14	75	136	251	621	261	655	346	428	374	229	87	95
15	79	162	205	515	225	573	374	371	282	207	80	92
16	76	146	176	450	209	508	1160	329	1250	190	77	90
17	76	137	157	389	314	465	2160	294	1420	179	73	92
18	80	126	144	343	924	468	2000	261	822	164	73	91
19	81	117	136	298	1400	483	1830	241	420	152	72	85
20	79	112	130	274	1350	475	1800	221	320	222	72	83
21	79	106	125	249	1270	939	1630	203	256	180	71	91
22	77	114	128	233	1090	1140	1380	185	221	207	66	98
23	74	131	154	273	881	1030	1110	175	196	357	63	97
24	77	126	180	364	722	915	844	170	177	333	94	98
25	84	122	220	361	606	774	685	181	158	258	628	96
26	87	120	285	320	518	664	689	170	145	194	1100	89
27	133	113	254	291	464	578	1010	161	280	164	834	81
28	148	101	212	273	418	520	828	150	1250	149	942	76
29	116	110	189	261	---	502	729	143	1370	135	914	77
30	100	143	175	249	---	450	652	146	2020	126	707	76
31	93	---	157	230	---	404	---	141	---	121	518	---
TOTAL	2561	3480	5865	14194	13090	19393	24057	17279	13411	15431	7843	3799
MEAN	82.6	116	189	458	468	626	802	557	447	498	253	127
MAX	148	162	425	1340	1400	1180	2160	1840	2020	2100	1100	381
MIN	67	91	122	136	149	333	260	141	118	121	63	76
CFSM	.18	.25	.41	.99	1.01	1.35	1.73	1.20	.96	1.07	.55	.27
IN.	.21	.28	.47	1.14	1.05	1.55	1.93	1.39	1.08	1.24	.63	.30

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1998, BY WATER YEAR (WY)

	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	136	227	383	549	669	869	744	521	404	289	201	145	1015	1286	1509	2416	1648	1685	1400	1523	2281	3960	2147	1473	1991	1986	1991	1937	1975	1978	1957	1996	1947	1969	1935	1979	26.8	37.1	38.1	42.3	71.6	124	170	71.8	69.9	39.6	34.7	25.6	1964	1954	1964	1945	1934	1931	1935	1934	1988	1954	1932	1954								

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1931 - 1998	
ANNUAL TOTAL	154576		140403			
ANNUAL MEAN	423		385		427	
HIGHEST ANNUAL MEAN					695	
LOWEST ANNUAL MEAN					128	
HIGHEST DAILY MEAN	2640	Jun 2	2160	Apr 17	37200	Jul 6 1969
LOWEST DAILY MEAN	67	Oct 7	63	Aug 23	23	Sep 10 1954
ANNUAL SEVEN-DAY MINIMUM	70	Oct 4	70	Aug 17a	23	Sep 8 1954
INSTANTANEOUS PEAK FLOW			2200		47500	
INSTANTANEOUS PEAK STAGE			15.75		26.40	
INSTANTANEOUS LOW FLOW			62		23	
ANNUAL RUNOFF (CFSM)	.91		.83		.92	
ANNUAL RUNOFF (INCHES)	12.39		11.26		12.50	
10 PERCENT EXCEEDS	1040		1020		1090	
50 PERCENT EXCEEDS	260		196		207	
90 PERCENT EXCEEDS	80		81		56	

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

# SURFACE-WATER RECORDS

## Muskingum River Basin

### 03140000 MILL CREEK NEAR COSHOCTON, OHIO

LOCATION.--Lat 40°21'46", long 81°51'45", Coshocton County, Hydrologic Unit 05040003, on left bank 0.5 mi downstream from Little Mill Creek and 6 mi north of Coshocton.  
 DRAINAGE AREA.--27.2 mi<sup>2</sup>.  
 PERIOD OF RECORD.--October 1936 to current year. Monthly discharge only for October 1936, published in WSP 1305.  
 REVISED RECORDS.--WSP 1143: 1946, 1947-48(P). WSP 1907: Drainage area.  
 GAGE.--Water-stage recorder and concrete control. Datum of gage is 782.00 ft above sea level.  
 REMARKS.--Records 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	.98	1.2	5.4	5.0	13	27	26	40	12	49	1.3	1.9
2	1.3	1.1	3.6	5.8	12	24	23	82	6.6	29	1.1	1.5
3	1.4	1.0	3.0	7.3	11	22	21	96	5.4	22	1.0	1.3
4	1.2	1.1	7.1	6.8	11	23	20	96	5.4	18	.93	1.2
5	1.0	1.2	5.5	5.9	14	21	17	79	5.2	17	.90	1.1
6	.68	1.1	4.0	8.2	15	19	16	60	6.1	12	.86	.93
7	.58	1.0	3.3	53	14	18	15	53	4.8	11	.71	.93
8	.53	1.4	2.9	242	13	34	23	89	4.1	19	.70	3.2
9	.51	2.7	2.9	244	12	83	38	69	3.8	11	.69	1.8
10	.45	2.0	44	96	12	89	39	53	21	9.2	.79	1.3
11	.44	1.8	23	57	13	61	29	45	11	7.4	.95	1.1
12	.43	1.6	12	43	23	48	24	38	11	6.5	1.0	.89
13	.44	1.4	9.3	36	20	40	22	33	35	5.8	.75	.74
14	.44	12	7.6	28	18	38	22	28	13	5.2	.61	.70
15	.41	6.0	6.2	26	16	32	21	24	15	5.1	.56	.62
16	.42	4.1	5.8	24	17	28	77	21	16	5.0	.53	.56
17	.43	2.7	5.3	21	30	26	96	19	12	4.8	.67	.63
18	.47	2.3	4.7	19	88	28	79	17	8.2	3.5	1.0	.57
19	.46	2.1	4.3	16	96	29	84	15	8.9	2.9	.58	.54
20	.45	2.1	4.0	15	79	28	90	13	7.2	6.3	.52	.58
21	.44	2.0	3.7	13	58	86	67	12	5.8	4.0	.49	.66
22	.42	3.1	5.2	13	47	79	55	10	5.3	3.7	.48	.66
23	.43	3.1	9.7	30	43	56	47	9.9	4.8	3.7	.47	.60
24	.46	2.3	7.7	28	39	45	39	9.5	4.5	4.3	12	.55
25	.60	2.1	18	23	32	38	33	10	3.5	2.4	47	.60
26	.90	2.1	15	21	29	34	48	9.0	3.2	2.0	21	.69
27	2.9	2.0	12	20	31	30	78	7.8	18	1.8	5.7	.74
28	2.0	3.9	9.9	18	28	29	51	6.9	83	1.6	3.1	.70
29	1.7	7.2	8.8	17	---	34	43	6.9	87	1.5	2.4	.61
30	1.5	6.9	8.3	16	---	28	42	8.6	62	1.4	2.2	.55
31	1.4	---	6.2	14	---	25	---	6.7	---	1.4	3.4	---
TOTAL	25.77	84.6	268.4	1172.0	834	1202	1285	1067.3	488.8	277.5	114.39	28.45
MEAN	.83	2.82	8.66	37.8	29.8	38.8	42.8	34.4	16.3	8.95	3.69	.95
MAX	2.9	12	44	244	96	89	96	96	87	49	47	3.2
MIN	.41	1.0	2.9	5.0	11	18	15	6.7	3.2	1.4	.47	.54
CFSM	.03	.10	.32	1.39	1.10	1.43	1.57	1.27	.60	.33	.14	.03
IN.	.04	.12	.37	1.60	1.14	1.64	1.76	1.46	.67	.38	.16	.04

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1998, BY WATER YEAR (WY)

	6.76	15.1	29.3	41.7	49.3	58.3	53.7	32.8	23.6	15.1	7.53	6.39
MEAN	6.76	15.1	29.3	41.7	49.3	58.3	53.7	32.8	23.6	15.1	7.53	6.39
MAX	56.4	92.1	138	206	106	174	134	79.5	102	161	73.9	96.1
(WY)	1978	1986	1991	1937	1951	1963	1979	1996	1957	1969	1980	1979
MIN	.10	.42	.60	1.49	2.69	15.2	7.87	5.59	1.28	.57	.28	.14
(WY)	1964	1954	1964	1977	1954	1969	1971	1986	1988	1944	1962	1963

#### SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1937 - 1998	
ANNUAL TOTAL	7815.47		6848.21			
ANNUAL MEAN	21.4		18.8		27.9	
HIGHEST ANNUAL MEAN					54.5	
LOWEST ANNUAL MEAN					7.66	
HIGHEST DAILY MEAN	238		244		2360	
LOWEST DAILY MEAN	.41		.41		.00	
ANNUAL SEVEN-DAY MINIMUM	.43		.43		.06	
INSTANTANEOUS PEAK FLOW			372		8720	
INSTANTANEOUS PEAK STAGE			5.59		15.38	
INSTANTANEOUS LOW FLOW			.40		.00	
ANNUAL RUNOFF (CFSM)	.79		.69		1.02	
ANNUAL RUNOFF (INCHES)	10.69		9.37		13.93	
10 PERCENT EXCEEDS	53		50		63	
50 PERCENT EXCEEDS	12		7.8		11	
90 PERCENT EXCEEDS	1.2		.62		1.0	

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

## SURFACE-WATER RECORDS Muskingum River Basin

### 03140500 MUSKINGUM RIVER NEAR COSHOCTON, OHIO

LOCATION.--Lat 40°14'54", long 81°52'23", in T.5 N., R.6 W., Coshocton County, Hydrologic Unit 05040004, on right bank at upstream side of former highway bridge, 1 mi southwest of Coshocton, and 2 mi downstream from confluence of Tuscarawas and Walhonding Rivers.

DRAINAGE AREA.--4,859 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1936 to current year.

REVISED RECORDS.--WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 725.00 ft above sea level. Prior to Sept.19, 1936, nonrecording gage and Sept. 20, 1936 to Sept. 30, 1977, water-stage recorder at same site at datum 5.00 ft higher.

REMARKS.--Records good except for periods of estimated record, which are fair. Flow regulated by 13 flood-control reservoirs at points 19 mi to 88 mi upstream. Water-quality data collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of about 28.8 ft, discharge, 202,000 ft<sup>3</sup>/s, computed by U.S. Army Corps of Engineers.

#### 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	922	1110	2960	2630	3390	4860	4320	9110	2480	21800	1620	3380
2	968	1040	3070	2360	3100	5210	4270	14400	2940	22100	1540	2820
3	957	1010	3090	2230	2900	5250	4110	22000	2710	21100	1460	2400
4	932	1010	3040	2140	2710	5280	3820	19000	2460	18400	1390	2080
5	905	1010	3010	2130	2680	5180	3480	19500	2250	14300	1350	1840
6	879	1060	3030	2130	2780	4960	3250	18700	2160	12600	1320	1590
7	856	1120	3000	2270	2880	4670	3070	17600	2100	11600	1290	1440
8	832	1180	2810	12000	2810	4390	3020	16400	2030	11400	1250	1380
9	e820	1240	2680	20300	2660	6420	3620	15700	1950	11800	1210	1370
10	e812	1380	2780	20800	2550	11200	5830	14600	1970	11500	1220	1410
11	e804	1510	4260	19600	2480	12600	7890	13000	2280	10700	1590	1420
12	e796	1560	6350	17600	2600	10400	7210	11000	2540	10200	2230	1340
13	e788	1580	6120	13200	3110	8060	5860	9590	3530	9840	1810	1240
14	e788	1660	4830	12100	3400	6700	5130	7810	5670	9450	1580	1170
15	777	1850	3970	12000	3120	5950	4960	6760	5390	6760	1440	1110
16	773	2400	3460	11700	2850	5370	9920	5990	5000	3620	1330	1080
17	796	2710	2940	10700	3040	4800	18900	5280	7530	3250	1250	1050
18	866	2720	2490	9040	6690	4340	19200	4790	8340	3040	1200	1030
19	914	2700	2240	7430	15800	4400	18900	4310	6600	2830	1140	1010
20	939	2650	2100	6180	16600	4570	19400	3850	5600	2730	1130	999
21	935	2530	2010	5560	14300	6160	18600	3500	4400	2840	1060	1010
22	883	2460	1950	4910	11400	11600	16300	3210	3710	2570	1030	1080
23	836	2390	1970	4870	9480	11800	13700	2970	3300	2730	1010	1130
24	808	2390	2200	5280	8240	10300	12400	2800	3120	3710	1040	1080
25	805	2370	2640	5940	6990	8570	10500	2730	2890	3300	2800	1060
26	831	2250	3280	5180	6030	7100	8830	2700	2640	2680	7900	1020
27	934	2270	3760	4820	5440	6190	10900	2600	4900	2310	9560	1010
28	1130	2360	3600	4780	5100	5590	11500	2480	17200	2070	9460	994
29	1330	2560	3250	4430	---	5260	10800	2370	17600	1920	7850	950
30	1370	2720	2980	4080	---	4980	9940	2370	19000	1810	5430	918
31	1250	---	2850	3830	---	4590	---	2370	---	1710	4310	---
TOTAL	28236	56800	98720	242220	155130	206750	279630	269490	154290	246670	79800	41411
MEAN	911	1893	3185	7814	5540	6669	9321	8693	5143	7957	2574	1380
MAX	1370	2720	6350	20800	16600	12600	19400	22000	19000	22100	9560	3380
MIN	773	1010	1950	2130	2480	4340	3020	2370	1950	1710	1010	918

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 1998, BY WATER YEAR (WY)

MEAN	1717	3039	4791	6392	7898	9846	8839	6272	4669	3250	2152	1712
MAX	7981	12310	14860	30880	20990	21070	16400	19350	17480	16640	12430	9765
(WY)	1991	1986	1991	1937	1959	1945	1957	1996	1947	1969	1980	1979
MIN	636	566	558	923	929	2520	2189	1611	921	637	645	499
(WY)	1992	1954	1964	1977	1964	1969	1946	1941	1988	1954	1954	1954

#### SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1936 - 1998

ANNUAL TOTAL	1819868	1859147										
ANNUAL MEAN	4986	5094								5034		
HIGHEST ANNUAL MEAN										7545		1980
LOWEST ANNUAL MEAN										2082		1954
HIGHEST DAILY MEAN				20000	Jun 4		22100	Jul 2		77900	Jan 26	1937
LOWEST DAILY MEAN				773	Oct 16		773	Oct 16		420	Sep 13	1954
ANNUAL SEVEN-DAY MINIMUM				789	Oct 11		789	Oct 11		452	Sep 26	1954
INSTANTANEOUS PEAK FLOW							23300	May 3		78700	Jan 26	1937
INSTANTANEOUS PEAK STAGE							15.37	May 3		21.98	Jan 26	1937
INSTANTANEOUS LOW FLOW							773	Oct 16		420	Sep 13	1954
10 PERCENT EXCEEDS				12200			12200			12900		
50 PERCENT EXCEEDS				3300			3000			2960		
90 PERCENT EXCEEDS				1050			1010			862		

e Estimated.

# SURFACE-WATER RECORDS

## Muskingum River Basin

### 03142000 WILLS CREEK AT CAMBRIDGE, OHIO

LOCATION.--Lat 40°00'52", long 81°35'14", Guernsey County, Hydrologic Unit 05040005, on left bank at upstream side of bridge on Campbell Avenue in Cambridge, 0.9 mi downstream from Leatherwood Creek.

DRAINAGE AREA.--406 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1926 to September 1928, May 1937 to current year.

REVISED RECORDS.--WSP 853: 1929(M). WSP 893: 1928. WSP 973: 1942.

GAGE.--Water-stage recorder. Datum of gage is 772.34 ft above sea level. Prior to Oct. 6, 1927, nonrecording gage at site 1.5 mi downstream at different datum. Oct. 6, 1927, to Sept. 30, 1928, and May 22, 1937, to Oct. 18, 1938, nonrecording gage at present site and datum.

REMARKS.--Records good. Flow regulated by Senecaville Lake on Seneca Fork, 22 mi upstream, beginning in 1937. Water is diverted 2.7 mi upstream from station for municipal supply of city of Cambridge; diversion not included in figures of daily discharge. 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	38	34	651	104	162	552	206	886	187	8060	292	39
2	35	30	565	87	146	574	227	2150	261	6300	90	42
3	32	37	499	86	139	729	178	4250	232	4920	72	45
4	28	44	550	94	134	790	155	4680	108	3810	63	41
5	28	46	532	84	203	579	145	3970	67	2910	60	29
6	25	48	440	173	580	388	129	3020	56	2040	56	28
7	27	51	392	457	584	308	119	2090	54	1430	53	44
8	33	69	372	2550	449	385	167	1610	51	1380	48	72
9	32	111	365	3980	373	959	622	1830	51	1270	42	89
10	33	115	440	4480	306	1520	1640	1520	57	1150	43	62
11	36	79	886	3940	278	1030	850	1220	81	1070	48	49
12	34	63	758	2710	312	692	402	1070	165	1010	57	35
13	37	67	549	1570	383	586	304	1000	413	972	59	31
14	41	291	462	1290	311	562	519	942	666	958	54	30
15	42	822	409	1210	252	537	558	895	428	946	52	36
16	46	671	377	1200	227	488	529	875	1400	931	49	33
17	41	568	353	1150	286	299	1240	854	1800	928	50	33
18	40	642	172	1100	1150	238	890	822	1430	923	48	31
19	39	659	86	1050	2550	353	1070	796	756	916	47	32
20	38	643	77	973	2840	382	2040	774	813	931	44	32
21	37	635	71	430	1990	725	1830	398	564	941	38	55
22	38	690	75	268	702	1320	1210	153	503	937	29	140
23	36	840	174	383	474	796	1080	102	698	917	31	162
24	40	605	243	565	970	474	964	90	549	904	42	83
25	44	508	245	436	1100	381	644	111	276	894	74	55
26	64	472	342	375	1030	331	446	114	146	884	190	46
27	96	457	248	445	805	294	886	91	989	871	151	41
28	119	469	181	449	476	262	904	82	5010	874	70	48
29	72	540	143	358	---	236	682	74	10800	883	48	46
30	51	601	456	282	---	216	710	68	10100	829	41	37
31	40	---	317	209	---	198	---	86	---	616	38	---
TOTAL	1342	10907	11430	32488	19212	17184	21346	36623	38711	52405	2079	1546
MEAN	43.3	364	369	1048	686	554	712	1181	1290	1690	67.1	51.5
MAX	119	840	886	4480	2840	1520	2040	4680	10800	8060	292	162
MIN	25	30	71	84	134	198	119	68	51	616	29	28

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1998, BY WATER YEAR (WY)

MEAN	112	323	518	617	795	883	764	541	389	220	157	119
MAX	835	1912	1615	1674	1789	2361	1710	1890	1602	1690	1937	1139
(WY)	1976	1986	1991	1950	1939	1945	1940	1996	1981	1998	1980	1974
MIN	3.18	4.31	7.55	48.1	25.0	109	87.7	30.5	20.6	11.6	3.77	3.59
(WY)	1954	1954	1954	1954	1954	1969	1941	1941	1988	1966	1962	1963
(+)	5.31	4.88	4.92	4.47	4.48	4.60	4.29	4.75	4.91	5.45	5.86	5.11

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1926 - 1998	
ANNUAL TOTAL	141431		245273			
ANNUAL MEAN	387		672		448	
HIGHEST ANNUAL MEAN					762	
LOWEST ANNUAL MEAN					118	
HIGHEST DAILY MEAN	3460		Mar 4		10800	
LOWEST DAILY MEAN	15		Jul 21		25	
ANNUAL SEVEN-DAY MINIMUM	20		Aug 2		29	
INSTANTANEOUS PEAK FLOW					11400	
INSTANTANEOUS PEAK STAGE					26.91	
INSTANTANEOUS LOW FLOW					24	
10 PERCENT EXCEEDS	889		1340		1200	
50 PERCENT EXCEEDS	230		353		186	
90 PERCENT EXCEEDS	26		39		18	

(+) Diversion, in cubic feet per second, furnished by City of Cambridge.

**SURFACE-WATER RECORDS**  
**Muskingum River Basin**

**03144000 WAKATOMIKA CREEK NEAR FRAZEYSBURG, OHIO**

LOCATION.--Lat 40°07'57", long 82°08'53", in NW 1/4 sec. 13, T.3 N., R.9 W., Muskingum County, Hydrologic Unit 05040004, on right bank 2.0 mi northwest of Frazeytsburg, 2.0 mi downstream from Fivemile Run, and 2.5 mi upstream from Black Run.

DRAINAGE AREA.--140 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1936 to current year.

REVISED RECORDS.--WSP 1113: 1937(M). WSP 1555: 1952(M).

GAGE.--Water-stage recorder. Datum of gage is 748.12 ft above sea level. Prior to Oct. 31, 1936, nonrecording gage at same site and datum.

REMARKS.--Records fair. Water-quality and sediment data collected at this site. U.S. Army Corps of Engineers satellite 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	12	15	138	92	82	142	158	324	68	642	22	17
2	12	17	96	68	81	131	144	2750	46	356	20	15
3	11	24	78	69	75	125	131	3030	40	250	18	13
4	11	27	109	70	75	120	126	1380	37	202	18	12
5	11	28	97	65	96	109	114	714	36	178	18	11
6	10	24	80	92	110	99	108	445	36	143	17	11
7	10	24	69	587	125	94	102	421	32	122	17	10
8	11	32	62	2050	116	129	228	1300	28	170	15	12
9	12	46	59	1820	106	758	361	1160	29	131	14	13
10	13	48	381	695	101	458	318	579	34	102	17	12
11	12	39	371	369	110	283	241	394	34	83	19	11
12	12	33	191	265	190	216	197	313	42	72	24	10
13	14	31	148	214	165	187	175	242	146	66	18	9.8
14	15	91	123	168	148	180	169	197	135	61	15	9.2
15	15	78	102	161	134	155	157	165	133	59	14	9.1
16	16	55	89	149	155	140	1870	144	137	56	16	9.0
17	16	44	82	135	359	136	1100	124	104	54	28	9.0
18	16	36	72	124	1070	153	549	104	64	48	17	9.0
19	16	36	69	107	1000	160	585	92	54	45	14	9.3
20	16	32	65	98	494	172	535	97	50	51	12	10
21	16	31	60	87	330	869	394	78	43	51	11	9.6
22	15	71	67	89	249	594	322	68	52	44	11	11
23	17	64	89	164	226	356	265	62	78	42	11	12
24	17	49	87	159	205	271	223	59	50	40	12	11
25	24	41	152	136	174	224	191	61	39	36	32	11
26	28	39	140	124	157	206	225	55	36	33	103	11
27	46	36	122	118	153	185	321	50	6640	32	40	12
28	39	99	105	114	144	173	208	46	9200	28	24	12
29	23	170	94	107	---	184	189	44	3570	27	19	17
30	18	142	89	99	---	160	220	63	1370	26	17	15
31	15	---	80	90	---	146	---	58	---	24	16	---
TOTAL	519	1502	3566	8685	6430	7315	9926	14619	22363	3274	649	343.0
MEAN	16.7	50.1	115	280	230	236	331	472	745	106	20.9	11.4
MAX	46	170	381	2050	1070	869	1870	3030	9200	642	103	17
MIN	10	15	59	65	75	94	102	44	28	24	11	9.0
CFSM	.12	.36	.82	2.00	1.64	1.69	2.36	3.37	5.32	.75	.15	.08
IN.	.14	.40	.95	2.31	1.71	1.94	2.64	3.88	5.94	.87	.17	.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 1998, BY WATER YEAR (WY)

	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	37.2	86.2	156	221	256	310	298	197	127	81.9	58.5	37.5																																																		
MAX	155	396	786	1219	560	883	654	601	745	432	720	617																																																		
(WY)	1987	1986	1991	1937	1990	1963	1940	1968	1998	1990	1980	1979																																																		
MIN	4.78	7.39	10.1	14.3	15.0	73.8	47.9	21.7	12.6	9.48	5.05	3.45																																																		
(WY)	1964	1954	1964	1964	1964	1983	1941	1941	1988	1944	1962	1953																																																		

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1937 - 1998	
ANNUAL TOTAL	47260		79191.0			
ANNUAL MEAN	129		217			
HIGHEST ANNUAL MEAN					155	1979
LOWEST ANNUAL MEAN					270	1954
HIGHEST DAILY MEAN	2020	Jun 1	9200	Jun 28	51.9	Jun 28 1998
LOWEST DAILY MEAN	10	Oct 6	9.0	Sep 16	2.6	Oct 3 1963
ANNUAL SEVEN-DAY MINIMUM	11	Oct 2	9.2	Sep 13	2.7	Sep 25 1953
INSTANTANEOUS PEAK FLOW			10500	Jun 27a	16800	Sep 14 1979
INSTANTANEOUS PEAK STAGE			12.44	Jun 27	14.07	Sep 14 1979
INSTANTANEOUS LOW FLOW			9.0	Sep 14	2.0	Oct 3 1963
ANNUAL RUNOFF (CFSM)	.92		1.55		1.11	
ANNUAL RUNOFF (INCHES)	12.56		21.04		15.04	
10 PERCENT EXCEEDS	257		360		346	
50 PERCENT EXCEEDS	83		78		64	
90 PERCENT EXCEEDS	16		12		11	

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



# SURFACE-WATER RECORDS

## Muskingum River Basin

### 03145000 SOUTH FORK LICKING RIVER NEAR HEBRON, OHIO

LOCATION.--Lat 39°59'19", long 82°28'30", in NW 1/4 sec. 3, T.1 N., R.12 W., Licking County, Hydrologic Unit 05040006, on right bank at upstream side of bridge on county road, 800 ft downstream from Beaver Run, 2.3 mi north of Hebron, and 2.5 mi upstream from Ramp Creek.

DRAINAGE AREA.--133 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1939 to September 1948, July 1968 to current year.

REVISED RECORDS.--WSP 923: 1940. WSP 1033: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 856.08 ft above sea level. Prior to Sept. 13, 1974, nonrecording gage at same site and datum.

REMARKS.--Records good. Occasional regulation by Buckeye Lake, capacity, 27,300 acre-ft, on unnamed tributary 5.6 mi upstream from station. Occasional diversion from Buckeye Lake into Jonathan Creek, which bypasses station. Water-quality data collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 21, 1959, reached a stage of 12.4 ft present datum, from flood marks; discharge 5,880 ft<sup>3</sup>/s, by slope-area measurement.

#### 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	14	31	402	119	102	86	75	585	50	438	14	6.1
2	15	39	270	100	96	74	65	1420	60	327	9.6	5.9
3	13	41	234	108	90	67	52	1880	75	286	8.6	5.7
4	10	37	277	113	89	74	49	1220	20	268	8.4	5.6
5	48	37	246	113	115	80	44	690	18	216	7.7	5.3
6	45	35	205	255	174	69	41	483	18	40	7.7	5.0
7	15	30	184	638	248	62	41	293	16	33	7.9	5.6
8	10	45	172	1600	210	121	195	796	15	52	6.7	8.4
9	11	65	171	1060	166	592	538	264	16	77	6.1	6.6
10	16	84	666	352	147	355	464	165	15	62	7.0	5.8
11	12	51	705	202	162	170	180	125	25	34	10	5.5
12	9.5	36	366	264	450	120	121	105	52	25	9.8	5.2
13	10	33	273	290	244	95	101	93	312	21	7.9	5.1
14	19	222	224	264	174	85	93	70	190	18	7.9	5.9
15	19	281	198	253	147	73	80	67	796	15	6.9	7.2
16	14	230	180	244	238	67	1490	76	679	18	6.6	5.7
17	16	208	166	230	449	66	2040	66	369	16	6.9	7.5
18	18	190	151	215	1180	94	1030	48	246	13	9.1	5.2
19	21	179	141	196	908	118	783	46	207	12	7.5	5.1
20	34	173	132	181	286	124	573	41	120	41	7.4	5.0
21	52	174	121	166	193	667	301	46	56	35	6.7	16
22	60	370	147	159	148	296	226	36	108	19	6.3	16
23	65	287	198	288	131	167	194	31	62	14	6.1	11
24	90	236	205	242	119	127	145	41	49	12	6.6	7.8
25	107	249	443	190	105	103	109	40	68	10	36	6.0
26	91	236	252	167	93	93	151	36	80	9.4	42	5.4
27	74	222	189	154	86	79	332	32	247	8.9	15	10
28	51	213	160	142	82	81	145	28	664	8.5	8.4	56
29	29	217	146	130	---	59	113	26	887	8.3	7.5	19
30	21	307	135	119	---	56	337	32	860	20	6.8	9.9
31	27	---	115	110	---	54	---	55	---	36	6.5	---
TOTAL	1036.5	4558	7474	8664	6632	4374	10108	8936	6380	2193.1	311.6	274.5
MEAN	33.4	152	241	279	237	141	337	288	213	70.7	10.1	9.15
MAX	107	370	705	1600	1180	667	2040	1880	887	438	42	56
MIN	9.5	30	115	100	82	54	41	26	15	8.3	6.1	5.0

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1998, BY WATER YEAR (WY)

	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	41.8	184	209	194	252	259	240	176	141	103	72.2	48.0																																															
MAX	177	858	666	460	536	860	616	768	554	572	503	607																																															
(WY)	1976	1986	1991	1991	1990	1945	1970	1996	1997	1992	1979	1979																																															
MIN	4.79	3.50	7.77	12.7	32.7	27.2	25.6	4.07	8.43	4.92	3.48	4.70																																															
(WY)	1945	1945	1944	1944	1944	1941	1941	1941	1988	1944	1942	1991																																															

#### SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1940 - 1998	
ANNUAL TOTAL	79052.5		60941.7			
ANNUAL MEAN	217		167		160	
HIGHEST ANNUAL MEAN					273	
LOWEST ANNUAL MEAN					1979	
HIGHEST DAILY MEAN	4560		Jul 28		56.9	
LOWEST DAILY MEAN	9.5		Oct 12		1941	
ANNUAL SEVEN-DAY MINIMUM	12		Oct 7		.87	
INSTANTANEOUS PEAK FLOW			2240		Apr 17	
INSTANTANEOUS PEAK STAGE			10.32		Apr 17	
INSTANTANEOUS LOW FLOW			5.0		Sep 6	
10 PERCENT EXCEEDS	418		359		427	
50 PERCENT EXCEEDS	90		80		48	
90 PERCENT EXCEEDS	22		7.6		8.0	



**SURFACE-WATER RECORDS**  
**Muskingum River Basin**

**03150300 MUSKINGUM RIVER NEAR BEVERLY, OHIO**

LOCATION.--Lat 39°34'50", long 81°40'17", Washington County, Hydrologic Unit 05040004, on right bank, 400 ft upstream from Olive Green Creek, 2.0 mi downstream from Meigs Creek and 2.5 mi northwest of Beverly, OH.

DRAINAGE AREA.--7,627 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1993 to current year.

GAGE.--Water-stage recorder. Datum of gage is 614.92 ft above sea level. Water-quality sampling site previously located 0.8 mi upstream.

REMARKS.--Records good except for periods of estimated record, which are poor and discharges below 2,500 ft<sup>3</sup>/s, which are 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	1340	1760	5070	3990	5620	9200	6510	16900	4450	e30000	3550	4510
2	1290	1640	6090	3630	5110	7980	6460	30000	4180	e33000	3190	3770
3	1330	1530	5790	3460	4700	8500	6390	42300	4430	33000	2810	3240
4	1330	1420	4650	3260	4450	8520	5800	33700	4150	32500	2410	2870
5	1320	1420	5150	3110	4690	8270	5420	29400	3700	29900	2170	2590
6	1300	1470	5220	3180	5710	8020	4980	31100	3250	26100	2040	2360
7	1270	1550	5160	5370	5730	7570	4550	30100	3040	24500	1940	2250
8	1210	1660	4650	32100	5940	7400	4560	37000	2880	23700	1860	2180
9	1160	1770	3640	40500	6130	10600	8070	33300	2770	23400	1830	2050
10	1190	1870	3940	33900	6150	15900	11700	31100	2820	23100	1790	1980
11	1520	2140	8500	31100	5210	18400	12900	28500	3050	21200	1870	2040
12	1210	2260	11000	30400	5650	18500	12800	25700	3900	17300	2420	2000
13	1200	2250	10500	28700	6470	14900	11000	23400	5810	16900	2640	1950
14	1190	2910	8940	24800	6760	12200	8900	21400	8700	16700	2220	1850
15	1140	3280	6290	23300	6640	9890	7660	18700	9770	15900	1990	1700
16	1130	3420	5630	21900	5420	8810	12000	14600	17900	12700	1840	1620
17	1130	4070	5160	17200	5620	8400	24800	11200	15800	10800	1720	1580
18	1160	4090	4270	14900	13700	7780	29800	9320	13400	10300	1620	1540
19	1210	3640	3860	12800	26000	7470	31000	8080	e12500	9970	1570	1500
20	1230	3600	3510	10900	28000	7670	32400	6750	e11000	9870	1630	1500
21	1260	3670	3210	9580	27000	12100	29600	6130	e9000	9780	1540	1560
22	1250	4480	3090	8470	23900	16800	28700	5680	e8000	9410	1430	2160
23	1190	4760	3190	8080	18800	20300	26600	5190	e6600	8030	1380	2100
24	1180	4250	3500	8680	15100	19200	21800	4700	e5600	6240	1330	1980
25	1240	4460	4460	9250	12700	16600	18000	4430	e5200	6050	1700	2010
26	1330	3870	5220	8900	11100	12600	15700	4180	e4600	5310	5770	1910
27	1640	3570	5840	7850	10100	10600	15700	3880	e14000	4680	9960	1870
28	1720	3610	5680	7410	9640	9340	16600	3660	e76000	4150	9660	2010
29	1760	3980	5240	7140	---	8540	16100	3460	e72000	3870	9470	1830
30	1860	4420	5170	6680	---	7900	15400	3400	e50000	3730	7140	1670
31	1880	---	4310	6050	---	6820	---	3390	---	3920	5560	---
TOTAL	41170	88820	165930	436590	292040	346780	451900	530650	388500	486010	98050	64180
MEAN	1328	2961	5353	14080	10430	11190	15060	17120	12950	15680	3163	2139
MAX	1880	4760	11000	40500	28000	20300	32400	42300	76000	33000	9960	4510
MIN	1130	1420	3090	3110	4450	6820	4550	3390	2770	3730	1330	1500
MED	1250	3350	5160	8900	6310	9200	12900	14600	5710	12700	1990	1990
CFSM	.17	.39	.70	1.85	1.37	1.47	1.98	2.24	1.70	2.06	.41	.28
IN.	.20	.43	.81	2.13	1.42	1.69	2.20	2.59	1.89	2.37	.48	.31

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1998, BY WATER YEAR (WY)

	2078	5335	8375	12430	13100	16150	13580	14640	10370	5950	3513	2008
MEAN	2078	5335	8375	12430	13100	16150	13580	14640	10370	5950	3513	2008
MAX	3805	8783	17510	16690	20870	22380	22910	33480	16980	15680	5779	2780
(WY)	1997	1994	1997	1996	1994	1996	1994	1996	1996	1998	1995	1996
MIN	1275	2961	3895	8396	7624	10840	6806	5745	2900	3405	1865	1255
(WY)	1995	1998	1996	1994	1995	1995	1997	1994	1994	1997	1993	1995

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1993 - 1998
ANNUAL TOTAL	2799360	3390620	
ANNUAL MEAN	7669	9289	9137
HIGHEST ANNUAL MEAN			11480
LOWEST ANNUAL MEAN			6900
HIGHEST DAILY MEAN	40600	Mar 2	76000
LOWEST DAILY MEAN	1130	Oct 16	1130
ANNUAL SEVEN-DAY MINIMUM	1170	Oct 12	1170
INSTANTANEOUS PEAK FLOW			98400
INSTANTANEOUS PEAK STAGE			18.49
INSTANTANEOUS LOW FLOW			1130
ANNUAL RUNOFF (CFSM)	1.01	1.22	1.20
ANNUAL RUNOFF (INCHES)	13.65	16.54	16.28
10 PERCENT EXCEEDS	17900	24800	22900
50 PERCENT EXCEEDS	5350	5420	5350
90 PERCENT EXCEEDS	1640	1540	1740

e Estimated.

**SURFACE-WATER RECORDS**  
**Hocking River Basin**

**03157000 CLEAR CREEK NEAR ROCKBRIDGE, OHIO**

LOCATION.--Lat 39°35'18", long 82°34'43", in NE 1/4 sec. 20, T.13 N., R.18 W., Hocking County, Hydrologic Unit 05030204, on left bank at upstream side of county road bridge, 400 ft downstream from unnamed right bank tributary, 2.0 mi upstream from mouth, and 3 mi west of Rockbridge.

DRAINAGE AREA.--89.0 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 1305: 1940(M), 1943(M), 1945(M). WSP 1907: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 760.13 ft above sea level. Prior to May 2, 1940, nonrecording gage at same site and datum.

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	19	31	56	56	63	106	106	347	40	58	26	13
2	19	31	28	57	62	97	93	536	37	45	24	13
3	19	29	50	56	59	91	82	409	34	39	23	12
4	19	29	60	56	61	87	81	334	34	43	22	12
5	19	28	24	54	73	83	75	207	33	46	22	12
6	19	27	11	195	82	79	71	167	33	37	21	12
7	18	28	12	432	104	76	69	154	32	34	19	11
8	20	40	13	1250	134	92	92	255	30	33	15	13
9	21	57	24	713	161	225	269	166	32	35	15	13
10	21	50	203	317	181	209	431	137	36	40	18	13
11	21	43	96	215	192	150	200	116	36	35	20	12
12	21	29	50	176	273	122	154	102	55	33	16	12
13	21	40	42	156	178	108	133	90	260	32	14	12
14	22	119	26	133	144	105	120	81	127	32	14	12
15	22	51	18	128	121	93	119	75	228	33	14	11
16	22	24	23	119	129	87	1200	69	324	33	16	11
17	21	11	e50	107	180	86	674	63	368	32	15	11
18	21	13	65	97	683	102	284	59	159	29	14	11
19	21	33	59	89	589	135	339	55	108	28	10	11
20	21	36	56	81	275	152	308	53	79	36	e11	11
21	21	51	53	74	211	487	208	52	65	31	e12	23
22	21	175	75	73	174	373	184	49	58	28	e12	20
23	22	69	95	117	157	214	160	50	51	27	e12	18
24	22	25	83	119	143	174	141	52	49	27	12	14
25	27	43	168	98	128	149	123	59	44	25	14	14
26	73	53	128	87	115	137	122	50	41	24	30	14
27	102	17	100	82	111	122	213	47	40	24	e20	13
28	48	51	85	79	100	113	140	43	37	23	e16	15
29	38	55	76	75	---	103	120	41	119	23	14	16
30	33	70	72	72	---	96	221	44	84	33	14	15
31	32	---	63	66	---	90	---	43	---	33	13	---
TOTAL	846	1358	1964	5429	4883	4343	6532	4005	2673	1031	518	400
MEAN	27.3	45.3	63.4	175	174	140	218	129	89.1	33.3	16.7	13.3
MAX	102	175	203	1250	683	487	1200	536	368	58	30	23
MIN	18	11	11	54	59	76	69	41	30	23	10	11
CFSM	.31	.51	.71	1.97	1.96	1.57	2.45	1.45	1.00	.37	.19	.15
IN.	.35	.57	.82	2.27	2.04	1.82	2.73	1.67	1.12	.43	.22	.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 1998, BY WATER YEAR (WY)

MEAN	29.1	53.6	88.3	117	145	173	156	124	74.4	54.4	44.6	29.6
MAX	126	327	351	324	321	585	365	554	287	280	292	213
(WY)	1976	1986	1991	1949	1979	1945	1940	1968	1941	1948	1979	1979
MIN	11.5	13.1	12.8	20.5	18.8	39.1	41.3	31.1	14.9	13.3	11.7	11.2
(WY)	1964	1965	1964	1977	1954	1941	1941	1988	1988	1944	1988	1955

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1940 - 1998	
ANNUAL TOTAL	32596		33982			
ANNUAL MEAN	89.3		93.1		90.5	
HIGHEST ANNUAL MEAN					164	1979
LOWEST ANNUAL MEAN					28.8	1954
HIGHEST DAILY MEAN	2010	Mar 2	1250	Jan 8	4690	May 24 1968
LOWEST DAILY MEAN	11	Nov 17	10	Aug 19	3.5	Aug 27 1942
ANNUAL SEVEN-DAY MINIMUM	14	Jul 16	11	Sep 14	6.3	Aug 25 1942
INSTANTANEOUS PEAK FLOW			2250	Jan 8a	16000	Jul 22 1948
INSTANTANEOUS PEAK STAGE			7.43	Jan 8	17.68	Jul 22 1948
INSTANTANEOUS LOW FLOW			11	Nov 17	3.0	Jul 31 1991
ANNUAL RUNOFF (CFSM)	1.00		1.05		1.02	
ANNUAL RUNOFF (INCHES)	13.62		14.20		13.82	
10 PERCENT EXCEEDS	167		201		185	
50 PERCENT EXCEEDS	53		52		45	
90 PERCENT EXCEEDS	21		14		16	

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



**SURFACE-WATER RECORDS**  
**Hocking River Basin**

**03158195 SNOW FORK MONDAY CREEK AT BUCHTEL, OHIO**

LOCATION.--Lat 39°27'51", long 82°10'16", Athens County, Hydrologic Unit 05030204, on left bank at the upstream abutment of bridge on State Route 685, at the Corporation limits of the Village of Buchtel, 0.3 mi east of State Route 78.

DRAINAGE AREA.--24.4 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1981 to September 1981. May 1997 to current year.

GAGE.--Water-stage recorder. Datum of gage is 670 ft (204 mi) from topographic map.

REMARKS.--Record 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	8.6	3.9	10	8.9	11	27	23	260	9.7	41	6.8	4.2
2	5.4	4.4	9.0	8.6	11	24	21	403	9.0	29	6.4	4.1
3	5.8	4.6	8.4	8.8	11	23	19	236	8.4	24	6.0	3.9
4	5.4	4.6	9.0	8.5	11	22	20	209	8.3	23	5.9	3.9
5	4.9	4.3	8.8	8.4	18	21	18	103	8.1	22	5.7	3.9
6	4.9	4.2	7.6	16	26	20	17	76	7.9	18	5.5	3.7
7	4.9	4.3	7.3	212	28	19	16	64	7.6	17	5.3	4.2
8	4.6	9.6	7.0	548	30	27	25	104	7.4	17	5.1	4.5
9	4.5	8.0	7.0	246	28	128	200	72	8.1	15	5.2	4.3
10	4.8	5.1	20	75	26	77	134	56	7.9	14	6.3	3.8
11	4.6	4.7	32	44	30	47	74	47	8.4	13	5.7	3.7
12	4.7	4.4	20	32	31	36	52	40	8.6	12	5.1	4.1
13	5.6	4.4	15	28	25	31	43	35	47	11	4.9	3.8
14	4.4	20	12	23	21	29	40	31	26	11	4.9	3.7
15	4.2	10	10	22	19	26	36	27	71	11	5.1	3.6
16	4.0	7.3	9.2	20	20	23	413	25	46	11	6.2	3.8
17	4.2	5.7	8.7	19	29	23	198	22	32	9.9	5.2	3.8
18	4.3	5.0	8.0	18	234	25	93	20	17	14	4.8	3.8
19	4.1	4.7	7.3	16	169	30	196	19	13	15	4.6	3.7
20	4.0	4.5	7.0	15	86	34	144	18	11	16	4.4	3.8
21	3.9	5.1	6.8	14	61	89	89	16	9.3	11	4.3	4.8
22	4.1	37	9.8	14	47	82	68	15	8.6	9.5	4.2	5.3
23	4.3	20	13	24	42	50	56	16	8.1	9.0	4.1	4.9
24	4.6	12	12	24	40	39	48	17	7.8	8.6	4.1	4.4
25	5.8	9.7	25	20	35	33	42	15	7.2	8.1	4.4	4.2
26	5.8	8.8	23	17	31	29	46	13	7.5	7.9	7.2	4.2
27	7.9	7.7	18	16	30	27	113	12	37	7.5	4.6	4.0
28	4.7	8.5	14	16	28	25	56	11	406	7.3	4.4	5.7
29	4.1	7.6	13	14	---	24	45	11	135	7.5	4.4	3.8
30	4.1	8.6	12	13	---	22	121	10	75	7.9	4.2	4.2
31	3.9	---	10	13	---	21	---	9.6	---	7.6	4.2	---
TOTAL	151.1	248.7	379.9	1562.2	1178	1133	2466	2012.6	1063.9	435.8	159.2	123.8
MEAN	4.87	8.29	12.3	50.4	42.1	36.5	82.2	64.9	35.5	14.1	5.14	4.13
MAX	8.6	37	32	548	234	128	413	403	406	41	7.2	5.7
MIN	3.9	3.9	6.8	8.4	11	19	16	9.6	7.2	7.3	4.1	3.6
MED	4.6	5.4	10	17	29	27	50	25	8.8	11	5.1	4.0
AC-FT	300	493	754	3100	2340	2250	4890	3990	2110	864	316	246
CFSM	.20	.34	.50	2.07	1.72	1.50	3.37	2.66	1.45	.58	.21	.17
IN.	.23	.38	.58	2.38	1.80	1.73	3.76	3.07	1.62	.66	.24	.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1981 - 1998, BY WATER YEAR (WY)

	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	4.87	8.29	12.3	50.4	42.1	36.5	73.9	68.1	50.4	13.6	19.8	6.21							
MAX	4.87	8.29	12.3	50.4	42.1	36.5	82.2	71.4	87.6	14.1	48.4	10.2							
(WY)	1981	1988	1988	1988	1988	1988	1988	1981	1981	1981	1981	1981							
MIN	4.87	8.29	12.3	50.4	42.1	36.5	65.7	64.9	28.2	13.3	5.14	4.13							
(WY)	1988	1988	1988	1988	1988	1988	1981	1988	1981	1981	1988	1988							

SUMMARY STATISTICS

FOR 1998 WATER YEAR

WATER YEARS 1981 - 1998

ANNUAL TOTAL	10914.2		
ANNUAL MEAN	29.9		
HIGHEST ANNUAL MEAN	29.9		1998
LOWEST ANNUAL MEAN	29.9		1998
HIGHEST DAILY MEAN	548	Jan 8	620 Jun 6 1981
LOWEST DAILY MEAN	3.6	Sep 15	3.2 Aug 3 1997
ANNUAL SEVEN-DAY MINIMUM	3.7	Sep 13	3.6 Sep 8 1981
INSTANTANEOUS PEAK FLOW	1190	Jan 8	1340 Aug 18 1997
INSTANTANEOUS PEAK STAGE	10.88	Jan 8	11.54 Aug 18 1997
INSTANTANEOUS LOW FLOW	3.6	Sep 15	3.2 Aug 3 1997
ANNUAL RUNOFF (AC-FT)	21650		21660
ANNUAL RUNOFF (CFSM)	1.23		1.23
ANNUAL RUNOFF (INCHES)	16.64		16.65
10 PERCENT EXCEEDS	62		68
50 PERCENT EXCEEDS	11		13
90 PERCENT EXCEEDS	4.2		4.3

**SURFACE-WATER RECORDS**  
**Hocking River Basin**

**03158200 MONDAY CREEK AT DOANVILLE, OHIO**

LOCATION.--Lat 39°26'07", long 82°11'30", Athens County, Hydrologic Unit 05030204, on right bank 75 ft upstream from Lang Street Bridge in Doanville, 1.75 mi above mouth, and 2.5 mi south of Nelsonville.  
DRAINAGE AREA.--114 mi<sup>2</sup>.

**WATER-DISCHARGE RECORDS**

PERIOD OF RECORD.--May 1997 to current year. Low flow site 1961-71.  
GAGE.--Water stage recorder. Datum of gage is 650 ft above sea level (from topographic map).  
REMARKS.--Records fair, except for periods of estimated record, which are poor. Four parameter monitor at site. Saltellite transmitter at 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	17	14	63	43	81	141	113	1210	46	144	26	7.5
2	17	13	58	47	79	135	111	1140	45	92	18	7.3
3	16	14	46	44	77	124	97	1130	40	71	15	6.9
4	15	15	46	44	76	117	97	1010	36	63	14	6.8
5	14	17	62	40	112	111	93	534	35	76	13	6.6
6	12	17	51	83	176	104	85	350	34	64	12	6.3
7	12	16	44	e320	206	98	81	277	33	50	12	6.1
8	12	24	40	e3000	210	114	99	453	31	45	11	5.9
9	12	49	38	e2500	195	446	542	346	32	41	11	5.7
10	12	41	51	e1330	183	452	694	255	36	36	12	5.7
11	12	28	254	e530	200	271	391	209	39	32	15	5.2
12	11	22	130	e260	234	194	230	180	47	29	21	5.1
13	13	20	90	204	211	159	181	156	232	26	14	4.9
14	12	72	73	174	164	154	160	138	257	25	12	4.8
15	11	98	61	152	136	135	145	120	207	25	11	4.5
16	12	57	52	148	128	121	776	107	278	25	12	4.6
17	12	42	48	134	200	115	721	99	260	24	14	4.7
18	13	35	43	127	620	123	473	88	127	25	11	4.4
19	13	31	40	114	716	196	524	81	81	36	10	4.1
20	12	29	38	105	568	181	580	75	65	34	9.0	4.1
21	12	29	36	95	350	417	401	71	55	35	8.9	5.0
22	11	118	39	95	248	517	289	66	49	26	9.1	5.8
23	11	144	64	132	209	306	233	67	44	22	9.2	5.2
24	12	74	60	164	207	225	196	74	42	20	8.9	5.2
25	17	54	94	133	186	186	169	81	39	18	8.9	6.1
26	29	46	120	115	162	164	158	71	37	17	15	5.3
27	46	40	91	107	152	147	447	61	134	16	28	4.8
28	49	36	75	102	144	135	260	55	644	15	14	e4.7
29	25	35	65	96	---	125	196	50	485	15	9.9	e4.8
30	19	37	60	92	---	117	417	47	249	17	8.9	4.8
31	15	---	54	87	---	110	---	47	---	28	7.9	---
TOTAL	506	1267	2086	10617	6230	5940	8959	8648	3739	1192	401.7	162.9
MEAN	16.3	42.2	67.3	342	223	192	299	279	125	38.5	13.0	5.43
MAX	49	144	254	3000	716	517	776	1210	644	144	28	7.5
MIN	11	13	36	40	76	98	81	47	31	15	7.9	4.1
MED	12	35	58	115	191	141	213	107	47	28	12	5.2
CFSM	.14	.37	.59	3.00	1.95	1.68	2.62	2.45	1.09	.34	.11	.05
IN.	.17	.41	.68	3.46	2.03	1.94	2.92	2.82	1.22	.39	.13	.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1998, BY WATER YEAR (WY)

	1997	1998	1998	1998	1998	1998	1998	1998	1997	1997	1997	1998
MEAN	16.3	42.2	67.3	342	223	192	299	279	125	42.9	180	21.5
MAX	16.3	42.2	67.3	342	223	192	299	279	126	47.3	347	37.6
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1997	1997	1997	1997
MIN	16.3	42.2	67.3	342	223	192	299	279	125	38.5	13.0	5.43
(WY)	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998	1998

SUMMARY STATISTICS

FOR 1998 WATER YEAR

WATER YEARS 1997 - 1998

ANNUAL TOTAL	49748.6	
ANNUAL MEAN	136	136
HIGHEST ANNUAL MEAN		136
LOWEST ANNUAL MEAN		136
HIGHEST DAILY MEAN	3000	4200
LOWEST DAILY MEAN	4.1	4.1
ANNUAL SEVEN-DAY MINIMUM	4.5	4.5
INSTANTANEOUS PEAK FLOW	5130	5300
INSTANTANEOUS PEAK STAGE	19.42	19.60
INSTANTANEOUS LOW FLOW	4.1	4.1
ANNUAL RUNOFF (CFSM)	1.20	1.20
ANNUAL RUNOFF (INCHES)	16.23	16.24
10 PERCENT EXCEEDS	282	260
50 PERCENT EXCEEDS	55	55
90 PERCENT EXCEEDS	9.1	12

b High-water mark from crest-stage gage.  
e Estimated.

**SURFACE-WATER RECORDS**  
**Hocking River Basin**

**03158200 MONDAY CREEK AT DOANVILLE, OHIO—Continued**

WATER-QUALITY RECORDS

PERIOD OF RECORD.--June 1997 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1997 to current year.

pH: June 1997 to current year.

WATER TEMPERATURES: June 1997 to current year.

DISSOLVED OXYGEN: June 1997 to current year.

INSTRUMENTATION.--Water-quality monitor. Electronic data logger. Set for 1-hour interval.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1110 microsiemens Sept. 20, 1998; minimum 172 microsiemens June 8, 1998.

pH: Maximum, 7.2 units Aug. 16, 1997; minimum, 3.0 units May 30, 1998.

WATER TEMPERATURES: Maximum, 25.5°C Aug. 25, 1998; minimum, 0.0°C on several days during winter.

DISSOLVED OXYGEN: Maximum, 14.6 mg/L Mar. 13, 1998; minimum, 5.9 mg/L June 28, 1998.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1110 microsiemens Sept. 20; minimum 172 microsiemens June 8.

pH: Maximum, 7.0 units Dec. 11 and Feb. 24; minimum, 3.0 units May 30.

WATER TEMPERATURES: Maximum, 25.5°C Aug. 25; minimum, 0.0°C on several days.

DISSOLVED OXYGEN: Maximum, 14.6 mg/L Mar. 13; minimum, 5.9 mg/L June 28.



**SURFACE-WATER RECORDS**  
**Hocking River Basin**

**03158200 MONDAY CREEK AT DOANVILLE, OHIO—Continued**

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	910	886	897	984	974	978	779	747	758	695	664	681
2	898	855	879	975	969	972	775	754	765	694	681	685
3	892	848	868	972	956	964	775	750	757	691	685	688
4	921	872	893	960	952	955	750	737	744	693	684	687
5	942	899	918	954	946	951	738	731	733	701	690	697
6	948	911	931	946	942	944	759	738	752	691	658	683
7	960	948	954	953	939	948	749	745	747	658	353	564
8	965	960	962	943	899	930	756	745	747	353	172	209
9	972	962	969	934	892	910	755	748	751	252	179	219
10	985	972	980	901	891	896	756	729	746	294	252	262
11	994	982	990	919	896	906	754	542	632	387	294	350
12	995	993	994	932	919	927	549	541	544	479	387	434
13	995	985	989	959	932	944	583	549	567	519	479	499
14	1020	989	1000	950	828	901	610	583	597	542	515	528
15	1000	997	1000	867	805	838	637	610	624	598	542	567
16	1010	998	1000	805	735	771	657	637	647	574	566	570
17	1000	994	996	749	735	741	672	657	665	586	574	580
18	1000	994	998	778	749	764	695	672	683	599	586	593
19	1040	1000	1020	802	778	790	711	690	702	612	599	606
20	1040	1020	1030	813	800	807	719	711	716	647	612	633
21	1020	1020	1020	821	812	816	727	719	723	651	639	646
22	1030	1020	1020	828	721	790	731	715	725	657	650	654
23	1040	1020	1030	759	628	675	728	703	716	655	621	642
24	1040	1020	1030	639	625	629	712	692	706	621	582	594
25	1020	995	1010	672	639	657	694	647	681	591	576	581
26	1000	935	960	701	672	687	652	621	641	592	578	585
27	963	926	937	725	701	716	621	604	609	606	592	600
28	947	930	937	749	721	737	621	607	613	617	606	612
29	978	940	965	759	742	749	636	621	629	626	617	621
30	999	978	992	750	742	747	649	636	642	708	626	646
31	1000	984	994	---	---	---	664	649	656	662	640	643

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	656	647	651	586	568	579	600	588	594	600	412	482
2	664	656	660	585	576	580	600	589	594	---	---	---
3	673	664	670	598	585	592	606	596	600	---	---	---
4	676	664	672	612	598	603	609	605	607	---	---	---
5	664	639	658	616	611	613	612	608	610	---	---	---
6	639	575	608	628	616	622	622	612	619	536	475	505
7	578	540	560	641	626	635	627	619	624	590	536	565
8	540	497	515	644	629	638	627	600	619	---	---	---
9	529	497	511	629	439	550	600	357	475	---	---	---
10	508	499	504	439	356	369	381	319	355	---	---	---
11	506	495	502	389	361	374	372	319	337	612	596	604
12	496	491	493	423	389	408	425	372	405	642	612	629
13	498	495	496	469	423	451	457	425	440	665	642	656
14	500	494	496	536	469	519	515	456	489	692	665	677
15	503	487	494	555	536	546	528	514	521	722	690	706
16	502	496	498	570	555	562	534	282	419	746	722	736
17	520	502	508	582	570	575	286	280	282	776	746	763
18	536	442	513	586	578	581	329	286	308	798	776	788
19	448	355	414	579	533	562	388	329	350	819	798	809
20	390	355	368	566	521	539	375	341	351	837	819	828
21	423	390	409	521	453	482	432	375	404	843	833	838
22	432	423	428	460	429	442	475	432	454	876	843	858
23	486	429	454	429	406	417	513	475	496	880	868	874
24	516	485	497	434	405	416	546	513	531	906	829	870
25	534	515	526	455	434	447	574	546	560	865	818	831
26	545	533	539	485	455	466	591	574	583	839	817	823
27	556	545	552	520	475	498	578	459	519	836	822	829
28	568	556	562	549	520	536	459	438	444	855	836	848
29	---	---	---	594	549	560	567	443	508	874	855	864
30	---	---	---	589	572	576	558	412	501	997	873	881
31	---	---	---	592	579	583	---	---	---	886	873	880

**SURFACE-WATER RECORDS**  
**Hocking River Basin**

**03158200 MONDAY CREEK AT DOANVILLE, OHIO—Continued**

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	887	873	880	509	453	483	808	781	795	984	954	969
2	887	877	884	551	509	531	872	808	836	996	984	992
3	920	886	899	619	551	594	900	872	887	1020	996	1010
4	916	901	911	625	611	618	921	900	910	1020	1010	1020
5	919	916	917	628	606	619	936	921	928	1040	1010	1020
6	923	916	921	649	609	635	942	936	939	1040	1030	1040
7	920	913	917	652	633	640	940	926	933	1040	1030	1030
8	926	917	921	676	652	669	932	927	930	1040	1030	1030
9	951	917	931	700	666	679	933	921	930	1050	1030	1040
10	947	913	929	726	700	713	945	932	939	1060	986	1030
11	922	891	910	745	726	736	941	916	930	993	986	990
12	902	869	882	767	744	753	916	810	829	1000	988	992
13	869	579	653	776	767	773	862	842	849	1030	1000	1020
14	648	474	528	790	776	782	892	862	877	1040	1030	1030
15	552	371	504	807	790	801	920	892	908	1050	1030	1040
16	477	361	429	805	801	803	960	920	940	1070	1050	1060
17	501	467	486	812	804	809	955	893	912	1080	1070	1080
18	517	491	502	819	806	812	923	897	912	1080	1070	1080
19	566	515	541	856	697	762	929	923	928	1100	1080	1090
20	617	566	592	772	719	738	946	928	938	1110	1090	1100
21	662	617	639	772	740	750	956	945	952	1100	1090	1100
22	684	662	673	799	771	784	966	956	962	1100	1060	1090
23	710	684	696	824	789	812	972	963	967	1100	1080	1090
24	726	710	719	838	824	832	978	970	974	1090	1080	1090
25	743	726	734	846	838	843	988	937	973	1090	1030	1050
26	759	732	749	861	846	853	1010	937	977	1040	1030	1040
27	750	538	632	875	861	868	986	829	854	1050	1040	1040
28	651	244	426	891	873	882	881	848	857	---	---	---
29	398	331	377	894	857	888	942	881	915	1010	997	1000
30	453	398	432	889	857	875	955	942	951	1010	994	998
31	---	---	---	874	776	842	955	941	946	---	---	---
MONTH	951	244	707	894	453	748	1010	781	915	1110	954	1040
YEAR	1110	172	730									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, 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	4.6	4.6	4.6	5.1	5.0	5.1	6.2	5.7	5.9	6.4	6.2	6.3
2	4.6	4.3	4.5	5.1	5.0	5.0	6.4	6.1	6.3	6.4	6.2	6.3
3	4.6	4.5	4.5	5.0	4.9	5.0	6.5	6.1	6.4	6.3	6.0	6.2
4	4.5	4.5	4.5	5.0	4.9	5.0	6.5	6.1	6.3	6.3	6.0	6.1
5	4.5	4.5	4.5	5.0	4.9	5.0	6.4	6.2	6.4	6.4	6.0	6.3
6	4.7	4.5	4.5	5.1	5.0	5.0	6.4	6.4	6.4	6.6	6.2	6.3
7	4.5	4.3	4.4	5.0	5.0	5.0	6.4	6.3	6.4	6.9	6.3	6.8
8	4.4	4.3	4.3	5.0	4.8	4.9	6.4	6.1	6.3	6.8	6.2	6.5
9	4.4	4.3	4.3	5.2	4.8	5.0	6.2	6.2	6.2	6.8	6.4	6.6
10	4.3	4.2	4.2	5.6	5.2	5.4	6.2	5.9	6.1	6.6	6.5	6.5
11	4.3	4.2	4.2	5.6	5.2	5.4	7.0	5.8	6.7	6.5	6.4	6.4
12	4.2	4.2	4.2	5.3	5.2	5.2	6.9	6.6	6.7	6.4	6.1	6.3
13	4.2	4.2	4.2	5.3	5.3	5.3	6.7	6.5	6.6	6.1	---	6.0
14	4.2	4.1	4.1	6.0	5.0	5.3	6.5	6.5	6.5	6.0	5.9	6.0
15	4.2	4.1	4.2	6.6	6.0	6.5	6.5	6.4	6.5	5.9	5.8	5.8
16	4.2	4.1	4.1	6.5	6.3	6.5	6.4	6.3	6.4	5.8	5.8	5.8
17	4.2	4.1	4.2	6.3	6.1	6.2	6.4	6.3	6.4	5.8	5.7	5.8
18	4.2	4.2	4.2	6.1	5.9	6.0	6.3	6.2	6.3	5.7	5.7	5.7
19	4.2	4.0	4.1	5.9	5.6	5.8	6.3	6.1	6.2	5.7	5.6	5.6
20	4.1	4.0	4.1	5.7	5.5	5.6	6.3	6.2	6.2	5.6	5.4	5.5
21	4.1	4.1	4.1	5.6	5.4	5.5	6.2	6.1	6.2	5.4	5.3	5.4
22	4.1	4.1	4.1	6.6	5.1	5.5	6.3	6.0	6.2	5.4	5.3	5.3
23	4.1	4.1	4.1	6.8	6.5	6.6	6.4	6.0	6.2	5.6	5.3	5.4
24	4.1	4.1	4.1	6.6	6.4	6.5	6.6	6.4	6.5	6.1	5.6	6.0
25	4.2	4.1	4.1	6.4	6.1	6.3	6.6	6.4	6.5	6.3	6.0	6.1
26	4.7	4.1	4.5	6.3	5.9	6.1	6.7	6.6	6.7	6.0	5.8	5.9
27	5.4	4.4	4.7	6.2	5.9	6.1	6.7	6.6	6.7	5.8	5.7	5.8
28	5.6	5.3	5.4	6.1	5.7	5.9	6.6	6.5	6.6	5.7	5.7	5.7
29	5.7	5.4	5.5	6.1	5.6	5.8	6.6	6.5	6.5	5.7	5.7	5.7
30	5.8	5.5	5.6	6.0	5.8	5.9	6.6	6.4	6.5	5.7	5.6	5.6
31	5.5	5.1	5.3	---	---	---	6.5	6.4	6.4	5.6	5.6	5.6
MONTH	5.8	4.0	4.4	6.8	4.8	5.6	7.0	5.7	6.4	6.9	5.3	6.0



**SURFACE-WATER RECORDS**  
**Hocking River Basin**

**03158200 MONDAY CREEK AT DOANVILLE, OHIO—Continued**

TEMPERATURE, WATER (DEG. C), 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	15.5	14.5	15.0	9.5	8.5	9.0	8.5	7.0	7.5	.5	.0	.0
2	14.5	12.0	13.0	10.0	9.0	9.5	7.0	6.0	6.5	1.0	.0	.5
3	14.0	12.0	13.0	9.5	8.5	9.0	7.0	5.0	6.0	3.5	1.0	2.5
4	15.5	13.0	14.0	8.5	7.5	8.0	7.0	6.0	6.5	5.5	3.5	4.5
5	17.0	14.5	15.5	8.0	6.5	7.5	6.0	4.5	5.0	6.5	4.5	5.0
6	17.5	15.0	15.5	7.5	6.5	7.0	4.5	2.5	3.0	8.0	6.5	7.0
7	18.0	15.5	16.5	7.5	6.5	7.0	2.5	2.0	2.0	10.0	8.0	9.0
8	18.0	16.0	17.0	7.5	7.0	7.5	2.0	2.0	2.0	11.5	10.0	11.0
9	18.0	16.0	17.0	8.5	7.5	8.0	2.5	2.0	2.5	11.5	9.0	10.5
10	18.5	17.0	18.0	8.0	7.5	7.5	4.5	2.5	3.5	9.0	6.5	7.5
11	18.0	15.0	16.0	8.0	7.5	7.5	5.0	4.0	4.5	6.5	4.0	4.5
12	16.0	13.5	14.5	7.5	5.5	6.5	5.0	4.0	4.5	5.5	3.5	4.5
13	17.0	14.5	15.5	5.5	5.0	5.5	4.0	3.5	3.5	6.0	5.0	5.5
14	16.5	15.0	16.0	5.5	5.0	5.5	3.5	3.0	3.5	5.0	3.5	4.0
15	15.0	12.5	13.5	5.0	4.5	5.0	3.0	1.5	2.0	4.0	3.5	3.5
16	13.0	11.0	11.5	4.5	3.5	4.0	2.0	.5	1.5	4.5	4.0	4.0
17	11.5	10.0	11.0	3.5	2.5	3.0	1.5	.5	1.0	4.5	4.0	4.5
18	11.5	10.5	11.0	2.5	1.0	1.5	1.0	.0	.5	4.0	3.5	4.0
19	11.5	10.0	11.0	2.5	1.0	2.0	2.0	.5	1.0	3.5	2.5	3.0
20	11.5	10.0	10.5	3.5	2.0	2.5	2.5	1.0	1.5	3.0	1.5	2.0
21	10.5	9.0	9.5	4.0	3.0	3.0	2.5	2.0	2.0	2.0	1.0	1.5
22	9.5	7.5	8.5	5.5	4.0	4.5	4.0	2.5	3.0	3.5	2.0	2.5
23	8.0	6.0	7.0	6.0	5.0	5.5	4.5	4.0	4.5	4.5	3.5	4.0
24	7.0	6.0	6.5	5.5	3.5	4.5	5.0	4.5	5.0	5.0	4.5	5.0
25	9.0	7.0	8.0	3.5	2.5	3.0	6.0	5.0	5.5	5.0	4.0	4.5
26	9.5	8.5	9.0	4.5	3.5	4.0	5.5	5.0	5.5	4.0	3.0	3.5
27	9.5	8.5	9.5	4.5	3.0	4.0	5.0	4.0	4.5	4.5	3.5	4.0
28	9.0	7.5	8.0	6.0	4.0	5.0	4.0	2.5	3.0	5.0	4.0	4.5
29	8.5	6.5	7.5	7.5	6.0	7.0	2.5	1.5	2.0	5.0	3.5	4.5
30	8.5	6.5	7.5	8.5	7.5	8.0	1.5	1.0	1.5	5.0	4.5	4.5
31	9.5	7.0	8.0	---	---	---	1.0	.0	1.0	4.5	4.0	4.5
MONTH	18.5	6.0	12.0	10.0	1.0	5.5	8.5	.0	3.5	11.5	.0	4.5

TEMPERATURE, WATER (DEG. C), 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	4.0	2.5	3.5	9.5	8.0	8.5	18.0	16.0	17.0	---	---	---
2	4.5	3.5	4.0	9.0	8.0	8.5	16.5	14.0	15.0	---	---	---
3	5.0	4.5	4.5	8.0	6.5	7.0	14.5	12.0	13.0	---	---	---
4	5.0	2.5	4.0	6.5	6.0	6.5	13.0	11.0	11.5	---	---	---
5	3.0	2.5	3.0	6.5	5.5	6.0	12.5	9.5	11.0	---	---	---
6	4.0	3.0	3.5	7.5	5.0	6.5	13.0	9.5	11.0	16.0	14.0	15.0
7	5.0	3.0	4.0	9.0	7.0	8.0	12.5	10.0	11.5	16.0	15.5	16.0
8	5.5	4.0	5.0	10.5	9.0	9.5	15.0	12.0	13.0	---	---	---
9	6.0	4.5	5.5	11.0	9.0	10.5	15.0	12.0	14.0	---	---	---
10	7.5	5.5	6.5	9.5	.5	4.5	12.0	9.5	10.5	---	---	---
11	8.0	7.0	7.5	.5	.0	.0	11.0	6.0	9.0	15.5	15.0	15.5
12	8.0	6.0	7.0	.0	.0	.0	12.5	9.0	10.5	15.5	14.5	15.0
13	6.0	4.0	4.5	.0	.0	.0	13.5	9.0	11.0	17.0	14.5	15.5
14	4.5	3.0	4.0	5.0	.0	3.0	13.5	12.0	12.5	18.5	16.0	17.0
15	4.5	1.0	2.5	5.5	3.5	4.5	14.0	12.0	13.0	20.0	17.0	18.5
16	5.5	3.5	4.0	6.0	4.5	5.0	15.0	13.0	13.5	20.0	18.5	19.0
17	9.0	5.5	7.0	6.5	5.0	5.5	15.0	11.5	13.0	19.5	17.5	19.0
18	9.5	8.0	9.0	8.0	6.5	7.0	11.5	7.5	9.0	19.5	17.0	18.5
19	8.0	6.5	7.0	10.0	7.5	8.0	11.0	9.5	10.0	19.5	17.5	18.5
20	7.0	6.5	6.5	10.0	9.5	9.5	12.0	9.0	10.5	21.0	19.0	20.0
21	8.0	7.0	7.5	9.5	6.0	8.5	13.0	11.0	12.0	21.5	20.0	21.0
22	8.0	6.0	7.0	6.5	4.0	4.5	14.0	12.5	13.0	21.0	17.5	19.0
23	8.0	6.5	7.0	5.0	1.5	3.0	14.0	12.5	13.5	18.5	17.0	17.5
24	6.5	5.0	5.5	5.5	4.5	5.0	15.5	12.5	14.0	18.5	17.0	18.0
25	7.0	5.0	6.0	8.0	2.0	4.5	16.0	14.0	15.0	18.5	17.5	18.0
26	7.5	6.0	6.5	17.0	8.0	11.0	16.0	15.0	15.5	18.5	17.5	18.0
27	9.0	7.0	8.0	19.0	16.0	17.5	15.0	11.0	13.0	18.5	17.0	17.5
28	9.0	8.5	8.5	18.5	13.0	15.5	13.0	8.0	10.5	19.5	17.5	18.5
29	---	---	---	16.0	13.0	14.5	13.0	10.5	12.5	20.5	18.0	19.5
30	---	---	---	17.0	12.5	14.5	14.5	13.0	13.5	21.0	19.5	20.5
31	---	---	---	17.5	12.5	15.0	---	---	---	21.5	20.5	21.0
MONTH	9.5	1.0	5.5	19.0	.0	7.5	18.0	6.0	12.5	21.5	14.0	18.0

**SURFACE-WATER RECORDS**  
**Hocking River Basin**

**03158200 MONDAY CREEK AT DOANVILLE, OHIO—Continued**

TEMPERATURE, WATER (DEG. C), 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	21.0	20.0	20.5	21.5	20.0	21.0	22.0	20.0	21.0	22.0	19.5	21.0
2	21.0	19.0	20.0	21.0	19.5	20.5	22.0	19.5	20.5	22.0	19.5	20.5
3	20.5	18.5	19.5	21.0	20.0	20.5	22.0	19.5	21.0	21.0	18.0	19.5
4	18.5	17.5	18.0	21.0	20.0	20.5	22.0	19.5	21.0	20.5	18.0	19.5
5	17.5	15.5	16.5	21.0	19.5	20.5	23.0	20.5	21.5	21.5	18.0	20.0
6	15.5	14.5	15.0	21.0	19.5	20.5	23.5	21.0	22.0	22.5	18.5	20.5
7	15.5	13.5	14.5	21.5	20.0	21.0	24.0	21.5	23.0	22.0	20.0	21.0
8	16.0	13.5	15.0	22.5	21.0	21.5	24.5	22.0	23.0	21.0	18.0	19.5
9	15.5	15.0	15.5	23.0	21.5	22.5	24.5	22.5	23.0	18.0	15.5	17.0
10	18.5	15.0	16.5	23.0	21.5	22.5	23.5	22.5	23.0	17.5	14.0	16.0
11	18.5	18.0	18.0	22.0	20.0	21.0	23.5	21.5	22.5	18.5	14.5	16.5
12	20.5	18.0	19.0	21.0	19.0	20.0	23.5	21.5	22.5	19.5	15.5	17.5
13	20.0	18.5	19.5	21.5	19.0	20.5	22.5	21.0	22.0	20.0	16.5	18.0
14	19.5	19.0	19.0	21.5	20.5	21.0	22.5	21.0	21.5	21.0	17.5	19.0
15	19.5	18.5	19.0	21.5	20.5	21.0	23.5	21.0	22.0	22.0	19.0	20.5
16	19.0	18.5	19.0	21.5	21.0	21.0	23.5	22.0	22.5	22.0	19.5	21.0
17	20.0	18.5	19.5	22.5	20.5	21.5	24.0	22.5	23.0	22.0	20.5	21.5
18	21.0	19.0	20.0	22.5	21.0	21.5	24.0	22.5	23.5	22.5	19.5	21.0
19	21.5	21.0	21.0	23.0	20.5	22.0	23.0	20.5	22.0	22.0	20.5	21.0
20	22.5	20.5	21.5	23.5	21.0	22.5	21.5	18.0	20.0	22.5	20.0	21.0
21	22.0	20.5	21.0	25.0	22.5	23.5	21.5	18.0	20.0	22.5	21.0	21.5
22	22.5	20.5	21.5	25.0	23.5	24.5	22.5	19.5	20.5	22.0	21.0	21.5
23	22.5	21.5	21.5	25.0	23.5	24.0	24.0	21.0	22.0	21.0	17.5	18.5
24	22.5	20.5	21.5	23.5	22.0	22.5	24.5	21.5	23.0	17.5	14.0	16.0
25	24.0	22.0	22.5	22.0	20.0	21.0	25.5	22.0	23.5	18.5	16.0	17.0
26	24.5	23.0	23.5	21.5	19.5	21.0	24.0	22.5	23.0	21.0	18.0	19.0
27	24.0	21.5	23.0	21.5	19.5	20.5	23.5	22.0	23.0	21.5	18.5	20.0
28	23.5	20.5	22.0	22.0	20.0	21.0	23.0	20.5	22.0	---	---	---
29	22.0	20.0	21.0	22.5	20.5	21.5	23.0	21.5	22.0	20.5	19.0	19.5
30	21.5	20.5	21.0	22.5	21.5	22.0	23.0	20.5	22.0	20.5	18.0	19.0
31	---	---	---	22.5	20.5	21.5	23.0	20.5	22.0	---	---	---
MONTH	24.5	13.5	19.5	25.0	19.0	21.5	25.5	18.0	22.0	22.5	14.0	19.5
YEAR	25.5	.0	12.5									

OXYGEN DISSOLVED (MG/L), 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	8.3	8.0	8.1	9.6	9.1	9.4	11.0	10.4	10.7	14.3	13.9	14.1
2	8.9	8.3	8.7	9.1	8.6	8.9	11.5	11.0	11.3	14.0	13.7	13.9
3	9.2	8.6	8.9	9.0	8.6	8.8	11.8	11.5	11.7	13.7	13.0	13.4
4	8.8	8.2	8.5	9.3	8.9	9.1	11.6	11.2	11.3	13.0	12.2	12.6
5	8.3	7.7	8.1	9.7	9.3	9.6	12.1	11.4	11.7	12.4	11.9	12.2
6	7.9	7.4	7.7	9.9	9.7	9.8	12.9	12.1	12.6	11.9	11.2	11.6
7	7.8	7.0	7.6	9.9	9.7	9.8	13.3	12.9	13.1	11.3	9.8	10.9
8	7.7	7.4	7.6	10.0	9.7	9.9	13.4	13.2	13.3	10.3	9.1	9.6
9	7.7	7.1	7.5	10.1	9.7	9.9	13.3	13.1	13.2	9.9	9.1	9.6
10	7.1	6.8	7.0	10.3	10.1	10.2	13.2	12.3	12.8	10.5	9.9	10.2
11	7.4	6.8	7.2	10.5	10.3	10.4	12.4	12.0	12.1	10.7	10.3	10.6
12	8.0	7.4	7.8	10.8	10.4	10.6	12.5	12.0	12.3	12.1	10.4	11.4
13	7.8	7.4	7.7	11.3	10.8	11.1	12.6	12.5	12.6	12.0	11.7	11.9
14	7.7	7.3	7.4	11.3	10.9	11.2	12.9	12.6	12.8	12.7	12.0	12.5
15	8.2	7.4	7.8	11.7	11.1	11.5	13.4	12.9	13.2	12.9	12.7	12.8
16	8.9	8.2	8.6	12.1	11.6	11.9	13.8	13.3	13.5	12.7	12.4	12.5
17	9.2	8.8	9.0	12.7	12.1	12.4	13.8	13.5	13.7	12.5	12.3	12.4
18	9.1	8.9	9.0	13.1	12.7	12.9	14.0	13.6	13.8	12.7	12.4	12.6
19	9.1	8.9	9.1	13.1	12.9	13.0	13.9	13.5	13.7	13.0	12.7	12.9
20	9.3	9.1	9.2	12.9	12.5	12.8	13.6	13.4	13.5	13.4	13.0	13.3
21	9.6	9.2	9.5	12.6	12.4	12.5	13.4	13.2	13.3	13.7	13.4	13.6
22	10.1	9.6	9.8	12.4	11.6	11.9	13.2	12.6	13.0	13.6	13.1	13.4
23	10.4	10.0	10.2	11.7	11.3	11.4	12.6	12.3	12.4	13.1	12.3	12.6
24	10.6	10.2	10.4	12.2	11.4	11.8	12.4	12.0	12.2	12.4	11.8	12.3
25	10.4	9.4	9.9	12.7	12.2	12.5	12.0	11.8	11.9	12.7	12.4	12.6
26	9.7	9.2	9.5	12.5	12.1	12.4	12.1	11.8	12.0	13.1	12.7	12.9
27	9.6	8.7	9.0	12.4	12.1	12.3	12.4	12.1	12.3	13.0	12.7	12.9
28	9.9	9.6	9.8	12.2	11.7	12.0	13.0	12.4	12.8	12.8	12.5	12.6
29	10.2	9.8	10.1	11.8	11.1	11.3	13.4	13.0	13.3	12.7	12.5	12.6
30	10.3	10.1	10.2	11.1	10.5	10.9	13.5	13.3	13.4	12.8	12.6	12.7
31	10.1	9.6	9.9	---	---	---	14.1	13.5	13.7	13.0	12.7	12.8
MONTH	10.6	6.8	8.7	13.1	8.6	11.1	14.1	10.4	12.7	14.3	9.1	12.3



**SURFACE-WATER RECORDS  
Hocking River Basin**

**03159500 HOCKING RIVER AT ATHENS, OHIO**

LOCATION.--Lat 39°19'44", long 82°05'16", in T.9 N., R.14 W., Athens County, Hydrologic Unit 05030204, on right bank 0.8 mi east of business section of Athens, 1.4 mi downstream from Coats Run, and 3.0 mi downstream from Margaret Creek.

DRAINAGE AREA.--943 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1915 to current year.

REVISED RECORDS.--WSP 523: 1918-19(M). WSP 743: 1922(M). WSP 873: 1920, 1922, 1924-28, 1937. WSP 1113: 1932. WDR-

OH-90-1: 1979(M), 1983(M), 1985(M), 1986(M).

GAGE.--Water-stage recorder. Datum of gage is 611.26 ft above sea level. Prior to Aug. 17, 1931, nonrecording gage, Aug. 18, 1931 to Jun. 19, 1970, at present site at datum 3.55 ft. higher. Jun. 19, 1970 to Sep. 30, 1971 and Oct. 1, 1976 to Mar. 31, 1993 water-stage recorder at site 5.3 mi downstream at datum 11.26 ft lower, published as "Below Athens" (03159510).

REMARKS.--Records fair except for periods of estimated record and June 1-Sept. 15, which are poor. Water-quality data collected at this site. Some regulation by Burr Oak Reservoir, capacity 26,900 acre-ft, on East Branch Sunday Creek 29 mi upstream beginning 1952 (see station 0315800); by Hocking Lake, capacity 3,080 acre-ft, on Clear Fork 39.4 mi upstream beginning in 1949; and by temporary retention in 8 retarding basins, combined capacity, 8,710 acre-ft, constructed between 1955 and 1961 upstream from Lancaster (see station 03156400).

EXTREMES OUTSIDE PERIOD RECORD.--Flood in March 1907 reached a stage of about 27 ft, site and datum then in use, from flood marks; discharge 50,000 ft<sup>3</sup>/s, estimated by U.S. Army Corps of Engineers.

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	181	167	417	709	757	1210	1060	6240	480	2440	223	87
2	173	156	473	633	721	1230	1110	8410	475	1770	194	e140
3	174	154	406	584	704	1130	1000	8750	458	1410	163	85
4	172	154	386	565	711	1140	973	8160	424	1230	152	64
5	164	157	510	549	1070	1020	925	5270	404	1030	143	62
6	158	156	487	578	1520	958	823	3880	391	1140	132	62
7	139	155	435	1860	1680	910	796	2940	384	1040	125	61
8	132	166	399	e8000	1830	946	841	3660	379	1030	121	63
9	131	199	374	e20000	1780	2410	2500	3850	378	687	117	95
10	125	257	391	11800	1870	4120	5150	2580	390	410	126	97
11	123	241	1740	6870	1930	2790	3960	2030	404	339	123	80
12	122	213	1630	3550	1970	1970	2220	1830	465	296	148	72
13	119	210	1170	e3000	2200	1440	1690	1400	1850	278	135	69
14	121	251	959	e2450	1700	1270	1560	1160	3200	255	120	66
15	121	738	821	2070	1400	1160	1300	1040	1920	244	114	65
16	123	554	731	1520	1250	1030	3850	929	2890	237	110	64
17	120	441	755	1370	1620	958	8730	846	3050	243	110	63
18	121	379	733	1250	3950	975	7170	762	2740	229	108	62
19	120	339	644	1150	7510	1330	5190	702	1610	244	105	61
20	119	313	569	1060	6770	1560	5890	660	1150	247	119	61
21	117	302	546	979	3810	2640	4160	636	859	261	102	69
22	118	389	541	918	2730	4610	3010	605	734	232	95	72
23	116	1350	635	1070	2210	3920	2400	592	688	197	94	165
24	119	844	739	1390	1910	3380	1760	599	649	180	87	231
25	129	595	823	1260	1660	3570	1460	640	588	171	93	147
26	143	484	1160	1110	1470	2250	1320	651	553	161	117	120
27	181	432	1010	1030	1350	1560	2780	593	823	160	179	109
28	412	382	875	1080	1280	1320	2610	548	3060	158	114	108
29	275	348	780	954	---	1200	1730	517	7290	161	81	110
30	208	349	725	855	---	1120	2320	489	5820	198	69	106
31	181	---	690	808	---	1050	---	483	---	213	78	---
TOTAL	4757	10875	22554	81022	59363	56177	80288	71452	44506	16891	3797	2716
MEAN	153	363	728	2614	2120	1812	2676	2305	1484	545	122	90.5
MAX	412	1350	1740	20000	7510	4610	8730	8750	7290	2440	223	231
MIN	116	154	374	549	704	910	796	483	378	158	69	61

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

MEAN	244	542	1006	1452	1740	2132	1829	1377	775	506	421	297
MAX	1539	3194	3830	7796	3928	5975	4268	5672	3143	2957	3054	2031
(WY)	1976	1920	1924	1937	1951	1963	1940	1968	1928	1958	1980	1979
MIN	36.1	46.4	64.5	75.5	91.6	262	385	174	77.8	52.2	39.6	44.8
(WY)	1931	1954	1931	1931	1954	1931	1925	1934	1930	1930	1930	1930

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1916 - 1998

ANNUAL TOTAL	424506	454398										
ANNUAL MEAN	1163	1245							1023			
HIGHEST ANNUAL MEAN									1794			1989
LOWEST ANNUAL MEAN									233			1954
HIGHEST DAILY MEAN	17100	Mar 3	20000	Jan 9	31200	Mar 11	1964					
LOWEST DAILY MEAN	116	Oct 23	61	Sep 7	10	Oct 11	1930					
ANNUAL SEVEN-DAY MINIMUM	119	Oct 18	63	Sep 14	24	Oct 11	1930					
INSTANTANEOUS PEAK FLOW			e23000	Jan 9	32900	Mar 11	1964					
INSTANTANEOUS PEAK STAGE			e25.5	Jan 9	24.18	Mar 11	1964					
INSTANTANEOUS LOW FLOW			61	Sep 7	10	Oct 11	1930					
10 PERCENT EXCEEDS		2480		3000	2450							
50 PERCENT EXCEEDS		631		636	432							
90 PERCENT EXCEEDS		181		110	89							

e Estimated.

## SURFACE-WATER RECORDS

## Shade River Basin

## 03159540 SHADE RIVER NEAR CHESTER, OHIO

LOCATION.--Lat 39°03'49", long 81°52'55", in NE 1/4 sec. 10, T.3N., R.12 W., Meigs County, Hydrologic Unit 05030202, on right bank at downstream side of bridge on Oak Hill Road, 200 ft upstream from Sugar Run, 2.8 mi southeast of Chester, and 8.5 mi northeast of Pomeroy.

DRAINAGE AREA.--156 mi<sup>2</sup>, includes that of Sugar Run.

PERIOD OF RECORD.--Water years 1956, 1962-64 (occasional low-flow measurements), June 1965 to current year.

GAGE.--Water-stage recorder. Datum of gage is 576.91 ft above sea level.

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	2.5	e4.6	e16	e40	56	e130	111	1430	40	387	27	e1.7
2	2.4	e4.3	e22	e38	52	e120	125	1670	40	240	17	e1.6
3	2.3	e4.1	e20	e37	49	e110	118	1730	35	175	e10	e1.6
4	2.2	e4.0	e17	e36	166	e100	153	1430	33	139	e7.0	1.6
5	2.1	e4.0	e15	e35	467	e92	207	594	31	124	e5.4	1.6
6	2.0	e4.0	e22	e100	463	e90	147	357	30	107	e4.0	1.6
7	2.0	e4.1	e18	e1000	463	e86	128	292	30	88	e3.4	1.3
8	e1.8	e4.2	e15	e2000	444	e96	123	1040	28	373	e3.1	1.5
9	e1.8	e4.6	e14	e600	336	e180	334	774	29	241	e3.3	1.5
10	e1.7	e5.4	e50	e350	272	e400	625	362	42	93	e4.0	1.3
11	e1.6	e6.2	e90	e250	249	179	376	251	66	59	5.5	1.2
12	e1.5	e5.8	e100	e170	427	137	227	201	166	42	15	1.6
13	e1.5	e5.4	e70	136	309	174	173	165	950	33	12	2.1
14	e1.7	e5.8	e60	125	207	165	154	142	1410	27	9.0	1.9
15	e1.7	e30	e50	111	160	145	145	123	1000	31	6.1	2.4
16	e1.6	e22	e42	e110	141	133	558	111	1870	36	4.8	2.9
17	e1.4	e19	e38	e100	179	126	1050	98	1300	30	4.0	2.9
18	e1.3	e16	e35	e94	828	304	389	83	298	24	10	3.0
19	e1.3	e15	e32	89	903	586	949	72	169	20	14	3.1
20	e1.3	e14	e31	77	587	433	1210	65	128	36	9.6	3.3
21	e1.3	e50	e30	66	445	1060	483	88	99	50	5.7	6.5
22	e1.4	e40	e30	63	295	762	307	72	82	32	4.1	11
23	e1.7	e27	e33	222	271	404	233	84	72	20	3.5	12
24	e2.2	e22	e37	300	437	275	186	104	74	16	2.8	6.2
25	e2.9	e19	e45	e200	308	221	155	98	64	13	2.5	3.4
26	e3.7	e17	e60	128	231	186	140	75	53	11	2.5	2.4
27	e5.0	e16	e74	106	163	163	708	61	47	9.4	2.3	2.9
28	e8.0	e15	e62	91	e140	148	390	54	2590	8.2	2.1	2.4
29	e7.0	e14	e54	79	---	138	220	48	3030	7.2	1.9	2.1
30	e6.0	e14	e47	70	---	128	593	43	835	6.7	e1.8	1.6
31	e5.4	---	e43	63	---	120	---	40	---	9.0	e1.7	---
TOTAL	80.3	416.5	1272	6886	9048	7391	10717	11757	14641	2487.5	205.1	90.2
MEAN	2.59	13.9	41.0	222	323	238	357	379	488	80.2	6.62	3.01
MAX	8.0	50	100	2000	903	1060	1210	1730	3030	387	27	12
MIN	1.3	4.0	14	35	49	86	111	40	28	6.7	1.7	1.2
CFSM	.02	.09	.26	1.42	2.07	1.53	2.29	2.43	3.13	.51	.04	.02
IN.	.02	.10	.30	1.64	2.16	1.76	2.56	2.80	3.49	.59	.05	.02

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1998, BY WATER YEAR (WY)

MEAN	54.5	108	207	249	314	358	278	246	98.5	68.4	63.4	36.5
MAX	259	386	765	755	884	1088	634	912	488	384	406	262
(WY)	1976	1974	1991	1994	1994	1997	1972	1968	1998	1980	1980	1979
MIN	.42	.99	20.2	24.0	40.7	53.4	48.6	33.2	2.37	2.40	.72	.38
(WY)	1988	1988	1988	1977	1978	1969	1995	1986	1988	1987	1988	1987

## SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1965 - 1998

ANNUAL TOTAL	59558.5	64991.6	
ANNUAL MEAN	163	178	174
HIGHEST ANNUAL MEAN			272
LOWEST ANNUAL MEAN			45.4
HIGHEST DAILY MEAN	10300	Mar 2	3030
LOWEST DAILY MEAN	1.3	Oct 18	1.2
ANNUAL SEVEN-DAY MINIMUM	1.4	Oct 16	1.4
INSTANTANEOUS PEAK FLOW			3850
INSTANTANEOUS PEAK STAGE			20.56
INSTANTANEOUS LOW FLOW			1.2
ANNUAL RUNOFF (CFSM)	1.05		1.14
ANNUAL RUNOFF (INCHES)	14.20		15.50
10 PERCENT EXCEEDS	252		444
50 PERCENT EXCEEDS	45		50
90 PERCENT EXCEEDS	2.1		2.1

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



**SURFACE-WATER RECORDS**  
**Raccoon Creek Basin**

**03202000 RACCOON CREEK AT ADAMSVILLE, OHIO**

LOCATION.--Lat 38°52'24", long 82°21'22", Gallia County, Hydrologic Unit 05090101, on left bank downstream side of State Highway 588 at Adamsville.

DRAINAGE AREA.--585 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1915 to December 1935, October 1938 to September 1985, October 1991 to current year.

REVISED RECORDS--WSP 873: 1916-18, 1920, 1922, 1924, 1926-27, 1931, 1933, 1935(M). WSP 1908: Drainage area. WSP 2108: 1968-70(M). OH-77-1: 1992-95 (datum).

GAGE.--Water-stage recorder. Datum of gage is 570.04 ft above sea level. July 8, 1984 to October 21, 1997, water-stage recorder 1.7 mi downstream at datum 2.30 ft lower.

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	29	e32	235	142	e230	585	e560	3510	185	3310	57	22
2	19	e31	244	131	e210	535	e520	4230	445	1800	71	22
3	18	e30	170	127	e200	489	e500	4480	267	627	73	21
4	18	e30	e120	121	e500	442	e470	4380	163	360	65	21
5	16	e30	e100	120	e1000	431	e430	4360	141	356	57	21
6	15	e29	e90	233	e2000	437	e410	4160	135	293	53	21
7	15	e31	e82	705	e1900	402	390	3400	127	229	50	20
8	14	e35	e76	2700	e1700	458	355	2560	118	218	48	20
9	13	e40	e72	3620	e1500	1190	462	2160	123	614	56	19
10	12	e50	e150	4440	e1200	1920	1860	2050	160	391	66	19
11	12	e45	e320	4840	e1000	1970	2690	1380	616	233	56	19
12	13	e41	e300	4570	e1700	1440	2830	965	955	181	55	19
13	13	e43	e220	4210	e1300	933	2310	738	1580	150	54	18
14	14	e70	e180	e2000	e900	721	1230	578	1930	132	51	19
15	14	e140	e160	e1200	e700	599	806	466	2720	122	49	18
16	13	e90	e150	e700	e600	513	1090	384	4180	119	46	17
17	11	e76	131	e540	e700	e1000	2340	321	4250	117	52	18
18	12	e68	121	e450	e3000	e2300	2960	274	3200	114	47	18
19	15	e62	115	e380	e3500	e2000	3840	237	1540	171	47	18
20	19	e60	110	e320	e2500	e1800	4280	209	704	125	45	19
21	e20	e70	106	e280	e1800	e4000	4060	229	446	122	42	35
22	e21	e100	109	e250	e1600	e2000	3550	212	332	114	40	38
23	e22	e380	114	e500	e1200	e1400	2020	222	263	96	39	29
24	e23	e200	133	e1200	1160	e1100	1070	297	226	84	38	26
25	e26	e150	187	e900	1000	e840	811	472	199	75	37	23
26	e30	123	241	e540	870	e720	639	349	176	67	44	21
27	e40	125	249	e450	731	e660	1010	247	157	65	49	20
28	e74	114	243	e380	633	e600	1720	204	140	60	33	18
29	e50	107	208	e330	---	e560	1580	175	2650	57	28	19
30	e40	122	178	e270	---	e520	2510	154	3680	54	25	19
31	e35	---	159	e250	---	e500	---	143	---	58	24	---
TOTAL	686	2524	5073	36899	35334	33065	49303	43546	31808	10514	1497	637
MEAN	22.1	84.1	164	1190	1262	1067	1643	1405	1060	339	48.3	21.2
MAX	74	380	320	4840	3500	4000	4280	4480	4250	3310	73	38
MIN	11	29	72	120	200	402	355	143	118	54	24	17
CFSM	.04	.14	.28	2.03	2.16	1.82	2.81	2.40	1.81	.58	.08	.04
IN.	.04	.16	.32	2.35	2.25	2.10	3.14	2.77	2.02	.67	.10	.04

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

	1916	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	120	295	659	946	1196	1505	1197	896	416	240	202	128																																																																							
MAX	986	1812	2562	2739	2989	4188	3231	4200	2244	1752	1548	1252																																																																							
(WY)	1976	1920	1979	1950	1939	1997	1939	1968	1941	1958	1926	1979																																																																							
MIN	2.63	5.49	7.92	24.0	44.7	248	224	79.6	29.3	11.3	7.16	3.35																																																																							
(WY)	1931	1964	1964	1931	1954	1941	1971	1930	1930	1930	1922	1930																																																																							

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1916 - 1998

ANNUAL TOTAL	277439	250886	
ANNUAL MEAN	760	687	650
HIGHEST ANNUAL MEAN			1095
LOWEST ANNUAL MEAN			186
HIGHEST DAILY MEAN	16000	4840	19600
LOWEST DAILY MEAN	11	11	1.1
ANNUAL SEVEN-DAY MINIMUM	13	13	1.3
INSTANTANEOUS PEAK FLOW		5090	19600
INSTANTANEOUS PEAK STAGE		17.17	29.11
INSTANTANEOUS LOW FLOW		11	1.1
ANNUAL RUNOFF (CFSM)	1.30	1.17	1.11
ANNUAL RUNOFF (INCHES)	17.64	15.95	15.10
10 PERCENT EXCEEDS	1730	2220	1720
50 PERCENT EXCEEDS	276	200	241
90 PERCENT EXCEEDS	30	20	24

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

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03219500 SCIOTO RIVER NEAR PROSPECT, OHIO**

LOCATION.--Lat 40°25'10", long 83°11'50", Delaware County, Hydrologic Unit 05060001, on right bank at downstream side of Hoskins Bridge, 1.5 mi upstream from Ottawa Creek, 2.0 mi south of Prospect, and 2.5 mi downstream from Patton Run.

**WATER-DISCHARGE RECORDS**

DRAINAGE AREA.--567 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1925 to October 1932, October 1939 to current year. Published as "at Prospect" 1925-32. Gage-height records collected in this vicinity since 1915 are contained in reports of National Weather Service.

REVISED RECORDS.--WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 886.9 ft above sea level (levels by U.S. Army Corps of Engineers). July 24, 1925, to Oct. 31, 1932, nonrecording gage at site 2.5 mi upstream at datum 4.8 ft higher. Oct. 16 to Dec. 5, 1939, nonrecording gage at present site and datum.

REMARKS.--Records fair except for periods of estimated record, which are poor. Water-quality and sediment data collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 25, 1913, reached a stage of 21.1 ft, discharge; 27,000 ft<sup>3</sup>/s, computed by Franklin County Conservancy District, at site and datum used 1925-32.

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	14	20	66	175	280	423	415	290	108	986	63	32
2	13	19	88	142	246	414	510	404	128	941	54	30
3	14	18	91	130	214	416	518	678	128	661	47	28
4	14	18	85	126	193	364	384	1060	88	361	42	27
5	14	17	85	116	176	346	311	1130	69	403	44	25
6	14	16	90	126	e160	347	264	1100	67	597	288	24
7	13	16	97	743	148	325	231	781	59	352	724	23
8	13	16	77	3140	e140	308	233	753	58	408	809	21
9	13	15	62	5130	e140	551	381	1220	53	840	926	22
10	14	14	72	6280	e130	1250	1470	1470	71	703	923	23
11	17	14	346	5750	e140	1560	2900	1030	e100	386	773	22
12	18	14	680	3970	e150	1250	2680	559	e1000	234	751	21
13	15	14	455	2160	181	735	1360	376	e3000	164	734	20
14	18	15	291	1050	253	565	721	278	e2000	129	384	19
15	22	20	215	713	237	463	626	219	e1500	112	207	19
16	19	22	161	592	203	361	1120	183	e700	104	136	19
17	18	23	129	499	347	308	2630	154	1430	89	99	18
18	18	22	111	388	1640	345	3420	130	1550	76	80	18
19	18	22	101	315	2870	763	3160	112	1290	68	69	18
20	19	21	88	262	3730	1080	2050	99	1010	70	59	18
21	16	20	83	232	3150	e3500	1220	89	713	71	59	24
22	16	19	77	204	2010	e4000	850	81	580	121	53	33
23	16	23	77	239	1140	3140	664	74	725	522	59	33
24	16	26	91	494	826	2290	550	71	489	1060	54	33
25	17	37	258	588	694	1210	435	91	301	1020	54	29
26	18	43	851	474	613	756	361	100	217	522	77	26
27	34	39	982	381	574	619	366	105	173	260	72	23
28	31	36	591	370	529	539	372	92	478	166	62	25
29	28	41	364	384	---	471	336	76	1040	120	51	25
30	26	42	280	372	---	459	289	76	1000	93	42	22
31	22	---	231	327	---	427	---	81	---	75	36	---
TOTAL	558	682	7275	35872	21114	29585	30827	12962	20125	11714	7831	720
MEAN	18.0	22.7	235	1157	754	954	1028	418	671	378	253	24.0
MAX	34	43	982	6280	3730	4000	3420	1470	3000	1060	926	33
MIN	13	14	62	116	130	308	231	71	53	68	36	18
CFSM	.03	.04	.41	2.04	1.33	1.68	1.81	.74	1.18	.67	.45	.04
IN.	.04	.04	.48	2.35	1.39	1.94	2.02	.85	1.32	.77	.51	.05

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1998, BY WATER YEAR (WY)

MEAN	117	262	491	714	782	1016	875	494	409	272	125	95.9
MAX	1643	2023	2451	3305	2166	3008	2771	1788	1915	2049	778	1651
(WY)	1927	1973	1991	1950	1975	1978	1957	1996	1947	1992	1995	1926
MIN	10.9	13.8	14.9	15.1	30.8	135	97.0	78.3	32.5	19.4	11.7	7.98
(WY)	1945	1931	1964	1945	1964	1941	1946	1955	1988	1952	1932	1941

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1926 - 1998

ANNUAL TOTAL	165148	179265										
ANNUAL MEAN	452	491								469		
HIGHEST ANNUAL MEAN										833		1927
LOWEST ANNUAL MEAN										127		1954
HIGHEST DAILY MEAN				6340	Jun 3		6280	Jan 10		10000	Mar 22	1927
LOWEST DAILY MEAN				13	Oct 2		13	Oct 2		4.5	Sep 14	1953
ANNUAL SEVEN-DAY MINIMUM				14	Oct 2		14	Oct 2		5.9	Sep 25	1941
INSTANTANEOUS PEAK FLOW							6360	Jan 10a		10100	Mar 22	1927
INSTANTANEOUS PEAK STAGE							12.18	Jan 10		15.00	Mar 22	1927
INSTANTANEOUS LOW FLOW							13	Oct 2		3.5	Sep 13	1953
ANNUAL RUNOFF (CFSM)			.80			.87				.83		
ANNUAL RUNOFF (INCHES)			10.84			11.76				11.25		
10 PERCENT EXCEEDS			1100			1170				1300		
50 PERCENT EXCEEDS			161			166				129		
90 PERCENT EXCEEDS			18			18				19		

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

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

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**03219500 SCIOTO RIVER NEAR PROSPECT, OHIO—Continued**

**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--June 1998 to current year.

PERIOD OF DAILY RECORD--

SPECIFIC CONDUCTANCE: June 1998 to current year.

pH: June 1998 to current year.

WATER TEMPERATURES: June 1998 to current year.

DISSOLVED OXYGEN: June 1998 to current year.

INSTRUMENTATION: Water-quality monitor. Electronic data logger. Set for 1-hour interval.

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

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,040 microsiemens Sept. 20; minimum, 309 microsiemens June 29.

pH: Maximum, 8.8 units Sept. 15; minimum, 7.3 units June 29.

WATER TEMPERATURES: Maximum, 29.0°C Junly 21; minimum, 15.0°C Sept. 10.

DISSOLVED OXYGEN: Maximum, 13.4 mg/L Sept. 6; minimum, 4.1 mg/L Sept. 20.















## SURFACE-WATER RECORDS

## Scioto River Basin

## 03220000 MILL CREEK NEAR BELLEPOINT, OHIO

LOCATION.--Lat 40°14'54", long 83°10'26", Delaware County, Hydrologic Unit 05060001, on left bank at upstream side of county road bridge, 1.2 mi west of Bellepoint, 1.5 mi upstream from mouth, and 2.3 mi downstream from Blues Creek.  
DRAINAGE AREA.--178 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1942 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 865.14 ft above sea level (levels by students of The Ohio State University, City of Columbus bench mark). Prior to Jan. 1, 1948, nonrecording gage at same site and datum.

REMARKS.--Records fair. Water-quality data collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 18.0 ft occurred in March 1913.

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	5.5	7.1	22	17	34	54	56	112	20	59	9.8	8.5
2	5.6	6.5	15	15	32	66	79	578	16	31	8.8	12
3	6.7	6.5	14	14	28	62	75	915	14	18	9.4	8.6
4	6.4	6.2	15	16	28	52	52	387	15	17	8.0	8.9
5	6.4	6.4	15	14	29	46	42	198	14	33	7.8	9.3
6	5.8	7.0	11	16	32	46	38	133	13	27	8.6	8.4
7	5.4	6.8	11	255	63	41	34	120	13	21	9.4	9.0
8	6.6	7.0	11	2010	85	41	68	1630	13	94	10	9.2
9	6.0	6.9	9.8	2030	72	341	486	1230	12	94	12	11
10	7.1	7.0	15	559	55	806	1340	351	13	40	15	9.3
11	7.0	6.6	66	234	50	301	497	176	16	23	29	9.7
12	6.9	6.3	87	139	306	151	197	119	28	14	15	11
13	7.4	6.2	40	108	322	106	130	86	176	12	14	9.6
14	7.0	8.0	25	82	148	85	100	68	245	9.9	13	8.7
15	7.0	9.3	20	65	97	67	80	55	169	9.6	12	9.3
16	9.2	11	18	55	82	57	1140	43	437	9.3	9.6	10
17	7.3	9.8	16	47	388	50	3060	35	361	10	13	8.4
18	6.8	8.3	14	42	1710	83	842	31	153	8.2	9.4	9.8
19	6.9	7.5	13	37	1460	172	451	28	72	8.3	9.0	11
20	7.1	7.7	12	30	499	182	527	26	50	10	9.8	11
21	6.8	9.0	12	31	291	672	280	21	43	13	11	12
22	6.5	10	12	28	183	797	171	20	27	12	10	14
23	6.9	11	15	100	138	323	134	19	80	26	9.4	11
24	7.1	9.7	20	245	115	185	110	20	43	110	9.9	14
25	7.7	7.9	72	153	93	128	83	23	37	50	13	12
26	9.8	7.6	191	101	77	102	112	23	22	23	14	11
27	9.5	7.6	88	73	73	86	666	21	20	15	14	13
28	12	9.1	47	61	60	70	286	21	19	15	12	12
29	9.5	18	32	56	---	58	135	19	72	12	14	10
30	8.8	14	27	48	---	55	106	31	93	11	12	13
31	8.3	---	22	41	---	50	---	23	---	10	9.7	---
TOTAL	227.0	252.0	987.8	6722	6550	5335	11377	6562	2306	845.3	361.6	314.7
MEAN	7.32	8.40	31.9	217	234	172	379	212	76.9	27.3	11.7	10.5
MAX	12	18	191	2030	1710	806	3060	1630	437	110	29	14
MIN	5.4	6.2	9.8	14	28	41	34	19	12	8.2	7.8	8.4
CFSM	.04	.05	.18	1.22	1.31	.97	2.13	1.19	.43	.15	.07	.06
IN.	.05	.05	.21	1.40	1.37	1.11	2.38	1.37	.48	.18	.08	.07

## STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 1998, BY WATER YEAR (WY)

MEAN	26.3	98.4	173	257	284	332	290	178	147	79.5	39.4	24.2
MAX	449	553	1130	1227	768	963	874	746	734	769	332	303
(WY)	1987	1973	1991	1950	1975	1978	1972	1996	1997	1992	1979	1979
MIN	.90	1.99	2.17	3.82	8.09	36.1	29.6	10.5	5.19	1.33	1.75	1.00
(WY)	1954	1964	1964	1977	1964	1983	1971	1955	1988	1944	1965	1944

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1944 - 1998	
	ANNUAL TOTAL	57170.5		41840.4		
ANNUAL MEAN	157		115		160	
HIGHEST ANNUAL MEAN					258	
LOWEST ANNUAL MEAN					51.4	
HIGHEST DAILY MEAN	11900		3060		12600	
LOWEST DAILY MEAN	5.4		5.4		.00	
ANNUAL SEVEN-DAY MINIMUM	6.0		6.0		.13	
INSTANTANEOUS PEAK FLOW			3990		21800	
INSTANTANEOUS PEAK STAGE			8.40		14.45	
INSTANTANEOUS LOW FLOW			5.4		.00	
ANNUAL RUNOFF (CFSM)	.88		.64		.90	
ANNUAL RUNOFF (INCHES)	11.95		8.74		12.22	
10 PERCENT EXCEEDS	272		249		359	
50 PERCENT EXCEEDS	30		21		28	
90 PERCENT EXCEEDS	6.9		7.5		4.0	

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

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**03220510 SCIOTO RIVER AT O'SHAUGHNESSY DAM, OHIO**

**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--June 1998 to September 1998.

PERIOD OF DAILY RECORD--

SPECIFIC CONDUCTANCE: June 1998 to September 1998.

pH: June 1998 to September 1998.

WATER TEMPERATURES: June 1998 to September 1998.

INSTRUMENTATION: Water-quality monitor. Electronic data logger. Set for 1-hour interval.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 826 microsiemens Sept. 30, 1998; minimum, 485 microsiemens June 19, 1998.

pH: Maximum, 8.9 units July 18, 1998; minimum, 7.0 units Aug. 21, 1998.

WATER TEMPERATURES: Maximum, 27.0°C Aug. 2, 27, and 28, 1998; minimum, 19.5°C Sept. 11 and 12.

DISSOLVED OXYGEN: Maximum, 13.7 mg/L July 31, 1998; minimum, 0.9 mg/L Sept. 5, 6, and 26.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 826 microsiemens Sept. 30; minimum, 485 microsiemens June 19.

pH: Maximum, 8.9 units July 18; minimum, 7.0 units Aug. 21.

WATER TEMPERATURES: Maximum, 27.0°C Aug. 2, 27, and 28, 1998; minimum, 19.5°C Sept. 11 and 12.

DISSOLVED OXYGEN: Maximum, 13.7 mg/L July 31; minimum, 0.9 mg/L Sept. 5, 6, and 26.















# SURFACE-WATER RECORDS

## Scioto River Basin

### 03221000 SCIOTO RIVER BELOW O'SHAUGHNESSY DAM NEAR DUBLIN, OHIO

LOCATION.--Lat 40°08'36", long 83°07'14", Delaware County, Hydrologic Unit 05060001, on left bank, 0.2 mi north of county line, 0.8 mi downstream from O'Shaughnessy Dam, and 3.0 mi north of Dublin.

DRAINAGE AREA.--980 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1921 to current year.

REVISED RECORDS.--WSP 803: 1924-35. WSP 1725: 1924. WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 775.00 ft above sea level. Prior to Aug. 26, 1921, nonrecording gage at site 0.8 mi upstream at same datum. Aug. 26, 1921, to Oct. 13, 1924, nonrecording gage at site 100 ft downstream at same datum.

REMARKS.--Records poor. Flow regulated since 1924 by O'Shaughnessy Reservoir 0.8 mi upstream (see station 03220500).

Water-quality data collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 25, 1913 reached a stage of 24.6 ft, discharge; 74,500 ft<sup>3</sup>/s at Griggs Dam, 9 mi downstream from gage, computed by C.E. Sherman, The Ohio State University.

#### 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	121	103	21	299	496	601	624	625	225	483	113	127
2	119	101	21	265	460	589	653	1270	306	774	110	121
3	118	89	53	240	419	638	721	2390	336	1030	106	116
4	100	48	33	223	441	602	630	2130	284	800	104	113
5	72	13	24	207	360	554	522	1740	238	717	99	110
6	74	47	24	216	330	537	481	1600	176	690	96	108
7	73	93	25	600	373	527	431	1350	161	709	370	109
8	73	94	28	6800	378	521	499	3670	150	707	714	104
9	75	73	74	10000	362	871	1010	4150	149	987	e1100	69
10	46	57	96	8770	336	2800	3730	2750	151	1170	e1500	52
11	15	57	28	7060	329	2450	4220	1850	165	808	e17000	95
12	16	57	415	5170	557	1970	3740	1110	370	703	e1000	108
13	20	59	757	3200	770	1170	2240	661	1960	668	e900	118
14	147	16	524	1670	638	839	1150	632	2710	339	720	132
15	135	14	385	1030	564	706	827	582	2450	159	384	146
16	115	14	309	790	512	619	3050	407	2890	177	272	147
17	112	13	243	699	798	562	9260	406	3570	191	203	144
18	92	51	191	615	4810	586	6220	405	2570	201	180	140
19	92	115	173	533	6620	860	4760	385	1950	219	141	142
20	74	115	165	478	5350	1490	3910	217	1510	246	125	139
21	66	115	129	430	4430	3100	2320	90	1170	337	115	66
22	45	31	139	402	3000	4730	1480	133	855	249	110	29
23	40	13	143	479	1790	4340	1080	181	1000	547	106	27
24	118	31	149	814	1150	3400	856	213	908	1480	171	80
25	49	105	289	929	899	1970	724	226	711	1360	231	108
26	14	105	932	772	759	1160	708	232	555	862	70	125
27	16	111	1320	652	706	889	1340	244	483	695	70	126
28	17	89	970	603	648	757	1020	243	484	222	74	125
29	20	32	646	605	---	696	766	249	483	90	78	108
30	66	16	498	589	---	649	695	244	483	104	81	74
31	104	---	403	543	---	634	---	224	---	113	98	---
TOTAL	2244	1877	9207	55683	38285	41817	59667	30609	29453	17837	26441	3208
MEAN	72.4	62.6	297	1796	1367	1349	1989	987	982	575	853	107
MAX	147	115	1320	10000	6620	4730	9260	4150	3570	1480	17000	147
MIN	14	13	21	207	329	521	431	90	149	90	70	27

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

	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965												
MEAN	180	432	832	1296	1419	1798	1519	889	709	442	243	151																																													
MAX	2626	3426	4794	6397	4073	5231	4706	3865	3407	3599	1584	2285																																													
(WY)	1927	1973	1991	1937	1975	1963	1957	1996	1947	1992	1995	1926																																													
MIN	28.2	15.1	13.0	29.3	30.9	249	152	46.4	57.8	37.2	29.4	25.6																																													
(WY)	1922	1954	1953	1992	1964	1941	1946	1925	1955	1921	1921	1965																																													

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1921 - 1998
ANNUAL TOTAL	309398	316328	
ANNUAL MEAN	848	867	824
HIGHEST ANNUAL MEAN			1458
LOWEST ANNUAL MEAN			190
HIGHEST DAILY MEAN	24900	17000	42900
LOWEST DAILY MEAN	13	13	.40
ANNUAL SEVEN-DAY MINIMUM	27	27	1.1
INSTANTANEOUS PEAK FLOW		10500	42900
INSTANTANEOUS PEAK STAGE		10.50	22.04
INSTANTANEOUS LOW FLOW		13	13
10 PERCENT EXCEEDS	2050	2270	2260
50 PERCENT EXCEEDS	289	370	205
90 PERCENT EXCEEDS	42	55	41

e Estimated.

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03223000 OLENTANGY RIVER AT CLARIDON, OHIO**

LOCATION.--Lat 40°34'58", long 82°59'20", in NW 1/4 sec. 26, T.5 S., R.16 E., Marion County, Hydrologic Unit 05060001, on left bank 900 ft downstream from bridge on State Highway 95, 0.5 mi east of Claridon, 0.8 mi downstream from Otter Creek, and 1.4 mi upstream from Beaver Run.

DRAINAGE AREA.--157 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1946 to current year (station discontinued).

REVISED RECORDS.--WSP 1235: 1947, 1948(P). WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 961.72 ft above sea level. (Levels by U.S. Army Corps of Engineers.) Prior to Aug. 18, 1969, water-stage recorder at site 1,000 ft upstream at same datum.

REMARKS.--Records fair. Small diversion at gage for irrigation of golf course. Water-quality and sediment data collected at this site. Water year 1986 stream flow records published in water year 1987 data report. U.S. Army Corps of Engineers satellite 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	3.9	10	49	40	69	84	74	75	16	2230	16	4.8
2	3.1	9.6	48	23	65	97	69	180	16	808	15	4.2
3	2.9	9.5	41	22	58	96	61	369	16	256	14	3.4
4	2.7	10	38	32	55	101	55	314	15	167	13	3.3
5	2.8	10	49	42	53	175	49	614	14	135	13	3.0
6	3.1	11	49	62	49	169	45	339	14	102	15	2.9
7	3.2	12	36	549	46	131	43	162	14	77	17	2.2
8	3.4	12	31	1710	44	111	48	144	14	67	18	2.0
9	3.5	11	27	2120	41	274	196	234	13	84	16	1.9
10	6.4	11	61	1550	38	498	552	197	22	63	15	1.7
11	4.3	11	285	525	38	273	258	115	25	48	55	1.5
12	3.1	10	166	246	49	163	133	88	225	41	37	1.5
13	2.9	11	83	177	83	116	96	75	854	37	22	1.7
14	5.5	13	53	138	89	105	83	62	573	31	16	1.6
15	6.0	15	38	118	72	86	75	50	244	27	13	1.4
16	5.2	26	30	107	64	77	438	43	153	25	12	1.2
17	5.2	26	27	94	98	72	1430	37	493	23	9.7	1.2
18	7.9	22	22	81	765	78	1300	34	268	21	9.7	1.1
19	6.5	20	22	68	1370	98	552	31	526	20	8.4	.98
20	5.6	18	20	69	996	109	462	29	329	54	7.8	1.5
21	5.5	17	19	71	424	850	356	26	140	107	7.6	3.7
22	5.5	17	18	60	255	1200	211	23	102	69	7.7	5.3
23	5.8	17	26	100	183	655	158	22	121	168	8.1	11
24	6.0	19	62	247	146	232	121	20	78	186	7.2	8.2
25	6.9	23	205	174	120	158	100	20	56	101	15	6.1
26	8.2	21	311	122	102	123	96	19	45	51	46	4.6
27	12	18	156	109	92	105	133	18	693	37	30	4.6
28	29	19	90	109	83	95	111	17	2680	28	18	4.2
29	30	20	60	99	---	94	87	16	3770	23	11	3.4
30	20	27	48	83	---	88	79	15	4360	20	7.3	3.2
31	15	---	42	73	---	79	---	15	---	19	5.6	---
TOTAL	231.1	476.1	2212	9020	5547	6592	7471	3403	15889	5125	506.1	97.38
MEAN	7.45	15.9	71.4	291	198	213	249	110	530	165	16.3	3.25
MAX	30	27	311	2120	1370	1200	1430	614	4360	2230	55	11
MIN	2.7	9.5	18	22	38	72	43	15	13	19	5.6	.98
CFSM	.05	.10	.45	1.85	1.26	1.35	1.59	.70	3.37	1.05	.10	.02
IN.	.05	.11	.52	2.14	1.31	1.56	1.77	.81	3.76	1.21	.12	.02

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1947 - 1998, BY WATER YEAR (WY)

	MEAN	29.5	106	178	256	281	314	263	165	145	93.9	44.9	28.9
MAX (WY)	295	526	741	1145	625	964	745	482	854	1011	580	241	
(WY)	1991	1973	1991	1950	1982	1963	1957	1996	1947	1987	1995	1981	
MIN (WY)	.019	2.44	2.29	9.01	8.02	55.7	43.3	17.8	5.80	5.27	1.35	.70	
(WY)	1954	1964	1964	1977	1964	1983	1971	1955	1962	1962	1952	1953	

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1947 - 1998

ANNUAL TOTAL		49629.4		56569.68		158		1947
ANNUAL MEAN		136		155		72.7		1954
HIGHEST ANNUAL MEAN								1959
LOWEST ANNUAL MEAN								1953
HIGHEST DAILY MEAN	2830	Jun 2	4360	Jun 30	11900	Jan 22	1959	
LOWEST DAILY MEAN	2.7	Oct 4	.98	Sep 19	.00	Oct 2	1953	
ANNUAL SEVEN-DAY MINIMUM	3.0	Oct 2	1.3	Sep 14	.00	Oct 2	1953	
INSTANTANEOUS PEAK FLOW			5000	Jun 30a	14900	Jan 22	1959	
INSTANTANEOUS PEAK STAGE			12.82	Jun 30	16.77	Jan 22	1959	
INSTANTANEOUS LOW FLOW			.98	Sep 19	.00	Oct 2	1953	
ANNUAL RUNOFF (CFSM)	.87		.99		1.01			
ANNUAL RUNOFF (INCHES)	11.76		13.40		13.67			
10 PERCENT EXCEEDS	322		295		394			
50 PERCENT EXCEEDS	46		43		43			
90 PERCENT EXCEEDS	7.9		4.6		4.5			

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

## SURFACE-WATER RECORDS

## Scioto River Basin

## 03223425 WHETSTONE CREEK AT MOUNT GILEAD, OHIO

LOCATION.--Lat 40°32'56", long 82°49'17", Morrow County, Hydrologic Unit 05060001, on left upstream bank at State Route 95 bridge on east side of city, 0.3 mi downstream from Mount Gilead Lakes in Mount Gilead State Park.

DRAINAGE AREA.--37.9 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1996 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,074.00 ft above sea level.

REMARKS.--Records fair except for periods of estimated record and June 30-Aug. 25, 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	1.1	5.2	9.8	7.3	e14	23	24	11	21	56	7.9	e.50
2	1.3	5.2	8.3	7.0	e14	22	22	14	50	24	7.9	e.40
3	1.6	5.7	7.4	8.4	13	22	18	27	44	16	5.2	e.30
4	1.8	5.8	12	10	12	33	16	45	22	13	.11	e.10
5	1.8	5.6	12	11	12	47	13	36	9.8	11	.18	.08
6	1.8	5.4	9.5	24	10	58	12	23	11	8.5	.45	.08
7	2.0	5.4	8.2	231	10	42	11	18	7.5	7.0	.26	.08
8	2.1	5.7	7.1	669	9.7	38	22	15	6.5	9.2	.32	.09
9	2.3	5.7	6.5	218	9.1	86	36	21	3.1	7.9	1.2	.09
10	2.7	5.5	51	99	8.8	101	44	42	13	6.1	2.8	.09
11	2.8	5.7	76	51	10	59	27	583	13	4.8	3.9	.08
12	3.2	5.6	31	33	42	37	20	280	57	4.0	2.6	.08
13	3.4	5.4	18	27	53	29	16	89	182	3.7	1.7	.08
14	4.6	7.6	13	19	32	26	17	155	79	4.0	1.2	.07
15	4.6	6.8	10	18	23	23	24	108	49	3.6	1.2	.07
16	4.3	5.8	9.1	18	21	20	270	63	65	3.6	1.3	.07
17	4.5	4.9	8.1	16	62	20	552	48	62	4.0	1.5	.08
18	4.5	4.5	7.2	14	384	27	125	35	31	3.5	1.7	.08
19	4.3	4.3	7.0	e18	320	32	103	26	108	3.7	e1.8	.07
20	4.2	4.3	6.4	e18	117	40	156	22	56	5.6	e1.8	.11
21	4.1	4.5	6.1	e19	81	413	74	62	30	6.6	e1.7	.20
22	4.1	5.7	7.1	e17	57	188	55	56	33	11	e1.8	.13
23	4.4	5.3	14	e26	43	79	39	32	102	19	e2.0	.09
24	4.8	4.7	18	e66	34	53	29	28	49	13	e1.2	.08
25	5.9	4.3	74	e25	29	38	23	27	27	9.1	e2.6	.09
26	6.6	4.4	52	e20	25	31	31	41	19	7.8	e3.5	.09
27	7.3	4.3	29	e18	23	26	77	114	1770	8.8	e2.5	.19
28	6.0	6.1	18	e17	22	25	39	89	1100	8.1	e1.5	.13
29	5.3	8.4	13	e17	---	33	e20	70	2060	7.9	e1.0	.12
30	4.9	8.8	11	e16	---	28	e16	37	327	7.8	e.70	.18
31	5.0	---	9.1	e15	---	23	---	22	---	8.0	e.54	---
TOTAL	117.3	166.6	568.9	1772.7	1490.6	1722	1931	2239	6406.9	306.3	64.06	3.90
MEAN	3.78	5.55	18.4	57.2	53.2	55.5	64.4	72.2	214	9.88	2.07	.13
MAX	7.3	8.8	76	669	384	413	552	583	2060	56	7.9	.50
MIN	1.1	4.3	6.1	7.0	8.8	20	11	11	3.1	3.5	.11	.07

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 1998, BY WATER YEAR (WY)

	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998	1997	1998
MEAN	5.41	16.8	75.8	49.9	63.2	76.1	42.4	65.8	140	8.00	5.80	1.09
MAX	7.04	28.1	133	57.2	73.1	96.6	64.4	72.2	214	9.88	9.53	2.05
(WY)	1997	1997	1997	1998	1997	1997	1998	1998	1998	1998	1997	1997
MIN	3.78	5.55	18.4	42.6	53.2	55.5	20.4	59.4	65.5	6.12	2.07	.13
(WY)	1998	1998	1998	1997	1998	1998	1997	1997	1997	1997	1998	1998

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1997 - 1998	
ANNUAL TOTAL	12178.5		16789.26			
ANNUAL MEAN	33.4		46.0		45.6	
HIGHEST ANNUAL MEAN					46.0	
LOWEST ANNUAL MEAN					45.3	
HIGHEST DAILY MEAN	1030	Jun 1	2060	Jun 29	2060	Jun 29 1998
LOWEST DAILY MEAN	1.0	Sep 28	.07	Sep 14	.07	Sep 14 1998
ANNUAL SEVEN-DAY MINIMUM	1.1	Sep 26	.07	Sep 13	.07	Sep 13 1998
INSTANTANEOUS PEAK FLOW			5650		5650	
INSTANTANEOUS PEAK STAGE			13.64		13.64	
INSTANTANEOUS LOW FLOW			.07		.07	
10 PERCENT EXCEEDS	76		74		89	
50 PERCENT EXCEEDS	12		12		14	
90 PERCENT EXCEEDS	2.1		.64		1.8	

e Estimated.

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03225500 OLENTANGY RIVER NEAR DELAWARE, OHIO**

LOCATION.--Lat 40°21'18", long 83°04'02", in NE 1/4 T.5 N., R.19 W., Delaware County, Hydrologic Unit 05060001, on left bank 500 ft upstream from highway bridge, 1,000 ft downstream from Delaware Dam, 1300 ft upstream from Norfolk and Western Railway bridge, and 4.0 mi north of Delaware.

DRAINAGE AREA.--393 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1923 to September 1934, April 1938 to current year. Monthly discharge only for some periods, published in WSP 1305.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 878.00 ft above sea level (levels by U.S. Army Corps of Engineers). Prior to Oct. 1, 1950, water-stage recorder at this site 500 ft downstream at datum 1.72 ft lower. Oct. 1, 1950 to Sept. 30, 1985, at datum 78.42 ft lower.

REMARKS.--Records good. Flow completely regulated by Delaware Lake since 1951. Water-quality data collected at this site. Water-temperature data collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 14,100 ft<sup>3</sup>/s Mar. 21, 1927, gage height, 16.9 ft, site and datum then in use; minimum daily, 0.1 ft<sup>3</sup>/s Sept. 14-29, 1934.

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	19	20	37	38	210	229	101	293	42	3210	35	24
2	19	20	37	46	84	100	24	291	41	4220	32	17
3	18	20	86	57	32	178	15	287	58	4180	35	21
4	18	20	111	57	187	283	13	988	67	4100	34	16
5	18	20	59	57	167	283	12	1730	66	3470	32	18
6	19	20	33	150	93	283	13	2020	65	1650	32	16
7	19	20	32	536	93	283	12	1460	60	422	33	16
8	19	413	104	1130	93	283	15	687	41	349	34	18
9	19	15	63	2000	93	469	25	389	34	212	34	18
10	20	16	106	3490	73	1030	662	387	34	125	35	18
11	22	17	334	3220	47	951	798	265	144	125	34	18
12	22	18	504	2790	235	337	254	75	428	96	35	19
13	19	20	259	2110	156	382	128	25	660	80	34	19
14	20	20	135	1290	116	355	128	13	1370	68	34	18
15	20	20	43	656	116	279	276	9.8	1780	46	35	18
16	20	20	21	350	117	63	262	429	1070	46	35	18
17	20	15	21	244	407	17	128	470	498	46	35	18
18	20	12	21	242	899	19	679	178	615	46	35	18
19	20	11	76	237	648	21	558	168	624	47	35	18
20	19	11	103	95	1270	85	1540	9.5	916	47	35	18
21	19	11	103	21	2480	943	3470	8.7	646	47	31	17
22	19	423	45	137	2370	1740	3250	8.5	211	172	28	17
23	19	494	18	218	1590	2820	1850	8.6	121	440	28	17
24	19	386	18	223	347	1480	293	9.1	194	329	28	17
25	19	134	23	288	290	278	644	9.0	230	132	28	17
26	19	22	303	502	288	122	661	52	185	173	28	18
27	19	16	577	444	266	191	639	126	90	74	28	19
28	19	73	570	279	230	232	392	125	1650	46	28	17
29	20	70	196	213	---	229	182	125	1480	46	28	17
30	20	37	138	213	---	228	298	104	979	46	28	17
31	20	---	108	213	---	225	---	51	---	46	28	---
TOTAL	602	2414	4284	21546	12997	14418	17322	10801.2	14399	24136	994	537
MEAN	19.4	80.5	138	695	464	465	577	348	480	779	32.1	17.9
MAX	22	494	577	3490	2480	2820	3470	2020	1780	4220	35	24
MIN	18	11	18	21	32	17	12	8.5	34	46	28	16

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

MEAN	78.1	284	447	485	654	765	543	407	307	257	120	67.3
MAX	560	1442	1683	1790	2073	2087	1537	1618	1247	1723	1259	538
(WY)	1987	1973	1991	1952	1959	1963	1964	1996	1981	1987	1995	1979
MIN	10.8	6.53	7.81	20.5	18.4	11.7	16.3	33.1	8.19	12.6	18.2	13.9
(WY)	1965	1992	1992	1954	1964	1983	1971	1962	1962	1988	1988	1967

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1951 - 1998
ANNUAL TOTAL	110591.7	124450.2	
ANNUAL MEAN	303	341	366
HIGHEST ANNUAL MEAN			609
LOWEST ANNUAL MEAN			137
HIGHEST DAILY MEAN	4180	Mar 7	5940
LOWEST DAILY MEAN	5.7	Apr 10	1.0
ANNUAL SEVEN-DAY MINIMUM	6.7	Apr 10	3.4
INSTANTANEOUS PEAK FLOW		4280	6000
INSTANTANEOUS PEAK STAGE		8.60	88.13
INSTANTANEOUS LOW FLOW		8.1	1.0
10 PERCENT EXCEEDS	752	946	1030
50 PERCENT EXCEEDS	46	70	94
90 PERCENT EXCEEDS	19	18	19

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03226800 OLENTANGY RIVER NEAR WORTHINGTON, OHIO**

LOCATION.--Lat 40°06'37", long 83°01'55", Franklin County, Hydrologic Unit 05060001, on left bank 350 ft downstream from Interstate Highway 270 bridge, 1.5 mi northwest of Worthington and 2.8 mi upstream from Rush Run.

DRAINAGE AREA.--497 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1955 to September 1984, October 1996 to September 1997.

REVISED RECORDS.--WSP 1625: 1952(M). WSP 1908. Drainage area. WRD Ohio 1972: 1971(M). WRD-OH-80-1: 1976(M), 1978(M).

GAGE.--Water-stage recorder. Datum of gage is 743.20 ft above sea level.

REMARKS.--Records fair except for periods of estimated record, which are poor. Flow regulated by Delaware Lake 21 mi upstream. Water-quality data collected at this site. Daily suspended sediment data collected at this site.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in Jan. 1952 reached a stage of 15.3 ft, discharge 15,000 ft<sup>3</sup>/s, from information by Corps of Engineers.

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	16	79	83	231	268	348	438	73	2850	54	29
2	17	18	64	64	216	243	139	1250	63	4370	44	28
3	17	19	63	76	70	104	103	1040	58	4290	38	25
4	18	19	168	87	85	321	86	981	75	4300	41	18
5	14	18	140	88	275	311	76	1930	81	3870	38	15
6	14	18	65	106	153	306	70	2200	85	2330	39	13
7	15	18	50	649	147	300	66	2000	80	552	38	19
8	14	258	50	2270	136	321	140	1440	71	429	42	18
9	14	204	135	2080	126	554	321	601	55	372	44	14
10	16	29	218	3010	125	1030	668	505	52	165	75	20
11	19	20	288	2500	102	1250	1190	443	87	150	138	21
12	22	19	515	2500	262	522	588	205	378	144	54	18
13	20	23	445	2450	291	338	241	105	1020	100	43	16
14	e22	62	204	1700	180	379	231	78	1210	97	41	17
15	26	51	132	814	163	353	272	61	2190	77	39	18
16	17	45	59	478	177	174	1590	316	1790	59	39	19
17	17	36	45	279	427	70	1770	494	821	59	39	17
18	17	33	42	272	1700	82	825	236	588	56	48	17
19	18	26	42	260	1650	88	1450	249	763	60	41	16
20	19	18	116	234	874	101	1040	116	772	181	35	18
21	18	19	129	69	2670	245	3720	42	952	86	34	23
22	15	267	149	77	2540	245	3470	34	360	147	33	26
23	16	414	79	310	2170	1350	2790	27	155	453	28	23
24	18	473	60	331	541	2310	430	40	162	493	27	18
25	29	318	185	281	345	649	703	49	238	178	32	18
26	34	66	141	482	341	278	860	35	245	177	34	21
27	44	39	631	546	343	278	1090	87	177	161	29	21
28	20	56	610	351	281	364	666	143	1220	72	27	31
29	15	146	478	255	---	371	303	183	2870	59	29	24
30	14	110	76	243	---	355	322	216	799	56	28	21
31	14	---	221	236	---	341	---	118	---	56	27	---
TOTAL	591	2858	5679	23181	16621	13901	25568	15662	17490	26449	1298	602
MEAN	19.1	95.3	183	748	594	448	852	505	583	853	41.9	20.1
MAX	44	473	631	3010	2670	2310	3720	2200	2870	4370	138	31
MIN	14	16	42	64	70	70	66	27	52	56	27	13

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 1998, BY WATER YEAR (WY)

	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	116	343	548	582	747	965	704	493	396	276	146	98.8																															
MAX	697	1797	1772	2352	2368	2517	2033	1219	1297	1672	801	809																															
(WY)	1987	1973	1978	1992	1959	1963	1964	1967	1981	1992	1980	1979																															
MIN	11.9	25.7	12.1	17.7	27.2	139	40.0	53.9	15.6	30.7	32.0	17.6																															
(WY)	1965	1964	1964	1977	1964	1983	1971	1988	1962	1962	1986	1964																															

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1956 - 1998

ANNUAL TOTAL	148329	149900	
ANNUAL MEAN	406	411	453
HIGHEST ANNUAL MEAN			778
LOWEST ANNUAL MEAN			269
HIGHEST DAILY MEAN	4300	Mar 7	4370 Jul 2
LOWEST DAILY MEAN	14	Oct 5	13 Sep 6
ANNUAL SEVEN-DAY MINIMUM	15	Oct 4	15 Oct 4
INSTANTANEOUS PEAK FLOW			4450 Jul 2
INSTANTANEOUS PEAK STAGE			7.24 Jul 2
INSTANTANEOUS LOW FLOW			13 Sep 6
10 PERCENT EXCEEDS	1100		1210
50 PERCENT EXCEEDS	115		116
90 PERCENT EXCEEDS	19		18



## SURFACE-WATER RECORDS Scioto River Basin

### 03228300 BIG WALNUT CREEK AT SUNBURY, OHIO

LOCATION.--Lat 40°14'10", long 82°51'05", Delaware County, Hydrologic Unit 05060001, on left bank 200 ft downstream from bridge on State Highway 37, 0.1 mi downstream from Rattlesnake Creek, 0.6 mi east of Sunbury, and 0.9 mi upstream from Prairie Run.

DRAINAGE AREA.--101 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1988 to current year.

GAGE.--Water-stage recorder. Datum of gage is 945 ft above sea level, from topographic map.

REMARKS.--Records fair except for periods of estimated record and discharge above 500 ft<sup>3</sup>/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	.63	.56	135	73	37	53	61	128	12	248	5.3	1.6
2	.42	.54	70	36	35	50	57	1750	10	135	4.3	1.1
3	.40	1.7	50	28	32	47	45	1100	8.7	91	3.7	.63
4	.34	2.6	127	30	31	56	40	333	7.6	89	3.1	.34
5	.32	2.7	90	33	36	77	35	186	6.9	84	2.9	.20
6	.24	2.8	58	62	54	67	31	119	6.8	54	2.8	.11
7	.19	2.8	45	743	61	56	29	102	6.3	73	2.6	.12
8	.16	3.0	39	1290	47	74	53	573	5.4	253	2.3	.16
9	.15	3.0	38	578	40	315	167	290	5.8	101	2.1	.03
10	.15	3.1	e240	237	36	227	158	144	6.1	60	2.0	.00
11	.12	3.4	312	135	46	126	85	96	9.4	41	11	.00
12	.10	3.3	135	97	244	85	62	74	62	30	8.3	.00
13	.11	3.2	87	81	139	72	51	58	485	23	2.6	.00
14	.62	9.9	63	64	88	61	47	47	176	19	.89	.00
15	.58	21	48	63	64	50	45	38	132	13	.32	.00
16	.58	15	41	68	81	44	1520	32	346	13	1.7	.00
17	.64	14	36	63	225	44	1200	27	243	11	2.4	.00
18	.84	10	31	54	881	69	280	22	85	11	2.3	.00
19	.91	8.5	30	52	546	96	321	18	110	15	2.3	.00
20	.98	7.6	27	43	228	92	288	17	54	51	1.7	.00
21	.37	7.1	25	50	162	691	157	13	32	24	1.3	.00
22	.16	7.3	44	37	116	288	145	9.2	62	18	1.5	.00
23	.12	10	108	213	102	145	108	8.0	132	86	8.3	.00
24	.17	10	131	144	90	101	82	11	58	56	12	.00
25	.63	7.3	306	91	81	78	64	13	32	29	5.8	.00
26	1.8	4.9	139	68	71	72	248	12	23	19	32	.00
27	3.2	4.5	88	59	66	62	345	12	103	14	22	.04
28	4.4	53	65	53	60	56	129	9.6	1460	11	9.2	.01
29	2.4	181	51	49	---	90	85	9.6	3460	8.7	5.2	.00
30	1.3	130	44	46	---	72	78	16	766	7.3	3.3	.00
31	.87	---	43	41	---	58	---	13	---	6.2	2.2	---
TOTAL	23.90	533.80	2746	4681	3699	3474	6016	5280.4	7906.0	1694.2	167.41	4.34
MEAN	.77	17.8	88.6	151	132	112	201	170	264	54.7	5.40	.14
MAX	4.4	181	312	1290	881	691	1520	1750	3460	253	32	1.6
MIN	.10	.54	25	28	31	44	29	8.0	5.4	6.2	.32	.00
CFSM	.01	.18	.88	1.50	1.31	1.11	1.99	1.69	2.61	.54	.05	.00
IN.	.01	.20	1.01	1.72	1.36	1.28	2.22	1.94	2.91	.62	.06	.00

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 1998, BY WATER YEAR (WY)

	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998		
MEAN	15.4	78.8	142	199	169	179	190	166	174	110	32.8	8.89
MAX	81.2	256	585	426	424	354	334	398	338	348	167	56.4
(WY)	1991	1993	1991	1996	1990	1993	1996	1996	1989	1992	1995	1992
MIN	.002	.051	.72	16.4	46.0	46.0	36.7	21.8	2.88	.15	.007	.006
(WY)	1992	1992	1992	1992	1992	1990	1997	1991	1991	1991	1991	1991

#### SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1989 - 1998

ANNUAL TOTAL	38241.49	36226.05										
ANNUAL MEAN	105	99.2								122		
HIGHEST ANNUAL MEAN										159		1996
LOWEST ANNUAL MEAN										67.4		1992
HIGHEST DAILY MEAN	4790	Jun 1	3460	Jun 29	4790	Jun 1	1997					
LOWEST DAILY MEAN	.08	Sep 28	.00	Sep 10	.00	Sep 10	1991					
ANNUAL SEVEN-DAY MINIMUM	.14	Oct 7	.00	Sep 10	.00	Jul 24	1991					
INSTANTANEOUS PEAK FLOW			5850	Jun 29a	6700	Jun 1	1997					
INSTANTANEOUS PEAK STAGE			11.05	Jun 29	11.86	Dec 20	1990					
INSTANTANEOUS LOW FLOW			.00	Sep 10	.00	Jul 24	1991					
ANNUAL RUNOFF (CFSM)	1.04		.98		1.21							
ANNUAL RUNOFF (INCHES)	14.08		13.34		16.38							
10 PERCENT EXCEEDS	208		218		290							
50 PERCENT EXCEEDS	35		36		33							
90 PERCENT EXCEEDS	.83		.22		.43							

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



**SURFACE-WATER RECORDS**  
**Scioto River Basin**

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**03228500 BIG WALNUT CREEK AT CENTRAL COLLEGE, OHIO**

LOCATION.--Lat 40°06'13", long 82°53'03", T.2 N., R.17 W., Franklin County, Hydrologic Unit 05060001, on right bank at upstream side of county road bridge, 0.2 mi east of Central College, 0.4 mi downstream from Hoover Dam, and 3 mi southeast of Westerville.

DRAINAGE AREA.--190 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1938 to current year.

REVISED RECORDS.--WSP 873: 1938. WSP 1435: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 815.16 ft above sea level.

REMARKS.--Records good except for periods of estimated record, which are fair. Flow completely regulated by Hoover Reservoir since September 1954. (See station 03228400). Water-quality data collected at this site 1965 to 1977. U.S. Army Corps of Engineers satellite 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	115	120	109	100	112	151	140	194	132	805	141	156
2	130	121	104	93	124	135	146	1660	144	352	158	156
3	144	125	127	94	121	124	143	2610	144	222	168	152
4	177	146	110	100	109	138	176	1300	126	206	159	147
5	178	138	110	108	111	132	119	661	128	162	135	163
6	180	130	99	103	109	129	121	454	131	143	148	152
7	190	125	103	134	99	124	136	322	130	153	170	144
8	190	118	118	116	111	117	148	796	142	176	180	134
9	184	117	118	122	105	260	153	729	141	169	180	120
10	184	143	e120	110	123	456	212	459	126	172	158	125
11	177	142	113	110	114	345	187	274	124	131	156	136
12	179	136	118	118	107	238	164	201	121	131	156	153
13	183	120	114	118	103	186	146	181	118	149	154	173
14	182	119	96	109	98	179	137	173	132	158	164	171
15	137	118	118	107	102	159	140	166	114	147	164	161
16	117	118	124	106	113	141	1830	152	115	130	142	161
17	133	127	108	95	138	124	2600	149	133	142	150	160
18	121	144	94	99	136	117	1220	170	136	128	156	159
19	125	130	e100	112	122	142	807	147	125	133	154	159
20	133	129	e104	136	196	177	705	155	124	139	148	160
21	140	108	101	118	214	626	458	167	136	144	168	189
22	130	117	96	107	220	770	364	148	118	132	157	198
23	116	124	101	118	238	481	273	134	118	120	171	196
24	104	130	111	108	194	312	204	121	147	115	175	163
25	108	135	87	114	172	225	162	119	153	113	150	151
26	122	115	82	124	160	180	170	150	166	118	130	190
27	131	95	87	126	163	165	278	154	136	131	119	198
28	130	107	86	116	140	149	342	153	134	164	147	153
29	113	115	107	101	---	157	239	146	2430	151	151	133
30	109	127	117	112	---	153	201	136	2250	138	147	138
31	127	---	89	112	---	132	---	130	---	120	160	---
TOTAL	4489	3739	3271	3446	3854	6924	12121	12511	8374	5394	4816	4751
MEAN	145	125	106	111	138	223	404	404	279	174	155	158
MAX	190	146	127	136	238	770	2600	2610	2430	805	180	198
MIN	104	95	82	93	98	117	119	119	114	113	119	120

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 1998, BY WATER YEAR (WY)

MEAN	108	122	156	197	247	344	323	265	222	163	143	118
MAX	289	650	926	871	781	957	783	786	720	503	655	626
(WY)	1980	1973	1991	1959	1975	1963	1961	1996	1997	1987	1980	1979
MIN	.15	1.69	.77	1.02	6.24	89.1	46.2	21.5	.30	.55	4.86	3.43
(WY)	1956	1956	1956	1956	1956	1972	1955	1955	1955	1955	1955	1955

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1955 - 1998

ANNUAL TOTAL	80969	73690	
ANNUAL MEAN	222	202	200
HIGHEST ANNUAL MEAN			337
LOWEST ANNUAL MEAN			111
HIGHEST DAILY MEAN	6650	Jun 2	2610
LOWEST DAILY MEAN	80	Jan 13	82
ANNUAL SEVEN-DAY MINIMUM	93	Dec 22	93
INSTANTANEOUS PEAK FLOW			4240
INSTANTANEOUS PEAK STAGE			10.72
INSTANTANEOUS LOW FLOW			23
10 PERCENT EXCEEDS	214		221
50 PERCENT EXCEEDS	124		138
90 PERCENT EXCEEDS	104		108

e Estimated.

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03228805 ALUM CREEK AT AFRICA, OHIO**

LOCATION.--Lat 40°10'56", long 82°57'42", in SE 1/4 sec. 1, T.3 N., R.18 W., Delaware County, Hydrologic Unit 05060001, on right bank 400 ft upstream of bridge on Lewis Center Road, 1,200 ft downstream from outlet of Alum Creek Dam, 0.3 mi west of Africa, 2.8 mi upstream from Westerville Reservoir outlet, and 4.2 mi northwest of Westerville.

DRAINAGE AREA.--122 mi<sup>2</sup>.

PERIOD OF RECORD.--Water year 1962 (occasional low-flow measurements) June 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 822.00 ft above sea level. (Levels by U.S. Army Corps of Engineers.) July 9, 1974, to Sept. 30, 1985, at datum 22.00 ft lower. Oct. 17, 1973, to July 9, 1974, nonrecording gage at bridge 400 ft downstream at datum 22.00 ft lower. Prior to Oct. 17, 1973, water-stage recorder 600 ft downstream at datum 4.63 ft lower.

REMARKS.--Records good except for periods of estimated daily discharge, which are fair. Flow regulated by Alum Creek Lake since August 1973. Water-quality and sediment data collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREME FOR PERIOD OF RECORD.--Maximum discharge, 6,160 ft<sup>3</sup>/s Mar. 10, 1964, gage height 13.95 ft.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 5, 1963 reached a stage of 14.2 ft, from floodmarks; discharge, 6,460 ft<sup>3</sup>/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	11	118	76	15	81	81	5.6	139	7.9	1100	14	21
2	11	119	90	13	79	83	5.2	42	9.0	1350	14	21
3	9.7	119	91	13	79	83	4.9	40	10	971	12	21
4	8.9	119	91	13	81	81	5.1	466	12	736	9.1	21
5	8.6	60	43	13	80	83	4.1	981	11	326	8.8	21
6	8.8	32	17	14	34	83	7.6	947	10	7.9	8.6	21
7	9.2	32	17	17	7.9	80	12	638	10	7.9	16	21
8	9.5	31	16	40	8.2	81	9.1	431	9.8	6.8	21	22
9	9.3	31	11	368	8.2	81	8.4	316	10	10	22	21
10	9.3	31	15	861	8.0	86	8.6	317	9.7	14	22	19
11	9.5	31	60	417	8.2	82	9.6	208	10	14	22	17
12	9.5	31	81	33	8.7	84	8.5	65	10	14	22	15
13	8.6	33	81	34	8.4	84	6.8	13	43	14	22	14
14	9.4	71	81	36	8.3	81	5.9	14	130	15	22	12
15	10	87	186	35	7.6	80	5.9	14	179	14	22	12
16	12	85	486	35	7.5	81	17	14	180	14	22	12
17	12	85	553	35	8.6	80	7.8	13	285	14	22	12
18	12	86	550	36	13	81	4.2	11	227	14	22	12
19	11	87	269	37	10	79	5.5	11	43	14	22	12
20	11	88	21	38	9.6	83	215	9.7	14	15	22	12
21	27	88	21	40	8.4	85	428	8.8	14	14	22	11
22	37	88	22	38	8.3	85	394	8.6	14	e14	22	18
23	37	87	19	38	46	255	288	8.1	14	15	22	26
24	37	87	16	39	81	354	98	9.2	15	14	22	28
25	37	66	16	39	82	366	34	9.2	15	15	22	27
26	37	31	16	65	81	284	35	8.6	16	15	21	26
27	155	31	16	78	83	152	137	8.4	16	14	21	26
28	214	43	16	79	84	87	210	8.9	192	14	21	26
29	213	58	16	79	---	88	210	9.1	131	14	22	26
30	211	58	16	80	---	87	210	8.8	184	14	21	25
31	148	---	15	80	---	41	---	8.6	---	14	21	---
TOTAL	1353.3	2013	3024	2758	1029.9	3521	2400.8	4786.0	1831.4	4828.6	604.5	578
MEAN	43.7	67.1	97.5	89.0	36.8	114	80.0	154	61.0	156	19.5	19.3
MAX	214	119	553	861	84	366	428	981	285	1350	22	28
MIN	8.6	31	11	13	7.5	41	4.1	8.1	7.9	6.8	8.6	11

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

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980
MEAN	48.4	112	148	135	175	201	152	145	90.8	71.1	40.9	44.7						
MAX	309	482	460	437	464	573	523	651	327	364	570	618						
(WY)	1987	1973	1991	1993	1990	1964	1964	1996	1973	1987	1980	1980						
MIN	.000	.22	1.46	1.50	5.48	5.02	3.46	3.32	3.61	1.56	2.24	.11						
(WY)	1964	1964	1964	1976	1981	1987	1981	1976	1976	1965	1971	1964						

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1963 - 1998
ANNUAL TOTAL	33675.2	28728.5	
ANNUAL MEAN	92.3	78.7	114
HIGHEST ANNUAL MEAN			243
LOWEST ANNUAL MEAN			8.54
HIGHEST DAILY MEAN	1540 Mar 7	1350 Jul 2	5460 Mar 10 1964
LOWEST DAILY MEAN	8.1 Aug 11	4.1 Apr 5	.00 Sep 5 1963
ANNUAL SEVEN-DAY MINIMUM	8.5 Aug 10	6.4 Apr 1	.00 Sep 5 1963
INSTANTANEOUS PEAK FLOW		1700 Jul 1	2310 Sep 19 1979
INSTANTANEOUS PEAK STAGE		5.27 Jul 1	27.74 Sep 19 1979
INSTANTANEOUS LOW FLOW		1.3 Jun 5	.00 Aug 25 1992
10 PERCENT EXCEEDS	236	198	309
50 PERCENT EXCEEDS	20	22	19
90 PERCENT EXCEEDS	9.5	8.6	4.4

e Estimated.

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

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**03229000 ALUM CREEK AT COLUMBUS, OHIO**

LOCATION.--Lat 39°56'42", long 82°56'28", in NW 1/4 sec. 24, T.5 N., R.22 W., Franklin County, Hydrologic Unit 05060001, on left bank 0.2 mi downstream from Livingston Avenue bridge in Columbus, and 6 mi upstream from mouth.  
DRAINAGE AREA.--189 mi<sup>2</sup>.  
PERIOD OF RECORD.--July 1923 to December 1935, January 1938 to current year (station discontinued).  
REVISED RECORDS.--WSP 758: 1933. WSP 1305: 1928(M). WSP 1908: Drainage area.  
GAGE.--Water-stage recorder. Datum of gage is 733.69 ft above sea level.  
REMARKS.--Records fair. Flow regulated by Alum Creek Lake 19 mi upstream, since Aug. 1973. Water-quality and sediment data collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.  
EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 26,400 ft<sup>3</sup>/s Jan. 22, 1959, gage height, 19.59 ft (from high-water mark in well), from rating curve extended above 17,000 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; no flow Sept. 21-29, 1959.

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	14	106	183	19	101	122	108	292	34	823	12	18
2	14	115	71	19	101	120	52	697	24	1460	12	17
3	15	153	76	20	98	118	40	331	20	1170	11	17
4	16	134	129	23	105	134	41	475	18	1000	11	17
5	15	113	105	40	228	123	36	1040	17	630	10	16
6	14	50	68	77	127	116	31	1100	16	101	9.1	16
7	13	30	30	796	68	116	54	826	16	67	8.4	25
8	13	49	23	562	52	201	346	767	16	230	8.8	79
9	15	57	21	546	43	335	444	420	17	78	13	48
10	18	39	25	1040	36	214	202	368	21	51	144	33
11	31	33	424	674	99	151	88	283	122	38	119	26
12	19	31	114	92	179	133	65	148	153	28	52	22
13	15	30	109	85	76	128	57	43	242	24	41	19
14	43	170	97	72	57	125	63	35	137	22	32	16
15	30	87	146	75	46	121	106	30	645	26	25	13
16	18	99	495	73	107	119	2200	26	424	90	80	12
17	14	78	593	74	220	135	450	24	380	46	96	11
18	14	73	589	69	763	197	118	22	346	26	40	12
19	14	71	405	61	291	147	309	18	159	20	26	12
20	14	71	40	59	129	203	256	28	47	212	23	13
21	14	71	27	56	86	495	459	54	155	61	21	13
22	19	132	119	66	66	253	445	28	60	60	19	19
23	34	94	65	215	80	309	394	43	47	49	18	24
24	39	73	120	101	146	458	196	52	33	36	17	21
25	79	70	141	77	133	451	70	43	26	24	67	18
26	88	64	56	82	127	405	225	29	34	18	68	18
27	225	33	40	110	137	248	238	22	237	14	42	36
28	236	27	32	107	127	132	268	19	489	13	29	86
29	228	75	27	107	---	133	260	92	1200	13	24	50
30	225	75	25	106	---	130	339	118	287	12	22	30
31	216	---	23	102	---	128	---	49	---	11	20	---
TOTAL	1762	2303	4418	5605	3828	6200	7960	7522	5422	6453	1120.3	757
MEAN	56.8	76.8	143	181	137	200	265	243	181	208	36.1	25.2
MAX	236	170	593	1040	763	495	2200	1100	1200	1460	144	86
MIN	13	27	21	19	36	116	31	18	16	11	8.4	11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1998, BY WATER YEAR (WY)

MEAN	99.0	192	242	223	293	296	222	216	201	158	107	104
MAX	536	637	780	556	784	662	550	863	602	532	808	738
(WY)	1987	1986	1991	1993	1990	1984	1979	1996	1990	1990	1980	1980
MIN	15.7	25.8	32.8	27.2	24.9	38.5	29.9	28.7	18.8	11.4	11.2	14.8
(WY)	1988	1976	1988	1981	1992	1983	1976	1976	1988	1982	1982	1985

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1974 - 1998

ANNUAL TOTAL	65097											
ANNUAL MEAN	178						53350.3			196		
HIGHEST ANNUAL MEAN							146			359		1980
LOWEST ANNUAL MEAN										66.3		1992
HIGHEST DAILY MEAN				3520		Jun 1	2200	Apr 16		6840		Sep 14 1979
LOWEST DAILY MEAN				13		Aug 11	8.4	Aug 7		1.5		Aug 30 1982
ANNUAL SEVEN-DAY MINIMUM				14		Sep 3	10	Aug 2		2.4		Jul 16 1991
INSTANTANEOUS PEAK FLOW							4400	Apr 16		8600		Sep 14 1979
INSTANTANEOUS PEAK STAGE							8.95	Apr 16		12.50		Sep 14 1979
INSTANTANEOUS LOW FLOW							8.4	Aug 7		1.5		Aug 30 1982
10 PERCENT EXCEEDS				482			398			545		
50 PERCENT EXCEEDS				64			68			64		
90 PERCENT EXCEEDS				16			16			15		

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03229500 BIG WALNUT CREEK AT REES, OHIO**

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.

DRAINAGE AREA.--544 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1921 to December 1935, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 1053: 1929, 1933(M), 1945. WSP 1305: 1923(M), 1925-26(M).

GAGE.--Water-stage recorder. Datum of gage is 698.20 ft above sea level. Aug. 18, 1921, to Oct. 23, 1927, nonrecording gage at site 0.3 mi upstream at datum 2.00 ft higher prior to Oct. 1, 1924, at present datum thereafter.

REMARKS.--Record good. 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 collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 59,800 ft<sup>3</sup>/s Jan. 22, 1959, gage height, 22.03 ft (from highwater mark in well), from rating curve extended above 13,000 ft<sup>3</sup>/s on basis of contracted-opening measurement of peak flow; minimum, 5 ft<sup>3</sup>/s Sept. 4, 5, 10-12, 1925; minimum daily since 1956, 9.4 ft<sup>3</sup>/s Sept. 13, 1964.

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	58	181	454	112	200	286	357	808	227	2080	77	63
2	66	201	241	112	199	269	209	1920	122	1950	62	68
3	58	251	204	111	195	246	168	4180	94	1520	55	68
4	59	237	349	122	193	246	192	2510	91	1350	58	67
5	88	209	271	125	340	253	221	1960	87	874	64	59
6	93	144	175	317	442	252	132	1780	84	337	60	56
7	90	109	124	686	312	236	122	1390	81	172	55	58
8	91	160	122	2700	234	331	892	2370	78	626	53	154
9	92	226	110	1410	188	965	1340	1650	81	392	52	81
10	85	152	953	1390	166	1010	1190	1130	107	275	82	70
11	123	122	886	1220	173	675	521	828	167	202	488	63
12	115	109	378	372	691	489	327	510	407	143	132	58
13	87	108	279	274	437	369	257	300	847	115	113	53
14	113	572	236	239	253	313	225	239	311	111	102	49
15	129	286	214	217	196	288	197	205	1080	136	84	53
16	95	264	379	224	244	256	4820	177	1160	223	122	54
17	57	199	625	208	528	234	4740	157	646	151	345	53
18	44	178	626	216	1670	359	2300	145	553	108	131	56
19	43	166	599	186	1750	355	1650	137	353	113	88	57
20	47	167	201	175	586	345	1470	136	183	389	75	65
21	49	174	111	162	465	1150	1250	254	391	177	71	101
22	51	432	189	168	372	1470	1010	146	1050	146	69	152
23	58	260	306	424	350	946	889	180	295	122	72	139
24	67	199	247	410	392	878	602	160	187	109	65	138
25	138	179	685	261	380	731	335	183	139	90	135	113
26	142	155	373	216	326	642	335	127	123	77	263	69
27	738	116	221	231	313	468	1080	115	940	71	98	95
28	296	114	174	230	306	320	864	105	696	66	70	420
29	279	209	153	230	---	271	639	98	3000	66	72	115
30	267	428	144	222	---	260	752	393	3740	141	72	67
31	264	---	143	206	---	240	---	164	---	138	62	---
TOTAL	3982	6307	10172	13176	11901	15153	29086	24457	17320	12470	3347	2714
MEAN	128	210	328	425	425	489	970	789	577	402	108	90.5
MAX	738	572	953	2700	1750	1470	4820	4180	3740	2080	488	420
MIN	43	108	110	111	166	234	122	98	78	66	52	49
(+)	119	108	100	103	97.1	99.4	103	118	123	119	139	130

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1998, BY WATER YEAR (WY)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
MEAN	212	405	531	560	719	789	676	561	524	392	290	228
MAX	951	1398	2110	1458	1747	1688	1467	2057	1657	1313	1566	1814
(WY)	1987	1986	1991	1993	1990	1984	1979	1996	1997	1990	1980	1979
MIN	57.4	47.8	111	115	110	121	130	63.3	64.0	84.7	52.8	57.3
(WY)	1995	1992	1988	1977	1992	1983	1976	1988	1991	1993	1993	1985

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1974 - 1998

ANNUAL TOTAL	178119	150085	
ANNUAL MEAN	488	411	539#
HIGHEST ANNUAL MEAN			740
LOWEST ANNUAL MEAN			221
HIGHEST DAILY MEAN	7840	Jun 2	4820
LOWEST DAILY MEAN	43	Oct 19	43
ANNUAL SEVEN-DAY MINIMUM	50	Oct 17	50
INSTANTANEOUS PEAK FLOW			8790
INSTANTANEOUS PEAK STAGE			12.83
INSTANTANEOUS LOW FLOW			43
10 PERCENT EXCEEDS	1110		1010
50 PERCENT EXCEEDS	208		202
90 PERCENT EXCEEDS	85		66
			58

(+) Average diversion by City of Columbus Municipal Water Supply.

# Adjusted for diversion.

# SURFACE-WATER RECORDS

## Scioto River Basin

### 03230310 LITTLE DARBY CREEK AT WEST JEFFERSON, OHIO

LOCATION.--Lat 39°57'04", long 83°16'10", Madison County, Hydrologic Unit 05060001, at bridge on Middle Pike, 0.4 mi north of West Jefferson, and 7.2 mi upstream from Big Darby Creek.  
 DRAINAGE AREA.--162 mi<sup>2</sup>.

### WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1992 to current year.  
 GAGE.--Water-stage recorder. Datum of gage is 785 ft above sea level. Prior to 1992, low-flow partial-record site.  
 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	4.6	9.8	18	23	64	117	92	199	142	951	23	e9.0
2	4.7	9.7	20	33	61	109	92	288	103	461	20	e8.4
3	4.6	9.7	24	28	57	102	81	364	85	302	19	e7.8
4	4.8	10	20	26	55	96	78	271	71	291	18	e6.8
5	5.4	10	16	25	63	87	72	211	66	390	18	6.3
6	5.5	11	17	27	63	80	65	172	62	238	17	5.9
7	5.1	11	15	70	84	78	63	172	56	175	17	5.8
8	5.3	11	15	815	171	82	94	1240	51	179	16	5.3
9	5.3	9.7	14	993	172	201	377	1590	48	173	15	4.8
10	5.4	9.2	25	540	156	516	884	797	50	129	17	4.9
11	5.4	10	48	320	156	291	500	420	61	103	23	4.6
12	5.6	9.9	62	231	255	204	288	295	221	87	21	4.4
13	6.0	11	43	186	283	165	213	225	505	77	18	4.4
14	7.1	13	32	145	205	150	181	242	455	68	15	4.2
15	11	13	26	129	159	123	152	184	449	63	14	3.9
16	8.2	14	21	117	148	106	834	152	992	59	14	3.6
17	7.6	15	19	101	288	103	1640	129	720	53	13	3.9
18	9.7	13	17	88	853	125	1480	111	388	48	12	3.9
19	7.2	12	16	76	1100	167	811	101	259	44	11	5.1
20	6.7	11	15	68	672	162	730	95	194	57	10	5.2
21	6.8	12	14	62	400	175	501	99	152	55	9.6	4.2
22	6.8	15	17	59	291	207	368	108	146	48	9.2	9.2
23	7.1	15	20	77	239	185	288	94	128	44	8.9	6.8
24	7.7	19	24	177	201	154	231	88	106	50	e8.3	4.5
25	9.3	14	49	152	169	131	190	116	91	45	e9.0	4.6
26	11	12	133	123	148	123	170	101	82	36	e11	4.5
27	14	10	92	107	143	116	284	85	75	32	e11	4.9
28	11	10	69	99	128	109	269	76	67	30	e9.6	7.5
29	11	10	56	92	---	103	202	70	1760	28	e11	4.9
30	10	14	49	84	---	93	185	175	1850	26	e10	4.0
31	10	---	40	71	---	89	---	226	---	25	e9.8	---
TOTAL	229.9	354.0	1046	5144	6784	4549	11415	8496	9435	4367	438.4	163.3
MEAN	7.42	11.8	33.7	166	242	147	381	274	315	141	14.1	5.44
MAX	14	19	133	993	1100	516	1640	1590	1850	951	23	9.2
MIN	4.6	9.2	14	23	55	78	63	70	48	25	8.3	3.6
CFSM	.05	.07	.21	1.02	1.50	.91	2.35	1.69	1.94	.87	.09	.03
IN.	.05	.08	.24	1.18	1.56	1.04	2.62	1.95	2.17	1.00	.10	.04

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1998, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998
MEAN	24.3	119	134	284	209	276
MAX	81.0	312	349	485	273	503
(WY)	1996	1994	1997	1996	1994	1993
MIN	4.67	8.59	22.7	160	91.7	147
(WY)	1995	1995	1995	1995	1995	1998

#### SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1993 - 1998

ANNUAL TOTAL	54141.0	52421.6	
ANNUAL MEAN	148	144	188
HIGHEST ANNUAL MEAN			256
LOWEST ANNUAL MEAN			144
HIGHEST DAILY MEAN	4910	Jun 3	1850
LOWEST DAILY MEAN	4.4	Sep 30	3.6
ANNUAL SEVEN-DAY MINIMUM	4.8	Sep 29	4.0
INSTANTANEOUS PEAK FLOW			2790
INSTANTANEOUS PEAK STAGE			11.93
INSTANTANEOUS LOW FLOW			3.6
ANNUAL RUNOFF (CFSM)	.92	.89	1.16
ANNUAL RUNOFF (INCHES)	12.43	12.04	15.76
10 PERCENT EXCEEDS	318	298	469
50 PERCENT EXCEEDS	55	62	74
90 PERCENT EXCEEDS	8.8	6.5	10

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

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03230310 LITTLE DARBY CREEK AT WEST JEFFERSON, OHIO—Continued**

WATER-QUALITY RECORDS

PERIOD OF RECORD.--August 1992 to September 1998 (discontinued).

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: November 1992 to September 1998 (discontinued).

INSTRUMENTATION.--Refrigerated water-quality pumping sampler since November 12, 1992.

REMARKS.--Suspended-sediment samples were collected by pumping sampler. Pumped samples were collected for every 1-ft rise and 2-ft drop in stage. Sediment samples were also collected by a technician intermittently throughout the year. Suspended-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 quarter-hour intervals and the daily load was calculated by summing the loads for these quarter-hour intervals. This required interpolation between measured and estimated concentrations.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 708 mg/L, May 9, 1996; minimum daily mean, 3 mg/L, Feb. 14, 20, 21, 1995.

SEDIMENT LOADS: Maximum daily, 5,740 tons, June 3, 1997; minimum daily, 0.22 ton, Sep. 25, 1994.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 434 mg/L, May 8; minimum daily mean, 8 mg/L, Feb. 6.

SEDIMENT LOADS: Maximum daily, 1,860 tons, May 8; minimum daily, 0.23 ton, Sept. 5, 6, 9, and 30.

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)
NOV 20...	1355	10	11	720	13.0	3.5	10
JAN 08...	1055	10	868	539	7.0	8.0	139
APR 17...	1040	10	1650	353	10.0	12.5	213
17...	1100	10	1660	--	--	--	220

\* 10 - STREAM CROSS-SECTION SAMPLE OBTAINED BY EQUAL-WIDTH-INCREMENT (EWI) SAMPLING METHOD.

**SURFACE-WATER RECORDS  
Scioto River Basin**

**03230310 LITTLE DARBY CREEK AT WEST JEFFERSON, OHIO—Continued**

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

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	4.6	20	.25	9.8	21	.56	18	13	.64
2	4.7	21	.26	9.7	20	.53	20	16	.86
3	4.6	21	.26	9.7	19	.51	24	19	1.2
4	4.8	22	.28	10	18	.50	20	18	.96
5	5.4	22	.33	10	17	.49	16	16	.69
6	5.5	23	.34	11	17	.49	17	14	.67
7	5.1	23	.32	11	16	.45	15	13	.53
8	5.3	24	.34	11	15	.46	15	12	.46
9	5.3	25	.35	9.7	14	.37	14	11	.39
10	5.4	25	.37	9.2	14	.34	25	16	1.2
11	5.4	26	.38	10	13	.35	48	26	3.6
12	5.6	27	.40	9.9	12	.33	62	26	4.5
13	6.0	27	.44	11	12	.34	43	23	2.7
14	7.1	28	.53	13	11	.39	32	21	1.8
15	11	30	.96	13	11	.36	26	19	1.3
16	8.2	29	.65	14	10	.38	21	17	.98
17	7.6	28	.59	15	9	.38	19	16	.79
18	9.7	30	.79	13	9	.32	17	14	.66
19	7.2	28	.54	12	9	.29	16	13	.56
20	6.7	27	.49	11	10	.30	15	12	.48
21	6.8	27	.49	12	12	.38	14	11	.40
22	6.8	27	.49	15	16	.67	17	13	.62
23	7.1	26	.50	15	13	.55	20	13	.67
24	7.7	26	.53	19	19	.95	24	15	1.1
25	9.3	25	.64	14	15	.56	49	31	4.2
26	11	27	.82	12	14	.43	133	51	19
27	14	30	1.1	10	13	.35	92	37	9.2
28	11	27	.83	10	12	.32	69	32	6.0
29	11	25	.76	10	11	.29	56	28	4.2
30	10	24	.65	14	13	.52	49	24	3.2
31	10	22	.61	---	---	---	40	21	2.3
TOTAL	229.9	---	16.29	354.0	---	13.16	1046	---	75.86

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	23	18	1.2	64	13	2.3	117	17	5.4
2	33	16	1.4	61	12	2.0	109	17	5.0
3	28	14	1.1	57	11	1.6	102	17	4.7
4	26	12	.85	55	10	1.4	96	17	4.4
5	25	11	.70	63	9	1.5	87	17	4.0
6	27	9	.67	63	8	1.3	80	17	3.7
7	70	29	11	84	11	2.8	78	17	3.6
8	815	127	283	171	25	12	82	20	4.5
9	993	98	265	172	19	8.7	201	43	27
10	540	61	91	156	15	6.5	516	62	87
11	320	35	31	156	14	6.1	291	42	33
12	231	19	12	255	37	26	204	34	19
13	186	16	8.3	283	39	30	165	27	12
14	145	16	6.2	205	28	15	150	22	8.9
15	129	15	5.3	159	20	8.5	123	18	5.9
16	117	15	4.7	148	15	6.1	106	14	4.1
17	101	14	3.9	288	33	29	103	12	3.2
18	88	14	3.3	853	143	363	125	12	4.2
19	76	13	2.7	1100	152	453	167	18	8.1
20	68	13	2.4	672	89	166	162	14	6.1
21	62	12	2.1	400	52	57	175	18	8.5
22	59	12	1.9	291	30	24	207	19	11
23	77	16	3.5	239	19	12	185	17	8.3
24	177	38	18	201	17	9.2	154	16	6.7
25	152	28	12	169	17	7.8	131	16	5.5
26	123	24	8.1	148	17	6.8	123	15	5.0
27	107	22	6.3	143	17	6.6	116	15	4.6
28	99	20	5.3	128	17	5.9	109	14	4.1
29	92	18	4.4	---	---	---	103	14	3.8
30	84	16	3.7	---	---	---	93	13	3.3
31	71	15	2.8	---	---	---	89	13	3.1
TOTAL	5144	---	803.82	6784	---	1272.1	4549	---	317.7

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03230310 LITTLE DARBY CREEK AT WEST JEFFERSON, OHIO—Continued**

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

DAY	MEAN DISCHARGE (CFS)	MEAN		MEAN DISCHARGE (CFS)	MEAN		MEAN DISCHARGE (CFS)	MEAN		
		CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)		CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)		CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
		APRIL			MAY			JUNE		
1	92	12	3.1	199	16	8.5	142	64	25	
2	92	12	3.0	288	34	30	103	59	16	
3	81	12	2.5	364	38	38	85	58	13	
4	78	11	2.4	271	29	21	71	57	11	
5	72	11	2.1	211	25	14	66	56	9.9	
6	65	11	1.8	172	23	11	62	54	9.2	
7	63	10	1.7	172	25	12	56	53	8.1	
8	94	14	3.7	1240	434	1860	51	52	7.1	
9	377	104	134	1590	268	1180	48	51	6.7	
10	884	91	218	797	104	237	50	49	6.6	
11	500	69	94	420	72	82	61	51	8.6	
12	288	55	43	295	60	48	221	102	66	
13	213	44	26	225	50	30	505	142	209	
14	181	35	17	242	58	39	455	109	143	
15	152	28	12	184	53	26	449	86	127	
16	834	193	526	152	50	21	992	149	396	
17	1640	215	942	129	47	16	720	103	203	
18	1480	127	516	111	44	13	388	75	79	
19	811	76	167	101	42	11	259	69	48	
20	730	53	105	95	39	10	194	67	35	
21	501	42	57	99	37	9.9	152	66	27	
22	368	33	33	108	35	10	146	65	25	
23	288	27	21	94	33	8.4	128	63	22	
24	231	21	13	88	31	7.4	106	62	18	
25	190	17	8.7	116	41	13	91	59	15	
26	170	13	6.2	101	36	9.8	82	56	12	
27	284	28	24	85	31	7.1	75	54	11	
28	269	25	19	76	28	5.7	67	52	9.5	
29	202	17	9.0	70	25	4.7	1760	407	1790	
30	185	15	7.4	175	60	39	1850	132	699	
31	---	---	---	226	81	51	---	---	---	
TOTAL	11415	---	3018.6	8496	---	3873.5	9435	---	4055.7	
DAY	MEAN DISCHARGE (CFS)	MEAN		MEAN DISCHARGE (CFS)	MEAN		MEAN DISCHARGE (CFS)	MEAN		
		CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)		CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)		CONCEN- TRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	
		JULY			AUGUST			SEPTEMBER		
1	951	62	161	23	24	1.5	e9.0	18	.43	
2	461	49	62	20	25	1.4	e8.4	17	.40	
3	302	38	31	19	25	1.3	e7.8	17	.35	
4	291	36	29	18	26	1.3	e6.8	14	.25	
5	390	55	59	18	27	1.3	6.3	14	.23	
6	238	42	27	17	27	1.3	5.9	15	.23	
7	175	38	18	17	28	1.3	5.8	16	.24	
8	179	41	20	16	27	1.2	5.3	17	.24	
9	173	44	21	15	26	1.1	4.8	18	.23	
10	129	40	14	17	30	1.4	4.9	19	.25	
11	103	38	11	23	32	2.0	4.6	20	.25	
12	87	37	8.8	21	29	1.6	4.4	21	.26	
13	77	36	7.5	18	29	1.4	4.4	23	.27	
14	68	35	6.5	15	28	1.2	4.2	24	.28	
15	63	34	5.8	14	27	1.0	3.9	26	.27	
16	59	33	5.3	14	27	.98	3.6	26	.25	
17	53	32	4.6	13	26	.88	3.9	26	.27	
18	48	31	4.0	12	25	.80	3.9	25	.26	
19	44	31	3.7	11	25	.72	5.1	27	.40	
20	57	41	6.4	10	24	.65	5.2	27	.39	
21	55	40	6.0	9.6	23	.61	4.2	24	.27	
22	48	35	4.6	9.2	23	.57	9.2	30	.80	
23	44	32	3.8	8.9	22	.54	6.8	25	.47	
24	50	40	5.5	e8.3	22	.49	4.5	22	.27	
25	45	39	4.7	e9.0	21	.52	4.6	21	.26	
26	36	33	3.2	e11	21	.62	4.5	20	.25	
27	32	30	2.6	e11	20	.60	4.9	21	.33	
28	30	28	2.2	e9.6	20	.51	7.5	30	.63	
29	28	25	1.9	e11	19	.57	4.9	25	.33	
30	26	23	1.6	e10	19	.51	4.0	21	.23	
31	25	24	1.6	e9.8	18	.48	---	---	---	
TOTAL	4367	---	543.3	438.4	---	30.35	163.3	---	9.59	
YEAR	52421.6		14029.97							

e Estimated



**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03230450 HELLBRANCH RUN NEAR HARRISBURG, OHIO**

LOCATION.--Lat 39°49'50", long 83°09'36", Franklin County, Hydrologic Unit 05060001, on right side of abandoned bridge, 500 ft upstream from Lambert Road, 1.0 mi upstream from mouth, and 1.5 mi north-northeast of Harrisburg.  
DRAINAGE AREA.--37.0 mi<sup>2</sup>.

**WATER-DISCHARGE RECORDS**

PERIOD OF RECORD.--October 1992 to current year.  
GAGE.--Water-stage recorder. Datum of gage is 785 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	.12	.59	12	e6.0	19	27	26	81	9.8	220	.80	.00
2	.16	.42	5.8	4.5	19	25	23	248	6.4	104	.61	.00
3	.09	.35	3.7	4.4	18	23	19	212	5.1	65	.44	.00
4	.04	.66	4.7	4.2	19	21	19	118	4.4	66	.36	.00
5	.02	.83	5.5	4.0	23	19	17	79	4.1	48	.28	.00
6	.02	.81	4.1	9.3	40	18	16	59	3.7	30	.23	.00
7	.03	.70	3.2	128	75	18	15	66	2.9	23	.16	.00
8	.04	.72	2.6	411	72	22	67	189	2.7	24	.15	.00
9	.04	1.1	2.4	240	51	63	272	136	2.5	18	.14	.00
10	.04	.90	60	149	42	65	232	87	2.5	14	.35	.00
11	.02	.65	52	99	42	44	119	62	8.1	11	18	.00
12	.04	.54	24	76	67	35	79	47	33	9.4	6.7	.00
13	.03	.52	15	57	51	31	58	38	75	8.0	2.8	.00
14	.14	9.7	10	43	40	29	46	30	41	7.1	1.5	.00
15	.07	11	6.7	38	33	24	37	26	79	6.7	.96	.00
16	.08	5.4	5.2	35	41	22	e680	22	90	7.0	.63	.00
17	.10	3.1	4.6	31	99	22	e460	18	51	6.1	.88	.00
18	.08	e2.0	3.9	28	282	32	222	16	26	4.9	.49	.00
19	.07	e1.5	3.2	25	249	41	216	15	18	4.2	.27	.00
20	.05	1.3	3.1	23	139	38	184	13	14	9.1	.15	.00
21	.04	1.1	2.6	20	100	92	121	14	86	7.7	.03	.00
22	.06	4.5	4.7	20	75	97	93	12	87	5.3	.00	.00
23	.07	7.2	16	56	61	61	76	11	44	5.9	.00	.00
24	.17	4.0	17	58	48	46	59	12	26	4.1	.00	.00
25	.24	2.7	74	42	40	38	45	11	14	2.9	.08	.00
26	.39	2.2	45	34	36	34	53	9.2	9.5	2.2	2.7	.00
27	5.2	1.6	27	30	34	30	83	7.4	7.1	1.7	1.8	.00
28	6.8	1.1	18	28	30	28	55	6.4	7.0	1.3	.72	1.2
29	2.7	1.2	14	26	---	25	43	5.8	e2000	1.2	.48	.15
30	1.2	4.8	12	23	---	23	63	6.9	e760	1.3	.28	.00
31	.77	---	7.5	20	---	22	---	8.5	---	1.1	.13	---
TOTAL	18.92	73.19	469.5	1772.4	1845	1115	3498	1666.2	3519.8	720.2	42.12	1.35
MEAN	.61	2.44	15.1	57.2	65.9	36.0	117	53.7	117	23.2	1.36	.045
MAX	6.8	11	74	411	282	97	680	248	2000	220	18	1.2
MIN	.02	.35	2.4	4.0	18	18	15	5.8	2.5	1.1	.00	.00
CFSM	.02	.07	.41	1.55	1.78	.97	3.15	1.45	3.17	.63	.04	.00
IN.	.02	.07	.47	1.78	1.85	1.12	3.52	1.68	3.54	.72	.04	.00

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 1998, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998
MEAN	3.26	19.7	28.2	83.4	46.8	63.4
MAX	16.0	46.2	82.0	143	65.9	109
(WY)	1996	1993	1997	1996	1998	1993
MIN	.000	1.34	5.86	43.7	23.6	36.0
(WY)	1995	1995	1995	1997	1995	1998

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1993 - 1998
ANNUAL TOTAL	12530.29	14741.68	
ANNUAL MEAN	34.3	40.4	42.0
HIGHEST ANNUAL MEAN			66.8
LOWEST ANNUAL MEAN			28.6
HIGHEST DAILY MEAN	1000	2000	2000
LOWEST DAILY MEAN	.02	.00	.00
ANNUAL SEVEN-DAY MINIMUM	.03	.00	.00
INSTANTANEOUS PEAK FLOW		3180	3180
INSTANTANEOUS PEAK STAGE		14.19	14.19
INSTANTANEOUS LOW FLOW		.00	.00
ANNUAL RUNOFF (CFSM)	.93	1.09	1.14
ANNUAL RUNOFF (INCHES)	12.60	14.82	15.43
10 PERCENT EXCEEDS	79	82	98
50 PERCENT EXCEEDS	11	9.8	13
90 PERCENT EXCEEDS	.40	.03	.14

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

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03230450 HELLBRANCH RUN NEAR HARRISBURG, OHIO—Continued**

**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--May 4, 1992, to current year.

PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: October 1, 1992, to current year.

INSTRUMENTATION.--Refrigerated water-quality pumping sampler since October 1, 1992.

REMARKS.--Water-quality samples were collected by equal-width-increment (EWI) sampling method, approximately once per month. Suspended-sediment samples and seasonal-event water-quality samples were collected by pumping sampler. Pumped samples were collected for every 0.5-ft rise and 1-ft drop in stage. Sediment samples were also collected by a local observer approximately once per day. Suspended-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 quarter-hour intervals and the daily load was calculated by summing the loads for these quarter-hour intervals. This required interpolation between measured and estimated concentrations.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 819 mg/L, June 29, 1998; minimum daily mean, 1 mg/L, Oct. 11, Nov. 3, 4, 1995, Aug. 7, and Oct. 25, 1996, and on several days during 1998.

SEDIMENT LOADS: Maximum daily, 4,420 tons, June 29, 1998; minimum daily, 0.00 ton, on many days during 1993, 1994, 1995, and 1998 and on several days during 1996 and 1997.

EXTREMES FOR CURRENT YEAR.--

SEDIMENT CONCENTRATIONS: Maximum daily mean, 819 mg/L, June 29; minimum daily mean, 1 mg/L, on several days during the year.

SEDIMENT LOADS: Maximum daily, 4,420 tons, June 29; minimum daily, 0.00 ton, on many days during the year.

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)	OXYGEN, DIS-SOLVED (MG/L) (00300)	SULFATE DIS-SOLVED (MG/L) AS SO <sub>4</sub> (00945)	CHLO-RIDE, DIS-SOLVED (MG/L) AS CL (00940)
OCT										
27...	1215	10	5.5	808	7.7	4.5	8.5	9.1	60	67
NOV										
18...	1210	10	2.0#	1010	7.8	5.5	.5	13.2	66	120
DEC										
22...	1020	10	3.3	835	8.0	5.0	3.5	12.2	67	83
JAN										
08...	1310	10	423	365	--	10.0	8.0	--	--	--
08...	1325	10	422	--	--	--	--	--	--	--
22...	1115	10	20	788	7.7	4.0	2.5	13.0	50	65
FEB										
23...	1150	10	61	639	8.0	6.0	6.5	11.9	41	46
MAR										
20...	1115	10	37	738	8.1	8.0	8.5	12.4	15	60
APR										
14...	2345	50	40	--	--	--	--	--	37	46
16...	0445	50	130	--	--	--	--	--	32	38
16...	0545	50	286	--	--	--	--	--	26	30
16...	0615	50	462	--	--	--	--	--	19	23
16...	0645	50	648	--	--	--	--	--	16	17
16...	0715	50	807	--	--	--	--	--	14	13
16...	0800	50	960	--	--	--	--	--	10	12
16...	1550	10	680#	210	--	24.5	15.5	--	--	--
16...	1555	10	680#	--	--	--	--	--	--	--
17...	0300	50	460#	--	--	--	--	--	15	15
17...	1545	50	460#	--	--	--	--	--	16	16
27...	1255	10	83	561	8.0	13.5	12.5	12.0	10	38
MAY										
26...	1450	10	8.9	722	8.4	24.0	19.0	12.7	35	70
JUN										
29...	0200	50	511	--	--	--	--	--	11	20
29...	0215	50	882	--	--	--	--	--	8.9	11
29...	0230	50	1150	--	--	--	--	--	9.2	8.0
29...	0300	50	2000#	--	--	--	--	--	6.1	3.8
29...	0315	50	2000#	--	--	--	--	--	4.6	3.4
29...	0330	50	2000#	--	--	--	--	--	3.6	2.7
29...	0400	50	2000#	--	--	--	--	--	4.9	2.3
29...	0415	50	2000#	--	--	--	--	--	3.7	1.8
29...	0645	50	2000#	--	--	--	--	--	<3.0	3.1
29...	0815	50	2000#	--	--	--	--	--	4.4	3.4
29...	1500	50	2000#	--	--	--	--	--	4.4	3.8
29...	2400	50	2000#	--	--	--	--	--	6.3	5.2
30...	0700	50	760#	--	--	--	--	--	7.7	7.5
30...	1130	50	760#	--	--	--	--	--	8.0	9.5
30...	1800	50	495	--	--	--	--	--	11	12
JUL										
20...	1415	10	11	703	8.1	30.0	23.0	9.6	43	63
SEP										
03...	1455	10	.00	730	7.8	27.0	24.0	8.5	53	76

\* 10 - STREAM CROSS-SECTION SAMPLE OBTAINED BY EQUAL-WIDTH-INCREMENT (EWI) SAMPLING METHOD.

50 - POINT SAMPLE OBTAINED FROM REFRIGERATED-PUMPING SAMPLER.

# ESTIMATED DAILY DISCHARGE, INSTANTANEOUS DISCHARGE IS NOT AVAILABLE.

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03230450 HELLBRANCH RUN NEAR HARRISBURG, OHIO—Continued**

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

DATE	SILICA, DIS- SOLVED (MG/L AS SIO2) (00955)	RESIDUE TOTAL AT 105 DEG. C, SUS- PENDEED (MG/L) (00530)	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 TOTAL (MG/L AS N) (00625)	PHOS- PHORUS TOTAL (MG/L AS P) (00665)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	SEDI- MENT, SUS- PENDEED (MG/L) (80154)
OCT									
27...	7.4	3	<.02	<.18	.08	.2	.03	<.01	--
NOV									
18...	4.3	<2	<.02	.24	<.03	.2	.05	.01	5
DEC									
22...	2.2	<2	<.02	2.0	<.03	.2	.04	.01	--
JAN									
08...	--	--	--	--	--	--	--	--	210
08...	--	--	--	--	--	--	--	--	211
22...	5.7	2	<.02	3.0	.06	.2	.05	.01	--
FEB									
23...	5.3	10	.04	4.3	.15	.7	.06	.02	--
MAR									
20...	2.1	3	.05	4.0	.19	.5	<.02	<.01	5
APR									
14...	5.6	19	.05	4.4	<.03	.5	.07	.02	--
16...	4.3	172	.03	3.4	<.03	.8	.20	.02	--
16...	3.9	410	.04	2.8	<.03	2.1	.43	.01	--
16...	3.6	792	.04	2.2	<.03	3.3	.84	.01	--
16...	4.3	1080	.04	1.7	<.03	4.5	1.1	.02	--
16...	4.1	1330	.05	1.4	<.03	5.3	1.3	.03	--
16...	4.0	1090	.04	1.3	<.03	4.4	1.2	.05	--
16...	--	--	--	--	--	--	--	--	375
16...	--	--	--	--	--	--	--	--	378
17...	6.5	204	.04	2.7	<.03	1.7	.45	.09	--
17...	7.2	159	.05	2.6	.04	1.7	.42	.09	--
27...	7.2	23	.02	3.5	<.03	.5	.09	.01	26
MAY									
26...	1.4	<2	<.02	2.6	.03	.2	.05	.03	1
JUN									
29...	4.1	2770	<.02	2.5	.12	6.7	1.7	.02	--
29...	3.6	3330	<.02	2.0	.11	8.5	2.7	.04	--
29...	3.3	3000	<.02	1.6	.11	8.3	2.8	.03	--
29...	2.7	3110	<.02	1.0	.03	7.3	2.3	.04	--
29...	2.4	2120	<.02	.96	<.03	6.0	1.9	.04	--
29...	2.0	2190	<.02	.75	<.03	6.4	1.9	.04	--
29...	1.9	1780	<.02	.65	<.03	6.0	2.0	.05	--
29...	1.7	2370	<.02	.60	<.03	5.3	1.8	.05	--
29...	2.4	965	<.02	1.2	<.03	2.8	.92	.06	--
29...	3.0	645	<.02	1.5	<.03	2.4	.72	.09	--
29...	3.5	314	.02	2.9	<.03	1.7	.49	.09	--
29...	5.0	200	.04	3.6	<.03	1.4	.39	.11	--
30...	6.3	205	.06	4.2	<.03	1.3	.37	.12	--
30...	6.8	140	.06	4.6	<.03	1.3	.33	.10	--
30...	7.3	121	.05	4.7	<.03	1.2	.32	.12	--
JUL									
20...	4.1	5	<.02	1.3	.05	.4	.08	.05	7
SEP									
03...	5.8	3	<.02	<.18	.03	.2	.05	.02	2

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03230450 HELLBRANCH RUN NEAR HARRISBURG, OHIO—Continued**

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

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	.12	15	.00	.59	9	.01	12	3	.11
2	.16	14	.01	.42	11	.01	5.8	3	.05
3	.09	15	.00	.35	10	.01	3.7	5	.05
4	.04	14	.00	.66	7	.01	4.7	5	.06
5	.02	15	.00	.83	7	.01	5.5	3	.05
6	.02	27	.00	.81	7	.02	4.1	4	.05
7	.03	29	.00	.70	5	.01	3.2	5	.04
8	.04	30	.00	.72	5	.01	2.6	4	.03
9	.04	25	.00	1.1	9	.03	2.4	5	.03
10	.04	10	.00	.90	7	.02	60	46	10
11	.02	4	.00	.65	5	.01	52	25	3.8
12	.04	15	.00	.54	6	.01	24	8	.54
13	.03	12	.00	.52	7	.01	15	5	.20
14	.14	9	.00	9.7	3	.08	10	4	.10
15	.07	11	.00	11	2	.06	6.7	5	.09
16	.08	12	.00	5.4	3	.04	5.2	9	.12
17	.10	12	.00	3.1	2	.02	4.6	10	.13
18	.08	7	.00	e2.0	5	.03	3.9	9	.09
19	.07	6	.00	e1.5	5	.02	3.2	7	.06
20	.05	6	.00	1.3	5	.02	3.1	7	.06
21	.04	6	.00	1.1	7	.02	2.6	8	.05
22	.06	7	.00	4.5	5	.05	4.7	6	.07
23	.07	8	.00	7.2	2	.03	16	6	.24
24	.17	11	.01	4.0	2	.02	17	7	.44
25	.24	14	.01	2.7	3	.02	74	50	11
26	.39	17	.02	2.2	3	.02	45	20	2.6
27	5.2	10	.09	1.6	3	.01	27	9	.69
28	6.8	2	.04	1.1	4	.01	18	7	.34
29	2.7	2	.01	1.2	5	.02	14	6	.21
30	1.2	3	.01	4.8	7	.09	12	7	.21
31	.77	3	.01	---	---	---	7.5	6	.12
TOTAL	18.92	---	0.21	73.19	---	0.73	469.5	---	31.63

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

DAY	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)	MEAN DISCHARGE (CFS)	MEAN CONCENTRATION (MG/L)	SEDIMENT DISCHARGE (TONS/DAY)
1	e6.0	5	.08	19	5	.26	27	4	.32
2	4.5	4	.05	19	7	.35	25	4	.27
3	4.4	4	.05	18	6	.29	23	3	.20
4	4.2	7	.08	19	4	.22	21	4	.21
5	4.0	7	.07	23	6	.35	19	3	.15
6	9.3	7	.19	40	12	1.5	18	2	.10
7	128	177	161	75	34	7.1	18	3	.13
8	411	269	319	72	20	4.1	22	3	.20
9	240	100	66	51	10	1.4	63	27	5.2
10	149	59	24	42	7	.75	65	17	3.0
11	99	35	9.4	42	8	.97	44	9	1.1
12	76	25	5.1	67	28	5.1	35	6	.60
13	57	16	2.5	51	10	1.4	31	4	.37
14	43	11	1.2	40	5	.51	29	3	.26
15	38	7	.74	33	4	.36	24	3	.20
16	35	7	.62	41	15	2.4	22	4	.21
17	31	6	.47	99	51	17	22	4	.24
18	28	6	.44	282	213	171	32	5	.42
19	25	8	.55	249	159	114	41	6	.63
20	23	10	.63	139	75	29	38	6	.62
21	20	8	.46	100	44	12	92	42	13
22	20	5	.26	75	26	5.3	97	32	8.9
23	56	21	3.7	61	15	2.6	61	9	1.5
24	58	15	2.5	48	9	1.1	46	5	.57
25	42	9	1.1	40	8	.83	38	3	.33
26	34	8	.77	36	6	.57	34	3	.27
27	30	7	.60	34	5	.44	30	3	.24
28	28	7	.52	30	5	.36	28	4	.27
29	26	8	.56	---	---	---	25	3	.23
30	23	6	.37	---	---	---	23	3	.18
31	20	6	.29	---	---	---	22	2	.14
TOTAL	1772.4	---	603.30	1845	---	381.26	1115	---	40.06

e Estimated

**SURFACE-WATER RECORDS**

**Scioto River Basin**

**03230450 HELLBRANCH RUN NEAR HARRISBURG, 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)
1	26	2	.14	81	30	6.6	9.8	26	.84
2	23	2	.12	248	195	191	6.4	3	.05
3	19	1	.06	212	108	66	5.1	1	.02
4	19	2	.08	118	45	15	4.4	2	.02
5	17	3	.12	79	23	5.1	4.1	5	.06
6	16	2	.10	59	13	2.1	3.7	12	.12
7	15	2	.08	66	36	11	2.9	13	.10
8	67	55	14	189	128	68	2.7	11	.08
9	272	216	194	136	90	34	2.5	10	.06
10	232	114	76	87	38	9.2	2.5	7	.05
11	119	50	16	62	18	3.1	8.1	41	2.1
12	79	27	5.7	47	12	1.5	33	57	5.9
13	58	13	2.1	38	11	1.1	75	72	16
14	46	6	.74	30	9	.70	41	20	2.4
15	37	3	.34	26	9	.62	79	95	26
16	e680	481	883	22	11	.63	90	87	22
17	e460	211	262	18	9	.44	51	29	4.5
18	222	88	54	16	9	.38	26	7	.52
19	216	74	44	15	10	.39	18	4	.18
20	184	57	29	13	8	.28	14	4	.15
21	121	33	11	14	8	.30	86	310	274
22	93	24	6.1	12	8	.27	87	143	39
23	76	14	3.0	11	7	.23	44	30	3.7
24	59	9	1.4	12	7	.23	26	16	1.2
25	45	7	.83	11	8	.24	14	8	.32
26	53	52	14	9.2	5	.12	9.5	12	.30
27	83	58	14	7.4	5	.10	7.1	15	.29
28	55	13	2.0	6.4	3	.06	7.0	18	.49
29	43	8	.98	5.8	4	.06	e2000	819	4420
30	63	27	5.4	6.9	4	.07	e760	155	317
31	---	---	---	8.5	8	.20	---	---	---
TOTAL	3498	---	1640.29	1666.2	---	419.02	3519.8	---	5137.45

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)
1	220	64	40	.80	16	.03	.00	6	.00
2	104	31	9.0	.61	18	.03	.00	5	.00
3	65	20	3.6	.44	16	.02	.00	4	.00
4	66	39	7.5	.36	14	.01	.00	5	.00
5	48	26	3.4	.28	22	.02	.00	6	.00
6	30	17	1.4	.23	21	.01	.00	7	.00
7	23	12	.71	.16	22	.01	.00	8	.00
8	24	8	.51	.15	17	.01	.00	9	.00
9	18	5	.26	.14	14	.00	.00	7	.00
10	14	4	.14	.35	13	.01	.00	6	.00
11	11	2	.07	18	49	3.8	.00	2	.00
12	9.4	1	.04	6.7	11	.22	.00	2	.00
13	8.0	2	.03	2.8	7	.05	.00	3	.00
14	7.1	1	.03	1.5	5	.02	.00	5	.00
15	6.7	1	.02	.96	3	.01	.00	11	.00
16	7.0	1	.02	.63	3	.00	.00	12	.00
17	6.1	1	.02	.88	3	.01	.00	11	.00
18	4.9	2	.02	.49	3	.00	.00	11	.00
19	4.2	1	.02	.27	4	.00	.00	11	.00
20	9.1	4	.11	.15	6	.00	.00	11	.00
21	7.7	3	.06	.03	5	.00	.00	11	.00
22	5.3	2	.03	.00	6	.00	.00	10	.00
23	5.9	3	.05	.00	9	.00	.00	10	.00
24	4.1	3	.03	.00	8	.00	.00	10	.00
25	2.9	2	.02	.08	9	.00	.00	10	.00
26	2.2	3	.02	2.7	8	.06	.00	9	.00
27	1.7	2	.01	1.8	5	.03	.00	9	.00
28	1.3	2	.01	.72	3	.01	1.2	9	.03
29	1.2	8	.03	.48	2	.00	.15	5	.00
30	1.3	15	.05	.28	3	.00	.00	4	.00
31	1.1	15	.04	.13	6	.00	---	---	---
TOTAL	720.2	---	67.25	42.12	---	4.36	1.35	---	0.03
YEAR	14741.68	---	8325.59						

e Estimated

### SURFACE-WATER RECORDS Scioto River Basin

#### 03230500 BIG DARBY CREEK AT DARBYVILLE, OHIO

LOCATION.--Lat 39°42'02", long 83°06'37", Pickaway County, Hydrologic Unit 05060001, on right bank at upstream side of State Highway 316, 0.4 mi northeast of Darbyville, 0.4 mi upstream from Lizzard Run, and 3.0 mi downstream from Greenbrier Creek.  
DRAINAGE AREA.--534 mi<sup>2</sup>.

#### WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1921 to December 1935, January 1938 to current year. Prior to October 1959, published as Darby Creek at Darbyville.  
REVISED RECORDS.--WSP 1083: 1922(M), 1924(M), 1927(M), 1933(M), 1938(M). WSP 1305: 1928-31(M), 1934(M), 1945(M). WSP 1505: 1932(M). WSP 1908: Drainage area.  
GAGE.--Water-stage recorder. Datum of gage is 713.69 ft above sea level. Prior to Mar. 17, 1940, nonrecording gage at same site and datum.  
REMARKS.--Records fair. U.S. Army Corps of Engineers satellite 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	37	57	93	121	218	402	305	759	317	3160	87	37
2	34	53	103	122	205	371	291	1390	246	1680	80	35
3	32	48	104	118	193	350	291	2290	208	1100	77	33
4	30	50	105	111	186	329	267	1550	185	921	74	32
5	30	49	95	106	202	303	248	920	170	982	71	32
6	31	47	83	121	218	282	228	666	160	796	67	31
7	30	45	79	409	288	267	218	595	154	576	65	31
8	28	47	84	2790	484	273	336	2150	145	500	63	33
9	26	48	78	4220	570	435	1510	4500	142	758	62	31
10	26	49	150	2400	511	1490	3000	2380	138	519	63	27
11	27	47	223	1330	487	1130	2370	1320	160	374	99	26
12	29	42	261	852	671	682	1170	869	370	297	96	25
13	29	43	217	642	1040	517	775	659	936	253	72	26
14	30	67	160	499	720	456	619	563	1230	222	64	26
15	29	73	134	420	519	400	518	499	859	203	60	25
16	30	65	118	381	465	339	3830	418	2040	191	59	25
17	35	57	107	337	729	315	5190	361	1990	178	53	24
18	38	57	97	303	2570	339	5370	313	1230	158	49	25
19	38	59	89	267	4320	452	2670	282	663	147	44	25
20	39	61	85	241	2640	536	2400	262	487	175	42	24
21	36	59	83	223	1600	698	1790	256	444	163	41	27
22	39	80	88	209	1120	1250	1280	281	620	150	40	41
23	38	79	111	284	857	926	960	259	382	146	38	28
24	37	73	120	484	713	633	761	245	318	171	37	28
25	41	70	240	575	597	498	620	248	267	181	39	29
26	50	67	357	421	513	433	539	262	230	145	47	28
27	59	64	392	349	475	396	948	231	226	121	49	26
28	59	63	254	311	446	365	1200	207	286	109	41	30
29	56	60	203	290	---	340	706	191	11400	99	50	40
30	51	67	177	267	---	311	669	196	8670	101	48	30
31	51	---	155	242	---	294	---	361	---	98	43	---
TOTAL	1145	1746	4645	19445	23557	15812	41079	25483	34673	14674	1820	880
MEAN	36.9	58.2	150	627	841	510	1369	822	1156	473	58.7	29.3
MAX	59	80	392	4220	4320	1490	5370	4500	11400	3160	99	41
MIN	26	42	78	106	186	267	218	191	138	98	37	24
CFSM	.07	.11	.28	1.17	1.58	.96	2.56	1.54	2.16	.89	.11	.05
IN.	.08	.12	.32	1.35	1.64	1.10	2.86	1.78	2.42	1.02	.13	.06

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

MEAN	106	262	475	714	787	940	833	584	459	259	158	94.1
MAX	1223	1745	2287	2808	2146	2758	2190	2766	2228	1868	1216	1652
(WY)	1927	1986	1991	1959	1975	1963	1957	1996	1997	1993	1980	1979
MIN	3.91	13.6	18.5	23.4	37.2	84.0	133	42.6	14.9	9.08	9.82	6.43
(WY)	1964	1954	1964	1945	1934	1931	1925	1934	1934	1934	1930	1964

#### SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1922 - 1998	
ANNUAL TOTAL	182044		184959			
ANNUAL MEAN	499		507		471	
HIGHEST ANNUAL MEAN					840	
LOWEST ANNUAL MEAN					79.1	
HIGHEST DAILY MEAN	19500	Jun 3	11400	Jun 29	38400	Jan 22 1959
LOWEST DAILY MEAN	26	Oct 9	24	Sep 17	1.4	Sep 17 1932
ANNUAL SEVEN-DAY MINIMUM	28	Oct 7	25	Sep 14	2.0	Oct 7 1963
INSTANTANEOUS PEAK FLOW			17100	Jun 29a	49000	Jan 22 1959
INSTANTANEOUS PEAK STAGE			14.77	Jun 29b	17.94	Jan 22 1959
INSTANTANEOUS LOW FLOW			24	Sep 17	1.4	Sep 17 1932
ANNUAL RUNOFF (CFSM)	.93		.95		.88	
ANNUAL RUNOFF (INCHES)	12.68		12.88		11.98	
10 PERCENT EXCEEDS	1060		1180		1130	
50 PERCENT EXCEEDS	197		205		158	
90 PERCENT EXCEEDS	45		32		25	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.  
b High water mark from crest-stage gage.

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03230500 BIG DARBY CREEK AT DARBYVILLE, OHIO—Continued**

**WATER-QUALITY RECORDS**

PERIOD OF RECORD.--1965-1977, 1988, May 1992 to September 1998 (discontinued).  
PERIOD OF DAILY RECORD.--

SUSPENDED-SEDIMENT DISCHARGE: November 1992 to September 1998 (discontinued).  
REMARKS.--Suspended-sediment samples were collected by a local observer approximately once per day. Suspended-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 quarter-hour intervals and the daily load was calculated by summing the loads for these quarter-hour intervals. This required interpolation between measured and estimated concentrations.

EXTREMES FOR PERIOD OF DAILY RECORD.--  
SEDIMENT CONCENTRATIONS: Maximum daily mean, 844 mg/L, June 3, 1997; minimum daily mean, 1 mg/L, Oct. 25-27, 1995, Nov. 17, 1997.  
SEDIMENT LOADS: Maximum daily, 45,500 tons, June 3, 1997; minimum daily, 0.19 ton, Nov. 17, 1997.

EXTREMES FOR CURRENT YEAR.--  
SEDIMENT CONCENTRATIONS: Maximum daily mean, 753 mg/L, June 29; minimum daily mean, 1 mg/L, Nov. 17.  
SEDIMENT LOADS: Maximum daily, 25,900 tons, June 29; minimum daily, 0.19 ton, Nov. 17.

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)
NOV 20...	1100	10	60	872	12.0	3.0	3
JAN 09...	1430	10	4360	373	2.5	7.0	277
09...	1500	10	4420	--	--	--	279
APR 17...	1455	10	5260	353	12.0	14.0	270
17...	1520	10	5270	--	--	--	267

\* 10 - STREAM CROSS-SECTION SAMPLE OBTAINED BY EQUAL-WIDTH-INCREMENT (EWI) SAMPLING METHOD.

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03230500 BIG DARBY CREEK AT DARBYVILLE, OHIO—Continued**

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

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE	CONCEN-		DISCHARGE	DISCHARGE		CONCEN-	DISCHARGE	
	(CFS)	TRATION	(TONS/DAY)	(CFS)	TRATION	(TONS/DAY)	(CFS)	TRATION	(TONS/DAY)
		(MG/L)			(MG/L)			(MG/L)	
	OCTOBER			NOVEMBER			DECEMBER		
1	37	19	1.8	57	6	.93	93	6	1.6
2	34	16	1.5	53	6	.90	103	6	1.7
3	32	14	1.2	48	7	.88	104	8	2.2
4	30	15	1.2	50	5	.62	105	11	3.1
5	30	14	1.1	49	6	.76	95	15	3.9
6	31	18	1.5	47	8	.99	83	10	2.2
7	30	18	1.4	45	9	1.1	79	4	.86
8	28	17	1.3	47	9	1.1	84	2	.56
9	26	15	1.1	48	9	1.2	78	3	.64
10	26	13	.90	49	8	1.1	150	12	6.5
11	27	11	.80	47	6	.72	223	25	16
12	29	9	.73	42	7	.81	261	22	16
13	29	9	.67	43	7	.78	217	9	5.3
14	30	8	.65	67	5	.96	160	6	2.8
15	29	8	.60	73	4	.70	134	8	3.0
16	30	7	.59	65	2	.36	118	13	4.3
17	35	7	.64	57	1	.19	107	13	3.8
18	38	6	.66	57	2	.26	97	13	3.4
19	38	7	.70	59	3	.46	89	14	3.4
20	39	13	1.4	61	3	.51	85	16	3.7
21	36	12	1.2	59	4	.60	83	13	2.9
22	39	10	1.1	80	5	1.0	88	11	2.7
23	38	9	.89	79	4	.89	111	14	4.1
24	37	7	.72	73	3	.64	120	11	3.4
25	41	5	.60	70	3	.60	240	22	15
26	50	6	.79	67	3	.62	357	117	164
27	59	7	1.0	64	4	.64	392	183	201
28	59	5	.83	63	4	.70	254	116	80
29	56	5	.76	60	9	1.4	203	83	46
30	51	6	.88	67	9	1.6	177	60	29
31	51	7	.90	---	---	---	155	37	16
TOTAL	1145	---	30.11	1746	---	24.02	4645	---	649.06

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

DAY	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT	MEAN	MEAN	SEDIMENT
	DISCHARGE	CONCEN-		DISCHARGE	DISCHARGE		CONCEN-	DISCHARGE	
	(CFS)	TRATION	(TONS/DAY)	(CFS)	TRATION	(TONS/DAY)	(CFS)	TRATION	(TONS/DAY)
		(MG/L)			(MG/L)			(MG/L)	
	JANUARY			FEBRUARY			MARCH		
1	121	21	7.1	218	7	4.2	402	12	13
2	122	17	5.7	205	7	4.1	371	9	9.1
3	118	21	6.6	193	6	3.4	350	7	6.3
4	111	23	6.7	186	6	2.8	329	7	5.9
5	106	24	6.8	202	5	2.7	303	6	4.7
6	121	23	7.5	218	4	2.5	282	7	5.1
7	409	62	165	288	5	4.2	267	7	4.9
8	2790	378	2910	484	26	35	273	5	3.7
9	4220	283	3190	570	20	31	435	21	30
10	2400	117	795	511	14	19	1490	294	1350
11	1330	61	224	487	11	15	1130	162	525
12	852	39	91	671	22	40	682	56	105
13	642	32	55	1040	40	114	517	22	31
14	499	26	35	720	34	66	456	13	16
15	420	18	20	519	25	35	400	9	9.9
16	381	16	17	465	20	26	339	7	6.2
17	337	18	16	729	25	54	315	6	4.8
18	303	19	16	2570	173	1430	339	5	5.1
19	267	13	9.3	4320	343	4010	452	9	11
20	241	7	4.7	2640	136	1020	536	12	18
21	223	6	3.7	1600	67	294	698	30	63
22	209	7	3.9	1120	41	126	1250	97	330
23	284	12	9.9	857	27	62	926	47	122
24	484	20	29	713	17	33	633	23	39
25	575	20	32	597	14	22	498	15	21
26	421	15	17	513	13	17	433	11	12
27	349	13	13	475	12	15	396	8	8.0
28	311	11	9.4	446	12	14	365	7	6.9
29	290	9	7.3	---	---	---	340	7	6.8
30	267	8	5.6	---	---	---	311	8	6.6
31	242	7	4.6	---	---	---	294	8	6.2
TOTAL	19445	---	7723.8	23557	---	7501.9	15812	---	2786.2



**SURFACE-WATER RECORDS**

**Scioto River Basin**

**03230500 BIG DARBY CREEK AT DARBYVILLE, OHIO—Continued**

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998										
DAY	MEAN DISCHARGE (CFS)	APRIL			MAY			JUNE		
		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)	
1	305	7	5.9	759	39	80	317	22	19	
2	291	6	5.0	1390	140	746	246	17	11	
3	291	5	4.1	2290	207	1290	208	12	6.8	
4	267	5	3.8	1550	101	436	185	12	6.1	
5	248	7	4.9	920	57	142	170	13	5.7	
6	228	6	4.0	666	48	86	160	13	5.5	
7	218	7	4.0	595	46	74	154	13	5.5	
8	336	21	22	2150	183	1310	145	16	6.2	
9	1510	209	1110	4500	374	4540	142	22	8.4	
10	3000	200	1660	2380	127	857	138	21	7.9	
11	2370	135	919	1320	66	238	160	21	11	
12	1170	55	179	869	44	105	370	66	65	
13	775	30	62	659	32	58	936	139	359	
14	619	27	45	563	32	49	1230	126	435	
15	518	30	42	499	37	49	859	79	185	
16	3830	284	3890	418	36	41	2040	168	998	
17	5190	263	3730	361	27	27	1990	124	689	
18	5370	304	4600	313	26	22	1230	94	315	
19	2670	123	898	282	23	18	663	58	106	
20	2400	79	511	262	21	15	487	44	57	
21	1790	65	318	256	22	15	444	62	123	
22	1280	47	163	281	22	16	620	223	436	
23	960	34	89	259	16	11	382	67	70	
24	761	40	82	245	16	11	318	41	36	
25	620	33	56	248	17	11	267	37	27	
26	539	25	36	262	16	11	230	28	17	
27	948	75	212	231	16	9.8	226	22	14	
28	1200	82	281	207	17	9.8	286	27	22	
29	706	52	99.6	191	17	8.8	11400	753	25900	
30	669	43	78	196	15	7.9	8670	232	6010	
31	---	---	---	361	29	29	---	---	---	
TOTAL	41079	---	19114.3	25483	---	10323.3	34673	---	35957.1	

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998										
DAY	MEAN DISCHARGE (CFS)	JULY			AUGUST			SEPTEMBER		
		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)	
1	3160	101	879	87	10	2.4	37	8	.83	
2	1680	69	319	80	9	2.0	35	9	.88	
3	1100	46	136	77	9	1.9	33	11	.93	
4	921	41	101	74	9	1.9	32	12	1.0	
5	982	37	97	71	10	2.0	32	11	.94	
6	796	33	70	67	10	1.8	31	10	.85	
7	576	29	46	65	9	1.5	31	10	.81	
8	500	26	36	63	9	1.5	33	8	.69	
9	758	60	128	62	8	1.4	31	8	.70	
10	519	31	45	63	10	1.7	27	7	.55	
11	374	18	19	99	15	4.3	26	7	.50	
12	297	11	8.5	96	19	4.9	25	10	.67	
13	253	7	4.6	72	16	3.0	26	13	.93	
14	222	8	4.8	64	16	2.8	26	9	.64	
15	203	11	6.0	60	14	2.3	25	6	.43	
16	191	13	6.7	59	14	2.2	25	6	.43	
17	178	10	4.8	53	13	1.9	24	7	.42	
18	158	8	3.3	49	13	1.7	25	7	.47	
19	147	12	4.6	44	12	1.4	25	7	.46	
20	175	15	7.0	42	12	1.3	24	6	.40	
21	163	12	5.3	41	11	1.2	27	6	.47	
22	150	13	5.2	40	11	1.1	41	8	.94	
23	146	16	6.3	38	10	1.0	28	12	.91	
24	171	14	6.3	37	9	.85	28	9	.67	
25	181	13	6.2	39	8	.90	29	9	.72	
26	145	12	4.8	47	7	.96	28	16	1.2	
27	121	12	3.9	49	9	1.2	26	18	1.3	
28	109	11	3.2	41	9	1.0	30	17	1.4	
29	99	12	3.1	50	10	1.4	40	16	1.7	
30	101	11	3.0	48	9	1.2	30	15	1.2	
31	98	11	2.9	43	9	1.0	---	---	---	
TOTAL	14674	---	1976.5	1820	---	55.71	880	---	24.04	
YEAR	184959		86166.44							

## SURFACE-WATER RECORDS

### Scioto River Basin

#### 03230800 DEER CREEK AT MT. STERLING, OHIO

LOCATION.--Lat 39°42'54", long 83°15'26", Madison County, Hydrologic Unit 05060002, on left bank at downstream side of bridge on State Highway 56, 0.2 mi downstream from unnamed right bank tributary, 0.6 mi southeast of Mount Sterling, and 4.9 mi upstream from Duffs Fork.

DRAINAGE AREA.--228 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1966 to September 1981; October 1995 to current year.

REVISED RECORDS.--WDR OH-75-1: 1968(M).

GAGE.--Water-stage recorder. Datum of gage is 836.25 ft above sea level.

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	14	20	65	36	104	170	144	444	149	869	20	8.8
2	14	23	52	46	101	159	129	525	122	483	16	8.4
3	13	25	38	39	94	150	114	559	95	306	15	7.0
4	12	26	40	37	97	141	116	342	82	345	15	6.7
5	9.9	32	43	41	110	131	102	245	76	352	17	5.7
6	8.0	38	37	58	102	121	94	192	73	215	19	5.0
7	6.7	40	34	283	125	118	91	190	65	165	20	4.8
8	6.1	46	35	1880	263	127	181	1020	61	142	22	4.1
9	6.9	36	43	1090	270	398	1330	1440	61	119	24	3.8
10	7.8	22	166	665	366	515	1770	548	67	99	27	3.3
11	5.1	23	313	450	454	309	816	364	84	84	50	e3.1
12	3.1	29	159	336	678	234	475	274	810	72	48	e2.9
13	3.8	35	106	276	477	204	319	223	1350	66	32	e2.7
14	4.1	59	78	217	324	192	248	451	741	61	27	e2.6
15	6.1	58	60	202	249	162	195	339	797	59	24	e2.5
16	8.0	49	49	186	247	146	4300	250	1290	57	23	e2.4
17	10	45	45	166	510	143	4120	201	1040	53	22	e2.3
18	4.4	43	39	151	1070	155	1250	168	572	47	22	e2.3
19	4.7	45	38	135	1370	224	938	151	359	44	21	e2.2
20	8.4	47	41	125	798	212	992	145	255	103	21	e2.1
21	9.9	50	37	113	551	383	590	138	192	78	18	e2.1
22	10	67	51	109	416	685	437	123	200	45	16	e4.3
23	11	75	113	201	347	424	349	122	163	42	14	e3.5
24	11	47	123	273	284	313	272	122	137	36	13	e2.8
25	15	31	349	212	239	251	216	115	113	30	12	e2.5
26	19	30	274	176	213	223	191	104	100	26	14	e2.4
27	21	30	176	160	205	201	354	95	101	23	15	e2.7
28	21	28	125	149	186	182	235	89	90	21	14	e3.5
29	19	27	98	139	---	168	185	83	7300	20	14	e2.9
30	18	38	85	128	---	148	244	143	3760	27	11	e2.5
31	19	---	61	113	---	139	---	156	---	26	8.4	---
TOTAL	330.0	1164	2973	8192	10250	7128	20797	9361	20305	4115	634.4	111.9
MEAN	10.6	38.8	95.9	264	366	230	693	302	677	133	20.5	3.73
MAX	21	75	349	1880	1370	685	4300	1440	7300	869	50	8.8
MIN	3.1	20	34	36	94	118	91	83	61	20	8.4	2.1
CFSM	.05	.17	.42	1.16	1.61	1.01	3.04	1.32	2.97	.58	.09	.02
IN.	.05	.19	.49	1.34	1.67	1.16	3.39	1.53	3.31	.67	.10	.02

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 1998, BY WATER YEAR (WY)

	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998			
MEAN	57.5	167	291	316	366	447	393	356	295	123	113	75.1																							
MAX	180	743	641	910	910	1239	786	1210	764	480	531	779																							
(WY)	1980	1973	1978	1996	1975	1978	1996	1997	1973	1979	1979	1979																							
MIN	10.6	35.3	15.7	10.0	11.1	11.3	58.5	29.2	23.9	12.9	14.9	3.73																							
(WY)	1998	1979	1977	1977	1978	1969	1976	1976	1977	1977	1977	1998																							

#### SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1967 - 1998	
ANNUAL TOTAL	81724.0		85361.3			
ANNUAL MEAN	224		234		249	
HIGHEST ANNUAL MEAN					394	
LOWEST ANNUAL MEAN					82.7	
HIGHEST DAILY MEAN	4590	Jun 2	7300	Jun 29	9400	May 24 1968
LOWEST DAILY MEAN	3.1	Oct 12	2.1	Sep 20	2.1	Sep 20 1998
ANNUAL SEVEN-DAY MINIMUM	5.3	Oct 8	2.3	Sep 15	2.3	Sep 15 1998
INSTANTANEOUS PEAK FLOW			11200	Jun 29a	19500	Mar 10 1964
INSTANTANEOUS PEAK STAGE			11.95	Jun 29	80.93	Mar 10 1964
INSTANTANEOUS LOW FLOW			2.1	Sep 20	.00	May 25 1968
ANNUAL RUNOFF (CFSM)	.98		1.03		1.09	
ANNUAL RUNOFF (INCHES)	13.33		13.93		14.85	
10 PERCENT EXCEEDS	485		479		566	
50 PERCENT EXCEEDS	88		95		100	
90 PERCENT EXCEEDS	21		6.8		19	

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

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03231500 SCIOTO RIVER AT CHILLICOTHE, OHIO**

LOCATION.--Lat 39°20'29", long 82°58'16", Ross County, Hydrologic Unit 05060002, on right bank at north end of Chillicothe, 1,400 ft downstream from Bridge Street bridge, 7.4 mi upstream from Paint Creek, and 15.4 mi downstream from Deer Creek.

**WATER-DISCHARGE RECORDS**

DRAINAGE AREA.--3,849 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1913 to September 1914 (gage heights and discharge measurements only). October 1920 to current year. Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected in this vicinity since 1907 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 803: 1929(M). WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 594.05 ft above sea level. Prior to Sept. 30, 1914, nonrecording gage at site 1,300 ft upstream at different datum. Apr. 1, 1921, to Aug. 6, 1930, nonrecording gage, at site 1,400 ft upstream at present datum. Aug. 7, 1930, to Sept. 30, 1969, water-stage recorder 900 ft upstream at same datum.

REMARKS.--Records good. Flow regulated by 6 reservoirs 36 mi to 91 mi upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 26, 1913, reached a stage of 39.8 ft; discharge, 260,000 ft<sup>3</sup>/s (estimated by Franklin County Conservancy District).

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	608	1030	2140	1710	2160	3190	2520	7010	1920	26800	1350	727
2	609	943	1970	1550	2060	3010	2780	7890	1850	15600	1070	765
3	596	928	1460	1380	1980	2830	2400	12400	1650	13000	953	751
4	612	1010	1410	1310	1840	2660	2130	16600	1560	11600	906	780
5	589	1050	1660	1300	1810	2580	2110	12200	1430	11400	851	748
6	575	981	1510	1610	2400	2590	1960	9180	1310	10100	833	706
7	607	896	1270	2590	2790	2460	1710	8350	1240	7760	828	635
8	596	854	1080	11600	2990	2400	1620	9500	1160	4380	954	581
9	570	934	1010	18900	3060	2710	3750	13700	1090	4070	940	605
10	575	1390	1490	20200	3060	4740	10200	15000	1090	3560	1420	694
11	586	1160	5150	18400	2980	7650	11700	10400	1120	3410	1790	639
12	589	1010	3670	15800	3440	7360	10100	6900	1570	2770	2970	634
13	598	945	2840	12600	4470	5460	7550	5110	4950	2340	2010	559
14	616	1400	3050	9110	4220	4070	5480	3880	8350	2090	1700	522
15	612	2440	2400	6110	3310	3450	4010	3050	8600	1920	1620	536
16	649	1760	1910	4390	2880	3030	5330	2920	10900	1690	1350	603
17	599	1530	1790	3610	3280	2710	22200	2580	13500	1580	1230	604
18	610	1330	1830	3080	6330	2460	25900	2570	12100	1500	1340	492
19	659	1220	1720	2840	16500	2670	24300	2540	9140	1300	1100	479
20	649	1160	1640	2570	19800	2920	17000	2140	6590	1390	910	479
21	704	1140	1290	2380	13500	3790	14400	2070	4980	2030	797	653
22	710	1980	1200	2110	11900	9040	13300	1970	4760	1840	750	674
23	725	2840	1620	2050	10100	12500	11800	1820	5330	1540	717	846
24	780	2310	1870	3120	7940	11400	10300	1710	3380	1500	704	919
25	834	2020	2350	3530	5390	10000	6840	1830	2890	2250	695	674
26	999	1820	3460	3410	4180	6400	5550	1900	2450	2720	878	639
27	1440	1530	3320	3260	3660	4420	6320	1730	2210	2260	1490	582
28	2050	1220	3790	3130	3390	3580	8550	1570	3550	1890	891	527
29	1300	1100	3330	2770	---	3130	7210	1470	6480	1600	743	940
30	1110	1260	2700	2520	---	2910	5320	1480	25100	1220	694	792
31	1030	---	2010	2330	---	2660	---	2030	---	1120	690	---
TOTAL	23786	41191	67940	171270	151420	140780	254340	173500	152250	148230	35174	19785
MEAN	767	1373	2192	5525	5408	4541	8478	5597	5075	4782	1135	660
MAX	2050	2840	5150	20200	19800	12500	25900	16600	25100	26800	2970	940
MIN	570	854	1010	1300	1810	2400	1620	1470	1090	1120	690	479

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

MEAN	965	2045	3550	5287	5815	7176	6056	4198	3282	2171	1448	981
MAX	8068	12130	14120	30110	13700	19450	14640	18590	11050	9507	8263	10180
(WY)	1927	1973	1991	1937	1951	1963	1957	1996	1997	1992	1980	1979
MIN	192	210	222	312	386	1041	1136	440	378	303	214	207
(WY)	1954	1935	1935	1931	1934	1931	1941	1934	1925	1930	1930	1953

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1921 - 1998

ANNUAL TOTAL	1409237	1379666	
ANNUAL MEAN	3861	3780	
HIGHEST ANNUAL MEAN			6217 1973
LOWEST ANNUAL MEAN			883 1934
HIGHEST DAILY MEAN	39200	Jun 4	26800 Jul 1 127000 Jan 23 1959
LOWEST DAILY MEAN	570	Oct 9	479 Sep 19 166 Sep 27 1944
ANNUAL SEVEN-DAY MINIMUM	585	Oct 5	531 Sep 14 174 Sep 21 1944
INSTANTANEOUS PEAK FLOW			28500 Jul 1 144000 Jan 23 1959
INSTANTANEOUS PEAK STAGE			12.99 Jul 1 32.50 Jan 23 1959
INSTANTANEOUS LOW FLOW			479 Sep 19 166 Sep 27 1944
10 PERCENT EXCEEDS	9900	10200	9240
50 PERCENT EXCEEDS	1970	2030	1490
90 PERCENT EXCEEDS	772	657	372

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03231500 SCIOTO RIVER AT CHILLICOTHE, OHIO—Continued**

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1950-51, 1965-1981, November 1985 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: May 1965 to October 1981, November 1985 to current year.

pH: June 1971 to October 1981, November 1985 to current year.

WATER TEMPERATURES: October 1950 to September 1951, October 1953 to October 1981,

November 1985 to current year.

DISSOLVED OXYGEN: May 1965 to October 1981, November 1985 to current year.

INSTRUMENTATION.--Water-quality monitor. Electronic data logger replaced digital recorder since July 12, 1991. Set for 1-hour interval.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,210 microsiemens Jan. 13, 1976; minimum, 150 microsiemens June 29, 1972.

pH: Maximum, 9.3 units Aug. 24-26, 1981, May 1, 1988, and Oct. 1, 2, 1995; minimum, 6.3 units Mar. 6, 1979.

WATER TEMPERATURES: Maximum, 32.5°C July 17, Aug. 18, 1988; minimum 0.0°C on many days during winters.

DISSOLVED OXYGEN: Maximum, >20.0 mg/L on several days during 1978 thru 1995; minimum, 0.0 mg/L April 27, Aug. 12, Sept. 22, 1966.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 892 microsiemens Oct. 9; minimum, 187 microsiemens June 30.

pH: Maximum recorded, 8.9 units July 27; minimum recorded, 7.4 units June 30 and July 1.

WATER TEMPERATURES: Maximum, 29.0°C June 27, 28, July 22, and 23; minimum, 2.5°C Jan. 1.

DISSOLVED OXYGEN: Maximum, 17.9 mg/L May 21; minimum, 4.5 mg/L Aug. 11.

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03231500 SCIOTO RIVER AT CHILLICOTHE, OHIO—Continued**

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	845	815	837	689	650	672	664	647	655	793	787	789
2	846	839	843	722	689	709	664	624	654	819	793	802
3	847	836	841	727	722	725	624	577	592	837	819	833
4	854	847	852	742	721	728	601	577	587	842	832	835
5	862	854	858	753	730	746	621	601	608	853	842	850
6	856	850	854	734	727	731	636	621	630	851	816	842
7	876	856	870	727	699	713	782	621	685	816	702	770
8	887	876	882	703	687	696	766	752	758	702	484	538
9	892	882	886	692	687	689	783	763	775	545	486	517
10	882	864	874	741	689	711	781	673	748	565	495	538
11	870	861	867	746	723	736	674	581	636	495	423	454
12	861	832	852	726	698	719	583	548	565	423	406	411
13	832	803	817	698	631	671	649	582	611	420	407	412
14	813	792	806	662	641	654	706	649	689	454	419	433
15	828	813	821	715	653	686	696	680	686	506	454	482
16	824	816	819	716	629	663	737	696	717	557	506	532
17	820	817	819	629	603	611	756	737	744	595	557	576
18	831	820	828	630	603	615	767	756	762	630	595	615
19	830	755	800	669	630	651	758	695	723	649	630	642
20	755	737	746	687	669	680	696	674	685	---	---	---
21	747	737	742	695	668	688	676	673	675	---	---	---
22	745	729	732	683	607	660	699	670	684	---	---	---
23	751	730	739	642	589	622	776	699	739	---	---	---
24	756	743	753	627	579	599	798	776	786	---	---	---
25	743	725	731	596	579	587	793	704	747	---	---	---
26	729	699	722	618	591	602	738	687	716	---	---	---
27	753	713	743	637	618	626	687	656	664	---	---	---
28	779	739	767	645	637	643	745	670	709	---	---	---
29	756	604	669	638	633	634	787	745	777	---	---	---
30	614	600	604	647	628	638	786	774	781	---	---	---
31	650	614	632	---	---	---	790	786	788	---	---	---
MONTH	892	600	794	753	579	670	798	548	696	853	406	625

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	---	---	---	---	---	---	628	595	611	510	489	496
2	---	---	---	---	---	---	692	627	666	501	471	487
3	808	694	729	---	---	---	703	669	691	485	409	450
4	819	692	717	655	650	654	735	687	718	443	394	410
5	698	689	694	663	650	656	758	575	683	503	443	466
6	709	693	700	665	658	662	769	736	757	536	503	525
7	794	703	751	669	658	662	771	643	726	536	524	531
8	787	759	771	682	669	676	---	---	---	527	469	503
9	776	757	769	685	668	677	---	---	---	476	423	451
10	757	725	731	674	589	641	---	---	---	467	419	431
11	725	697	711	589	557	572	665	436	501	520	467	497
12	698	657	673	622	578	597	800	665	731	524	518	521
13	660	649	654	644	622	632	800	616	674	555	524	540
14	767	638	688	664	644	655	628	613	619	589	555	573
15	756	631	672	677	663	672	614	602	612	615	587	599
16	631	626	629	692	674	683	603	342	547	620	609	616
17	750	620	681	692	685	688	390	281	302	626	609	622
18	732	570	665	687	671	678	382	313	348	654	609	632
19	570	523	533	684	675	678	416	382	409	660	615	640
20	---	---	---	699	682	690	432	412	419	642	619	631
21	---	---	---	683	636	673	456	432	446	658	620	643
22	---	---	---	636	505	543	493	452	474	656	635	647
23	---	---	---	548	517	528	495	489	492	670	641	656
24	---	---	---	584	548	572	492	482	487	682	667	678
25	---	---	---	564	497	530	522	482	498	702	669	688
26	---	---	---	510	496	501	538	522	529	688	661	679
27	---	---	---	601	510	524	539	520	530	677	661	669
28	---	---	---	560	534	545	553	490	514	666	651	658
29	---	---	---	647	560	621	515	500	505	691	657	677
30	---	---	---	696	596	652	541	510	524	706	679	695
31	---	---	---	606	599	603	---	---	---	703	691	697
MONTH	819	523	692	699	496	624	800	281	556	706	394	581

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03231500 SCIOTO RIVER AT CHILLICOTHE, OHIO—Continued**

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	701	642	680	381	251	316	714	677	699	716	674	700
2	655	642	649	431	381	412	712	688	705	840	705	752
3	670	630	661	427	397	406	705	686	696	801	748	781
4	635	622	630	403	384	396	728	696	716	789	763	781
5	677	635	658	398	392	395	740	707	726	780	758	772
6	689	677	685	409	394	398	732	673	716	807	771	796
7	692	685	689	450	409	433	710	660	691	787	773	781
8	694	684	688	527	450	481	699	657	678	804	787	797
9	701	687	694	571	527	547	728	656	696	806	796	801
10	705	694	701	585	564	573	793	728	770	796	779	787
11	698	665	686	587	571	579	813	692	764	789	777	783
12	700	667	684	594	583	589	699	652	681	779	761	774
13	704	456	584	609	592	601	659	619	641	761	748	756
14	522	490	511	636	609	627	640	616	622	748	742	745
15	528	486	505	648	636	644	645	622	637	805	742	768
16	545	492	523	661	646	657	651	636	644	817	804	810
17	505	444	474	685	659	676	652	630	644	819	812	816
18	532	485	510	705	683	697	666	631	650	826	811	818
19	557	532	543	720	687	709	682	642	664	821	812	816
20	582	557	570	707	667	689	685	637	666	817	784	802
21	582	578	580	678	666	672	670	630	652	792	775	784
22	584	540	576	699	657	686	671	630	652	784	770	778
23	540	465	486	657	626	641	670	533	649	789	774	780
24	561	490	524	669	625	642	663	533	645	796	741	763
25	600	561	584	712	669	695	662	606	642	742	702	728
26	626	598	611	698	603	647	702	606	658	702	680	687
27	647	626	639	615	602	608	784	654	718	718	689	700
28	669	498	632	640	613	630	787	702	752	745	718	736
29	501	253	441	661	640	655	703	653	673	756	735	746
30	253	187	214	673	650	665	668	653	659	785	756	776
31	---	---	---	681	643	659	683	667	677	---	---	---
MONTH	705	187	587	720	251	581	813	533	680	840	674	770
YEAR	892	187	655									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, 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	8.3	7.9	8.1	8.0	8.0	8.0	8.1	8.1	8.1	8.2	8.2	8.2
2	8.3	8.1	8.2	8.1	8.0	8.1	8.1	8.0	8.1	8.2	8.2	8.2
3	8.3	8.2	8.2	8.1	8.1	8.1	8.1	8.1	8.1	8.2	8.1	8.1
4	8.3	8.2	8.2	8.1	8.0	8.0	8.1	8.0	8.1	8.1	8.1	8.1
5	8.3	8.2	8.2	8.1	8.0	8.0	8.1	8.1	8.1	8.1	8.1	8.1
6	8.3	8.2	8.2	8.1	8.1	8.1	8.2	8.1	8.1	8.1	8.0	8.0
7	8.3	8.2	8.2	8.1	8.0	8.1	8.2	8.1	8.2	8.0	7.8	7.9
8	8.3	8.1	8.2	8.0	8.0	8.0	8.2	8.1	8.2	7.8	7.5	7.6
9	8.3	8.1	8.2	8.0	8.0	8.0	8.2	8.2	8.2	7.6	7.5	7.6
10	8.3	8.1	8.2	8.0	7.9	8.0	8.2	8.1	8.2	7.6	7.6	7.6
11	8.2	8.1	8.2	8.0	7.9	7.9	8.1	7.9	8.0	7.7	7.6	7.6
12	8.2	8.1	8.1	8.0	7.9	8.0	8.0	7.9	8.0	7.7	7.7	7.7
13	8.2	7.9	8.1	8.2	8.0	8.1	8.1	8.0	8.1	7.7	7.7	7.7
14	8.2	7.9	8.1	8.2	8.1	8.1	8.2	8.1	8.2	8.1	7.7	7.9
15	8.2	8.1	8.1	8.1	8.0	8.0	8.2	8.2	8.2	8.1	8.1	8.1
16	8.1	8.1	8.1	8.0	8.0	8.0	8.3	8.2	8.2	8.1	8.1	8.1
17	8.1	8.0	8.1	8.1	8.0	8.0	8.3	8.2	8.2	8.1	8.1	8.1
18	8.1	8.0	8.0	8.1	8.0	8.1	8.3	8.2	8.2	8.1	8.1	8.1
19	8.1	8.0	8.0	8.1	8.1	8.1	8.2	8.2	8.2	8.1	8.1	8.1
20	8.1	7.9	8.0	8.2	8.1	8.1	8.2	8.2	8.2	---	---	---
21	8.1	8.0	8.0	8.2	8.1	8.1	8.2	8.1	8.2	---	---	---
22	8.1	8.0	8.1	8.1	8.0	8.1	8.2	8.1	8.2	---	---	---
23	8.1	8.1	8.1	8.0	8.0	8.0	8.2	8.1	8.1	---	---	---
24	8.1	8.0	8.1	8.1	8.0	8.0	8.1	8.1	8.1	---	---	---
25	8.1	8.0	8.0	8.1	8.0	8.1	8.1	8.1	8.1	---	---	---
26	8.0	7.9	8.0	8.1	8.1	8.1	8.1	8.0	8.0	---	---	---
27	7.9	7.9	7.9	8.2	8.1	8.1	8.1	8.0	8.1	---	---	---
28	7.9	7.7	7.8	8.2	8.1	8.1	8.1	8.1	8.1	---	---	---
29	8.0	7.8	7.9	8.1	8.1	8.1	8.2	8.1	8.2	---	---	---
30	8.0	7.9	8.0	8.1	8.1	8.1	8.2	8.2	8.2	---	---	---
31	8.0	7.9	8.0	---	---	---	8.2	8.2	8.2	---	---	---
MONTH	8.3	7.7	8.1	8.2	7.9	8.1	8.3	7.9	8.1	8.2	7.5	7.9



**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03231500 SCIOTO RIVER AT CHILLICOTHE, OHIO—Continued**

TEMPERATURE, WATER (DEG. C), 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	18.5	17.5	18.0	12.0	11.5	11.5	10.0	9.5	10.0	3.5	2.5	3.0
2	17.5	16.0	17.0	12.0	11.5	11.5	9.5	8.5	9.0	4.5	3.0	3.5
3	18.5	16.5	17.0	11.5	10.0	10.5	9.0	8.0	8.5	6.0	4.5	5.0
4	19.5	17.5	18.5	10.0	9.5	10.0	9.0	8.0	8.5	7.0	6.0	6.5
5	21.0	18.5	19.5	10.5	9.0	9.5	8.0	6.5	7.0	8.5	7.0	7.5
6	21.5	19.5	20.0	10.5	9.5	10.0	6.5	5.0	5.5	10.0	8.5	9.5
7	21.5	20.0	20.5	10.5	10.0	10.0	5.0	4.0	4.5	11.5	10.0	10.5
8	21.5	20.0	21.0	10.0	9.5	10.0	4.5	4.0	4.5	11.5	10.5	11.0
9	21.5	20.0	21.0	10.0	9.5	10.0	5.0	4.0	4.5	10.5	7.5	9.0
10	22.0	21.0	21.5	10.5	10.0	10.0	6.0	5.0	5.5	7.5	7.0	7.5
11	21.0	19.5	20.0	10.5	10.0	10.0	7.0	6.0	6.5	7.0	6.0	6.5
12	20.0	18.0	19.0	10.0	8.0	9.0	6.0	5.5	5.5	6.0	5.5	6.0
13	21.0	19.5	20.0	8.0	7.5	7.5	5.5	5.0	5.0	6.0	5.5	6.0
14	20.0	18.0	19.0	7.5	7.0	7.5	5.0	4.5	5.0	5.5	4.5	5.0
15	18.0	16.5	17.0	7.5	7.0	7.0	4.5	4.0	4.0	4.5	4.5	4.5
16	16.5	15.0	15.5	7.0	5.5	6.5	4.5	3.5	4.0	5.0	4.5	4.5
17	15.5	14.5	15.0	5.5	4.5	5.0	4.5	3.5	4.0	5.0	4.5	5.0
18	15.0	14.0	14.5	5.0	4.0	4.5	5.0	4.5	4.5	4.5	4.5	4.5
19	14.5	13.5	14.0	5.5	4.0	5.0	5.5	4.5	5.0	4.5	4.0	4.0
20	14.5	14.0	14.0	6.5	5.5	6.0	6.0	5.5	5.5	---	---	---
21	14.0	12.5	13.0	7.0	6.5	7.0	6.5	6.0	6.0	---	---	---
22	12.5	11.5	12.0	7.5	7.0	7.5	7.0	6.0	6.5	---	---	---
23	11.5	10.0	11.0	8.0	7.5	8.0	7.0	7.0	7.0	---	---	---
24	11.0	10.0	10.5	7.5	6.5	7.0	7.5	7.0	7.5	---	---	---
25	12.0	10.5	11.0	7.0	5.5	6.5	7.5	7.0	7.5	---	---	---
26	12.5	12.0	12.0	7.5	6.5	7.0	7.0	6.5	7.0	---	---	---
27	12.5	11.5	11.5	7.0	6.5	7.0	6.5	5.5	6.0	---	---	---
28	12.0	11.0	11.5	8.5	7.0	8.0	5.5	4.5	5.0	---	---	---
29	11.5	10.0	11.0	10.0	8.5	9.5	4.5	4.0	4.5	---	---	---
30	11.5	10.0	11.0	10.5	10.0	10.0	4.0	4.0	4.0	---	---	---
31	12.0	11.0	11.5	---	---	---	4.0	3.5	3.5	---	---	---
MONTH	22.0	10.0	15.5	12.0	4.0	8.5	10.0	3.5	6.0	11.5	2.5	6.5

TEMPERATURE, WATER (DEG. C), 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	---	---	---	---	---	---	18.5	17.0	17.5	15.0	14.5	15.0
2	---	---	---	---	---	---	17.5	15.5	16.5	15.0	14.5	15.0
3	---	---	---	---	---	---	16.5	14.5	15.0	15.0	14.0	14.5
4	6.0	4.0	5.0	8.0	7.0	7.5	15.0	13.0	13.5	15.5	14.0	14.5
5	4.0	4.0	4.0	7.5	7.0	7.0	13.5	11.5	12.5	16.5	15.5	15.5
6	5.0	4.0	4.5	8.0	6.5	7.0	14.0	11.5	13.0	17.0	16.0	16.5
7	5.5	4.5	5.0	9.0	7.5	8.0	14.0	12.5	13.5	17.0	16.5	17.0
8	5.5	4.0	4.5	10.0	9.0	9.5	15.5	13.5	14.0	17.0	16.5	16.5
9	5.5	4.5	5.0	10.0	10.0	10.0	15.5	14.5	15.5	17.0	16.5	17.0
10	6.0	5.0	5.5	10.0	7.0	8.0	14.5	12.5	13.0	17.5	17.0	17.0
11	7.0	6.0	6.5	7.0	5.5	6.0	13.0	12.0	12.5	17.5	17.5	17.5
12	7.0	6.5	6.5	5.5	4.0	4.5	14.0	12.0	13.0	18.5	16.5	17.0
13	7.0	6.5	6.5	4.5	3.5	4.0	15.0	13.0	13.5	19.0	17.5	18.0
14	7.0	6.5	6.5	5.5	4.0	4.5	15.0	14.0	14.5	21.0	18.0	19.0
15	7.0	6.0	6.5	6.5	4.5	5.5	15.0	14.0	14.5	22.0	19.5	20.5
16	6.5	6.0	6.5	6.5	5.5	6.0	15.0	14.5	14.5	23.0	21.0	21.5
17	7.5	6.5	7.0	7.0	6.0	6.5	15.5	15.0	15.0	23.5	21.0	22.0
18	7.5	7.5	7.5	8.0	7.0	7.5	15.0	13.5	14.0	23.5	21.0	22.0
19	7.5	7.0	7.0	10.5	8.0	9.0	13.5	12.5	13.0	23.5	21.0	22.0
20	---	---	---	10.5	10.0	10.5	13.0	12.0	12.5	24.5	22.0	23.0
21	---	---	---	10.5	8.0	9.0	13.5	13.0	13.0	24.5	22.5	23.5
22	---	---	---	8.0	6.0	6.5	14.0	13.5	13.5	24.5	22.0	22.5
23	---	---	---	6.0	5.0	5.5	14.5	13.5	14.0	22.5	20.0	21.0
24	---	---	---	7.0	6.0	6.0	15.5	14.0	14.5	21.0	19.5	20.5
25	---	---	---	7.0	6.0	6.5	16.0	14.5	15.0	21.5	20.5	21.0
26	---	---	---	9.5	6.5	7.5	16.0	15.0	15.5	21.5	20.0	20.5
27	---	---	---	13.0	9.5	10.5	15.5	14.5	15.0	22.5	20.0	21.0
28	---	---	---	14.5	12.5	13.0	15.0	14.0	14.5	23.5	21.0	22.0
29	---	---	---	16.5	14.0	14.5	15.0	14.5	14.5	25.0	22.0	23.0
30	---	---	---	17.5	15.0	16.0	15.0	14.5	14.5	25.5	23.5	24.0
31	---	---	---	18.5	16.5	17.0	---	---	---	25.5	24.0	25.0
MONTH	7.5	4.0	6.0	18.5	3.5	8.5	18.5	11.5	14.0	25.5	14.0	19.5



**SURFACE-WATER RECORDS  
Scioto River Basin**

**03231500 SCIOTO RIVER AT CHILLICOTHE, OHIO—Continued**

TEMPERATURE, WATER (DEG. C), 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	25.5	23.5	24.0	24.0	23.5	23.5	26.5	24.0	25.0	27.0	24.0	25.5
2	25.0	23.0	24.0	24.5	23.5	24.0	26.0	23.5	25.0	26.0	24.0	25.0
3	24.5	22.0	23.0	24.5	23.5	24.0	26.5	24.0	25.0	25.5	23.0	24.0
4	23.0	21.0	22.0	24.5	23.5	24.0	26.5	24.5	25.5	25.0	23.0	24.0
5	21.5	19.5	20.5	24.5	23.5	24.0	26.5	24.5	25.5	25.5	23.0	24.0
6	19.5	18.0	18.5	24.5	23.5	24.0	27.0	24.5	25.5	26.5	23.5	24.5
7	18.5	17.5	18.0	25.0	24.0	24.5	28.0	25.5	26.5	26.5	24.5	25.5
8	19.5	17.5	18.0	25.5	24.0	24.5	28.5	26.0	27.0	25.5	22.5	23.5
9	19.5	18.0	18.5	26.0	24.5	25.0	28.5	26.5	27.0	23.0	20.5	21.5
10	22.0	18.0	19.0	26.0	24.5	25.0	27.5	26.5	27.0	22.5	20.0	21.0
11	22.0	21.0	21.0	26.0	23.5	25.0	27.0	25.0	26.0	23.0	20.0	21.0
12	23.0	20.5	21.0	26.0	23.5	24.5	27.0	25.5	26.0	23.5	20.5	22.0
13	23.0	21.5	22.0	26.0	23.5	24.5	27.0	25.0	26.0	24.5	21.5	22.5
14	22.0	21.5	21.5	26.0	24.5	25.0	27.0	25.0	25.5	25.0	22.0	23.5
15	22.0	21.0	21.5	25.0	24.0	24.5	26.5	24.5	25.5	25.0	23.5	24.0
16	21.5	21.0	21.0	25.0	24.0	24.5	26.5	25.5	26.0	26.0	23.5	24.5
17	22.0	20.5	21.0	26.0	24.0	25.0	27.5	25.5	26.0	25.5	24.0	24.5
18	23.0	21.5	22.0	26.5	24.5	25.5	27.5	26.0	27.0	25.0	23.0	24.0
19	24.0	22.5	23.0	27.0	25.0	26.0	27.5	24.5	26.0	25.5	23.5	24.5
20	25.0	23.0	23.5	27.0	25.0	26.0	26.5	23.5	25.0	25.5	23.5	24.5
21	25.0	23.5	24.0	28.5	26.0	26.5	26.5	23.5	25.0	25.5	24.0	24.5
22	25.5	23.5	24.0	29.0	27.0	28.0	26.5	24.0	25.0	25.0	24.0	24.5
23	25.5	24.0	24.5	29.0	26.5	27.5	27.0	24.5	25.5	24.5	21.5	22.5
24	26.0	23.5	24.5	27.0	25.5	26.5	27.5	24.5	26.0	23.0	20.0	21.5
25	27.5	25.0	26.0	27.0	25.0	26.0	28.0	25.0	26.5	22.5	21.0	21.5
26	28.5	26.5	27.0	27.0	25.0	26.0	27.5	24.0	26.5	24.0	21.5	22.0
27	29.0	27.0	28.0	27.0	25.0	26.0	27.5	22.5	25.5	24.5	22.5	23.0
28	29.0	27.5	28.0	27.0	24.5	25.5	27.0	25.0	26.0	24.5	23.0	23.5
29	28.0	23.5	26.0	27.0	25.0	26.0	27.5	25.0	26.0	24.0	22.0	22.5
30	24.0	23.0	23.0	27.0	25.5	26.0	26.5	23.5	25.0	24.0	22.5	23.0
31	---	---	---	26.5	24.0	25.0	27.0	23.5	26.0	---	---	---
MONTH	29.0	17.5	22.5	29.0	23.5	25.0	28.5	22.5	26.0	27.0	20.0	23.5
YEAR	29.0	2.5	16.0									

OXYGEN DISSOLVED (MG/L), 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	10.0	8.5	9.1	9.0	8.4	8.7	10.3	9.8	10.1	14.9	13.1	14.1
2	10.6	8.6	9.4	8.9	8.2	8.6	10.9	10.1	10.5	14.8	14.3	14.6
3	10.3	8.9	9.6	9.0	8.5	8.7	10.9	10.3	10.6	14.8	14.4	14.6
4	10.5	8.7	9.5	9.1	8.5	8.8	10.6	10.1	10.3	15.1	13.5	14.2
5	10.7	8.7	9.5	9.6	8.8	9.2	10.9	10.2	10.5	14.3	13.0	13.8
6	10.3	8.4	9.3	9.7	9.0	9.3	11.5	10.6	11.0	13.6	13.2	13.4
7	9.8	8.1	9.0	9.4	8.8	9.1	11.7	11.2	11.5	13.3	12.0	12.9
8	9.9	7.9	8.8	9.0	8.6	8.7	12.2	11.5	11.9	13.0	11.9	12.6
9	9.9	7.7	8.8	9.3	8.4	8.9	12.7	11.8	12.4	13.4	12.2	12.7
10	9.9	7.5	8.6	---	---	---	12.4	11.4	12.0	13.9	12.7	13.1
11	9.5	7.6	8.5	---	---	---	11.4	10.9	11.1	13.4	12.8	13.0
12	9.7	7.8	8.7	---	---	---	11.3	10.9	11.0	13.7	13.1	13.4
13	9.3	7.8	8.5	13.6	10.1	11.6	11.9	11.3	11.6	13.9	13.0	13.5
14	9.0	7.4	8.2	13.5	12.6	13.0	12.2	11.8	12.0	14.9	12.4	13.4
15	9.4	7.9	8.6	12.6	11.7	12.1	12.8	12.2	12.5	13.9	11.1	13.0
16	9.7	8.4	9.0	12.6	11.7	12.2	13.0	12.6	12.8	13.8	13.4	13.7
17	9.8	8.6	9.2	13.1	12.4	12.8	13.0	12.5	12.8	14.0	13.5	13.8
18	10.1	8.8	9.4	13.3	12.4	13.0	13.0	12.5	12.8	14.1	13.6	13.8
19	9.7	9.0	9.4	13.3	12.7	13.0	13.1	12.6	12.9	14.0	13.6	13.8
20	9.8	9.0	9.5	13.3	12.4	12.8	13.0	12.4	12.8	---	---	---
21	10.2	9.3	9.7	12.7	11.5	11.9	13.3	12.4	12.9	---	---	---
22	10.6	9.6	10.1	11.5	10.9	11.2	13.2	12.6	12.8	---	---	---
23	11.2	10.1	10.6	11.1	10.8	10.9	12.7	12.4	12.6	---	---	---
24	10.9	10.1	10.5	11.4	10.9	11.2	12.6	12.4	12.5	---	---	---
25	10.7	9.7	10.2	11.8	11.3	11.6	12.8	12.3	12.6	---	---	---
26	10.4	9.1	9.6	11.8	11.3	11.5	12.9	12.1	12.5	---	---	---
27	9.5	8.9	9.2	11.9	11.2	11.5	13.6	12.9	13.2	---	---	---
28	9.4	8.8	9.1	11.8	11.1	11.4	14.1	13.6	13.9	---	---	---
29	9.3	8.6	9.1	11.2	10.6	10.9	14.6	14.1	14.4	---	---	---
30	9.2	8.6	8.9	10.8	10.1	10.3	15.6	13.8	14.2	---	---	---
31	9.2	8.6	9.0	---	---	---	14.3	13.7	14.0	---	---	---
MONTH	11.2	7.4	9.2	13.6	8.2	10.8	15.6	9.8	12.2	15.1	11.1	13.5



# SURFACE-WATER RECORDS Scioto River Basin

## 03232000 PAINT CREEK NEAR GREENFIELD, OHIO

LOCATION.--Lat 39°22'45", long 83°22'32", Fayette County, Hydrologic Unit 05060003, on right bank at upstream side of bridge on State Highway 753, 0.6 mi upstream from Stone Run, 2 mi north of Greenfield, and 3.0 mi downstream from Indian Creek.

DRAINAGE AREA.--249 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1926 to November 1935, October 1939 to September 1956; water years 1962-66 (occasional low-flow measurements), water years 1963-66 (annual maximums); October 1966 to September 1981; water years 1993-1995 (stage only); October 1995 to current year.

REVISED RECORDS.--WSP 743: 1926(M). WSP 758: 1926-33. WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 844.27 ft above sea level. Prior to Feb. 14, 1940, nonrecording gage, Feb. 14, 1940, to June 3, 1955, water-stage recorder, June 4, 1955, to Sept. 30, 1956, nonrecording gage, at same site at datum 1.00 ft higher.

REMARKS.--Records good. 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	6.2	13	257	126	128	169	195	1120	243	135	47	4.6
2	6.1	11	170	119	122	155	169	920	176	145	39	3.9
3	6.0	12	130	114	114	147	151	659	147	114	29	5.1
4	5.8	13	130	107	114	136	147	526	131	260	25	3.6
5	5.5	12	113	106	123	124	133	397	119	261	21	3.5
6	5.4	11	96	256	119	117	121	314	110	198	19	3.2
7	5.7	14	82	1030	115	111	113	660	95	152	17	3.0
8	5.8	20	74	2350	131	119	177	1270	87	129	15	4.3
9	5.1	26	71	1670	180	275	1250	876	120	112	14	2.8
10	6.1	23	365	1040	260	384	1980	546	143	97	17	2.8
11	4.0	21	566	673	771	321	1290	382	413	84	37	2.8
12	5.4	21	367	483	1050	245	714	296	961	73	34	2.8
13	5.0	20	265	384	696	210	475	448	2310	66	28	2.8
14	4.5	117	208	304	474	192	370	963	2030	61	21	2.7
15	6.0	112	169	265	344	168	298	518	3190	59	19	2.6
16	8.4	85	142	236	324	149	3550	343	2200	58	16	2.6
17	8.7	63	126	207	477	145	6310	263	1550	52	13	3.1
18	5.9	53	112	182	714	160	3110	217	820	48	13	2.6
19	5.9	48	100	163	912	187	1710	185	559	48	9.8	3.5
20	8.0	45	90	147	739	259	1330	181	418	386	8.5	2.8
21	8.0	44	82	134	525	583	911	250	318	127	7.7	4.1
22	14	165	116	126	400	915	653	214	265	97	7.1	2.9
23	15	154	187	215	337	840	561	382	271	70	6.8	3.9
24	11	117	238	304	288	608	455	515	238	58	6.3	5.8
25	11	90	497	265	239	446	361	672	194	53	9.8	3.6
26	23	78	473	223	211	352	310	336	165	43	16	3.3
27	66	68	337	197	201	288	371	241	147	37	8.5	2.7
28	29	59	257	181	185	251	325	193	131	35	5.3	2.6
29	26	55	215	169	---	221	292	165	133	31	6.9	2.6
30	20	134	191	155	---	196	719	177	137	55	6.1	2.6
31	16	---	158	140	---	181	---	195	---	81	6.6	---
TOTAL	358.5	1704	6384	12071	10293	8654	28551	14424	17821	3225	529.4	99.2
MEAN	11.6	56.8	206	389	368	279	952	465	594	104	17.1	3.31
MAX	66	165	566	2350	1050	915	6310	1270	3190	386	47	5.8
MIN	4.0	11	71	106	114	111	113	165	87	31	5.3	2.6
CFSM	.05	.23	.83	1.56	1.48	1.12	3.82	1.87	2.39	.42	.07	.01
IN.	.05	.25	.95	1.80	1.54	1.29	4.27	2.15	2.66	.48	.08	.01

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

	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	49.3	113	253	388	422	496	401	329	230	104	76.6	61.3																																																												
MAX	606	827	784	1510	1078	1712	1190	1731	791	519	633	831																																																												
(WY)	1927	1973	1951	1949	1951	1945	1940	1968	1981	1973	1980	1979																																																												
MIN	.59	1.11	2.09	5.06	8.06	28.9	57.3	20.6	7.42	.82	.47	.16																																																												
(WY)	1931	1954	1954	1931	1954	1931	1941	1941	1934	1930	1930	1953																																																												

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1927 - 1998
ANNUAL TOTAL	99158.1	104114.1	
ANNUAL MEAN	272	285	243
HIGHEST ANNUAL MEAN			442
LOWEST ANNUAL MEAN			56.1
HIGHEST DAILY MEAN	4620	6310	14400
LOWEST DAILY MEAN	4.0	2.6	.00
ANNUAL SEVEN-DAY MINIMUM	5.1	2.7	.04
INSTANTANEOUS PEAK FLOW		7460	21700
INSTANTANEOUS PEAK STAGE		10.93	14.28
INSTANTANEOUS LOW FLOW		2.5	.00
ANNUAL RUNOFF (CFSM)	1.09	1.15	.97
ANNUAL RUNOFF (INCHES)	14.81	15.55	13.24
10 PERCENT EXCEEDS	627	672	605
50 PERCENT EXCEEDS	114	131	80
90 PERCENT EXCEEDS	14	5.5	4.5

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

# SURFACE-WATER RECORDS

## Scioto River Basin

### 03232500 ROCKY FORK NEAR BARRETT'S MILLS, OHIO

LOCATION.--Lat 39°13'06", long 83°23'08", Highland County, Hydrologic Unit 05060003, on left bank at downstream side of highway bridge, 1.1 mi north of Barretts Mills, 2 mi east of Rainsboro, 2.8 mi upstream from mouth, and 6 mi downstream from Rocky Fork Lake.

DRAINAGE AREA.--140 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1939 to current year.

REVISED RECORDS.--WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 770.8 ft above sea level (levels by U.S. Army Corps of Engineers.) Prior to Feb. 15, 1940, nonrecording gage at same site and datum.

REMARKS.--Records fair except for periods of estimated record, which are poor. Flow regulated by Rocky Fork Lake 6 mi upstream, since 1952, capacity, 34,100 acre-ft. Water-quality data collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum gage height, 15.56 ft Mar. 6, 1945.

REVISIONS.--The maximum discharge for the water year 1995 has been revised to 3,700 ft<sup>3</sup>/s, May 18, 1995, gage height 9.01 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	1.5	59	81	41	74	83	157	1600	61	42	61	19
2	e1.5	9.3	62	35	70	80	148	291	54	33	43	16
3	14	8.4	52	32	62	75	129	317	43	27	33	14
4	1.7	9.0	58	30	67	69	126	332	36	49	25	14
5	2.6	8.9	54	31	93	71	114	271	36	54	21	13
6	2.2	9.3	44	332	92	69	107	221	39	47	17	12
7	2.3	10	35	1180	89	66	93	305	35	39	15	12
8	2.3	13	28	2070	85	87	203	716	28	68	12	14
9	3.7	13	26	822	88	271	1390	383	43	50	13	13
10	5.7	11	111	246	118	309	1420	206	307	38	19	11
11	90	11	142	211	471	229	326	185	577	28	44	11
12	48	11	108	186	1060	e190	279	164	870	20	43	11
13	6.1	13	84	176	560	e160	232	146	739	17	33	11
14	7.4	20	63	151	260	143	205	336	284	16	27	11
15	7.3	11	50	143	218	120	191	300	856	17	23	10
16	7.5	e10	42	132	200	106	1440	227	701	18	20	10
17	7.5	e9.4	35	122	227	103	1800	174	e400	21	17	9.7
18	7.5	e9.0	30	113	448	110	614	139	298	20	18	9.8
19	7.5	8.8	28	103	509	118	520	119	277	19	15	10
20	7.6	8.9	26	90	354	232	393	113	229	58	12	11
21	7.7	9.6	23	80	196	254	350	145	187	64	10	20
22	8.1	17	39	79	182	342	306	127	166	51	9.7	97
23	8.6	18	57	138	170	353	266	312	151	42	9.8	41
24	9.2	19	70	159	155	311	221	488	132	32	9.9	28
25	11	18	189	149	137	253	184	504	116	25	31	23
26	13	18	176	135	124	216	195	118	99	20	57	21
27	15	17	148	125	118	181	354	119	79	16	39	19
28	12	16	91	114	e100	160	294	113	63	14	29	17
29	11	16	73	108	---	140	242	102	50	13	33	14
30	11	33	65	95	---	129	1510	86	52	69	28	13
31	11	---	51	83	---	119	---	78	---	95	23	---
TOTAL	351.5	444.6	2141	7511	6327	5149	13809	8737	7008	1122	790.4	535.5
MEAN	11.3	14.8	69.1	242	226	166	460	282	234	36.2	25.5	17.9
MAX	90	59	189	2070	1060	353	1800	1600	870	95	61	97
MIN	1.5	8.4	23	30	62	66	93	78	28	13	9.7	9.7

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1998, BY WATER YEAR (WY)

	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	54.6	102	169	185	244	296	264	212	111	77.2	57.7	61.1																																			
MAX	263	514	631	535	663	1024	627	810	365	379	307	542																																			
(WY)	1991	1973	1991	1952	1956	1963	1970	1968	1957	1954	1958	1965																																			
MIN	1.95	3.97	6.16	13.4	11.3	17.2	24.2	33.2	6.22	3.69	4.95	1.88																																			
(WY)	1965	1964	1954	1977	1954	1983	1971	1976	1988	1964	1986	1964																																			

#### SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR				FOR 1998 WATER YEAR				WATER YEARS 1952 - 1998			
ANNUAL TOTAL	52914.9				53926.0							
ANNUAL MEAN	145				148				154			
HIGHEST ANNUAL MEAN									259			
LOWEST ANNUAL MEAN									56.5			
HIGHEST DAILY MEAN	5980				Mar 2				2070			
LOWEST DAILY MEAN	1.5				Oct 1				1.5			
ANNUAL SEVEN-DAY MINIMUM	2.9				Oct 4				2.9			
INSTANTANEOUS PEAK FLOW									2670			
INSTANTANEOUS PEAK STAGE									7.67			
INSTANTANEOUS LOW FLOW									1.5			
10 PERCENT EXCEEDS	255				321				350			
50 PERCENT EXCEEDS	42				63				61			
90 PERCENT EXCEEDS	7.5				10				8.7			

e Estimated.

**SURFACE-WATER RECORDS  
Scioto River Basin**

**03234000 PAINT CREEK NEAR BOURNEVILLE, OHIO**

LOCATION.--Lat 39°15'49", long 83°10'01", Ross County, Hydrologic Unit 05060003, on upstream side of left abutment of highway bridge, 0.2 mi downstream from Sulfur Lick, 1.2 mi southwest of Bourneville, and 1.2 mi upstream from Upper Twin Creek.

DRAINAGE AREA.--807 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1921 to January 1937, January 1938 to current year (station discontinued). Monthly discharge only for some periods, published in WSP 1305. Published as "at Bainbridge" October 1921 to September 1923 and as "near Bainbridge" January 1938 to May 1939.

REVISED RECORDS.--WRD OH-72-1: 1971. WRD OH-76-1: 1993, 1994-95(M).

GAGE.--Water-stage recorder. Datum of gage is 665.56 ft above sea level. See WSP 1725 for history of changes prior to May 3, 1939.

REMARKS.--Records fair except for periods of estimated record, which are poor. Flow regulated by Paint Creek Lake 17 mi upstream since 1971, capacity 145,000 acre-ft and Rocky Fork Lake 23 mi upstream since 1952, capacity, 34,100 acre-ft. Water-quality and sediment data collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 56,900 ft<sup>3</sup>/s Mar. 10, 1964, gage height, 20.50 ft, from rating curve extended above 30,000 ft<sup>3</sup>/s on basis of contracted-opening measurement at gage height 20.08 ft; minimum daily, 5 ft<sup>3</sup>/s Oct. 29, 1965.

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	57	150	441	238	466	e580	702	4570	819	539	328	62
2	56	167	744	341	450	e540	715	3280	1090	416	300	57
3	56	134	689	339	371	e500	554	2950	929	404	223	52
4	97	131	413	286	376	e470	466	3070	416	439	125	51
5	40	62	528	194	401	e440	444	2890	338	725	110	51
6	30	49	378	e1000	395	e410	371	3150	433	984	103	46
7	27	50	351	e3500	495	e380	208	2350	423	513	97	45
8	28	320	335	4900	510	e380	270	2210	380	428	94	45
9	27	416	302	6310	387	e600	1760	2590	283	333	95	43
10	27	185	400	5350	530	e1500	3220	3360	839	314	102	42
11	31	78	1020	4880	1920	e1100	1660	2890	1910	300	126	51
12	91	72	1970	2400	4160	1260	1500	1470	4300	287	140	59
13	62	72	1170	1420	3700	885	2170	938	5290	262	206	56
14	31	105	965	1120	3060	634	2960	1070	5380	189	200	55
15	23	298	528	971	1750	600	2810	1410	6070	149	193	49
16	21	305	256	797	1160	572	4030	1320	4930	154	180	44
17	19	456	272	766	1510	552	3030	1260	4570	142	107	44
18	196	607	349	658	2040	454	1120	1210	5180	142	98	44
19	329	269	334	475	2280	511	1080	1310	5280	142	96	44
20	131	170	257	425	2090	676	1210	1260	5290	298	76	45
21	95	202	248	484	e1800	1400	5070	851	4630	802	64	47
22	126	378	271	546	e1400	2450	5360	832	1920	1000	59	98
23	127	350	484	497	e1200	2980	5550	1460	849	503	54	90
24	129	431	660	556	e1000	2220	5460	2460	694	243	50	61
25	134	547	854	919	e900	1970	5390	3510	974	218	e49	46
26	141	412	1020	1460	e800	1490	5140	2450	946	201	e54	40
27	152	310	1350	776	e680	844	5450	1020	788	161	e60	36
28	136	267	1450	691	e620	797	5370	683	436	147	e74	33
29	135	170	1160	588	---	761	5010	635	298	97	79	97
30	133	192	723	563	---	715	4700	482	301	88	75	36
31	133	---	379	479	---	582	---	490	---	258	67	---
TOTAL	2820	7355	20310	43929	36451	29253	82780	59431	65986	10878	3684	1569
MEAN	91.0	245	655	1417	1302	944	2759	1917	2200	351	119	52.3
MAX	329	607	1970	6310	4160	2980	5550	4570	6070	1000	328	98
MIN	19	49	248	194	371	380	208	482	283	88	49	33

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1998, BY WATER YEAR (WY)

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	314	680	1122	1198	1456	1722	1472	1356	885	433	298	243																	
MAX	1446	2628	3159	2744	2982	4070	3087	4175	3103	1490	1827	2838																	
(WY)	1991	1986	1991	1991	1990	1975	1989	1996	1996	1980	1980	1979																	
MIN	40.0	75.0	41.9	37.8	211	213	151	95.7	59.9	55.0	40.7	34.6																	
(WY)	1988	1992	1988	1977	1987	1983	1976	1976	1988	1991	1991	1983																	

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1971 - 1998	
ANNUAL TOTAL	356161		364437			
ANNUAL MEAN	976		998			
HIGHEST ANNUAL MEAN					929	
LOWEST ANNUAL MEAN					1407	1996
HIGHEST DAILY MEAN	9710		Mar 2	6310	Jan 9	10100
LOWEST DAILY MEAN	19		Oct 17	19	Oct 17	19
ANNUAL SEVEN-DAY MINIMUM	30		Oct 5	30	Oct 5	25
INSTANTANEOUS PEAK FLOW			7350		Jun 15	20300
INSTANTANEOUS PEAK STAGE			10.29		Jun 15	16.08
INSTANTANEOUS LOW FLOW			19		Oct 17	19
10 PERCENT EXCEEDS	2890		3040		2600	
50 PERCENT EXCEEDS	400		439		400	
90 PERCENT EXCEEDS	57		53		61	

e Estimated.

## SURFACE-WATER RECORDS

## Scioto River Basin

## 03234300 PAINT CREEK AT CHILLICOTHE, OHIO

LOCATION.--Lat 39°19'13", long 82°58'42", Ross County, Hydrologic Unit 05060003, on left bank at downstream side of bridge on State Highway 772, 4.3 mi downstream from North Fork Paint Creek and 3.8 mi upstream from mouth.  
DRAINAGE AREA.--1,136 mi<sup>2</sup>.

## WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1985 to current year.

REVISED RECORDS.--WDR-OH-88-1: 1986(M), 1987(M).

GAGE.--Water-stage recorder. Datum of gage is 600 ft above sea level, from topographic map.

REMARKS.--Records fair except for period of estimated record, which are poor. Flow regulated by Paint Creek Lake, 35 mi upstream, capacity 145,000 acre-ft, and Rocky Fork Lake 41 mi upstream, capacity 34,100 acre-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	52	198	689	932	1010	1290	1350	7730	1650	1200	642	98
2	50	227	751	880	996	1210	1440	6130	1750	1030	650	87
3	49	200	775	867	920	1160	1250	4830	1660	971	529	78
4	71	194	549	852	892	1040	1110	4930	1160	1170	342	75
5	78	163	590	744	944	1020	1070	4180	918	1360	261	74
6	59	112	472	1270	957	996	1030	4190	1030	1770	232	70
7	52	106	405	3520	1070	981	788	3760	1020	1190	188	68
8	50	112	379	10100	1190	1020	941	4590	996	1030	174	60
9	47	369	363	8970	1200	1580	4250	3720	843	910	164	54
10	46	396	924	7070	1390	2200	6650	4390	1200	815	164	50
11	45	149	1280	6220	3150	1930	3420	4110	2270	764	549	49
12	80	125	2710	3780	6320	2000	2580	2470	5730	725	376	68
13	88	118	1870	2330	5160	1630	2670	1880	10400	695	396	65
14	80	243	1660	1860	4130	1290	3790	1710	7380	548	414	64
15	56	358	1210	1720	2860	1220	3470	2180	10800	438	396	63
16	50	366	858	1470	2070	1170	9290	2060	e8000	420	386	54
17	47	355	786	1410	2500	1150	9590	1960	e7400	389	278	48
18	47	601	859	1340	3640	1110	3210	1870	e7000	357	190	48
19	229	366	858	1100	4010	1180	3220	1870	e6600	349	172	48
20	286	254	793	1050	3830	1350	2920	2090	e6400	867	150	49
21	114	234	747	988	3380	2540	5710	1570	6140	1200	113	55
22	171	710	783	1100	2890	4250	6550	1520	3200	1500	96	84
23	176	596	1020	1180	1870	4270	6860	1920	1770	1110	89	167
24	179	455	1220	1320	1780	3710	6660	3130	1400	686	83	96
25	194	575	1590	1320	1720	2860	6540	4660	1670	533	91	65
26	201	480	1570	2110	1600	2460	6270	3740	1620	485	315	55
27	256	370	1620	1430	1340	1760	6930	2010	1540	401	234	49
28	245	343	1610	1320	1270	1560	6590	1390	1130	344	158	43
29	221	270	1700	1170	---	1490	6200	1350	1030	278	142	40
30	210	309	1350	1140	---	1420	6160	1200	886	237	131	40
31	201	---	1100	1050	---	1280	---	1160	---	460	116	---
TOTAL	3730	9354	33091	71613	64089	54127	128509	94300	104593	24232	8221	1964
MEAN	120	312	1067	2310	2289	1746	4284	3042	3486	782	265	65.5
MAX	286	710	2710	10100	6320	4270	9590	7730	10800	1770	650	167
MIN	45	106	363	744	892	981	788	1160	843	237	83	40

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

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	346	773	1365	1760	2227	2424	2241	2365	1475	660	359	144	463
MAX	2106	3368	5202	3533	3781	5148	4375	6366	4266	1687	1156	65.5	1990
(WY)	1991	1986	1991	1996	1994	1997	1994	1996	1996	1990	1990	1990	1998
MIN	48.2	90.7	62.8	298	310	458	376	239	94.4	83.7	61.5	65.5	1998
(WY)	1988	1988	1988	1988	1987	1987	1986	1988	1988	1988	1986	1998	1998

## SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1986 - 1998	
ANNUAL TOTAL	504303		597823			
ANNUAL MEAN	1382		1638		1340	
HIGHEST ANNUAL MEAN					2178	
LOWEST ANNUAL MEAN					483	
HIGHEST DAILY MEAN	23600		Mar 2		10800	
LOWEST DAILY MEAN	45		Oct 11		40	
ANNUAL SEVEN-DAY MINIMUM	54		Oct 5		52	
INSTANTANEOUS PEAK FLOW					13700	
INSTANTANEOUS PEAK STAGE					17.70	
INSTANTANEOUS LOW FLOW					40	
10 PERCENT EXCEEDS	3740		4320		3790	
50 PERCENT EXCEEDS	743		1020		575	
90 PERCENT EXCEEDS	129		73		75	

e Estimated.

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

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**03234300 PAINT CREEK AT CHILLICOTHE, OHIO—Continued**

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years October 1985 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: October 1985 to current year.

pH: October 1985 to current year.

WATER TEMPERATURES: October 1985 to current year.

DISSOLVED OXYGEN: October 1985 to current year.

INSTRUMENTATION.--Water-quality monitor since Oct. 1985. Electronic data logger. Set for 1-hour intervals.

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

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 980 microsiemens Dec. 9, 11, 1989; minimum, 110 microsiemens Oct. 17, 1989.

pH: Maximum, 9.0 units May 24, 1986; minimum, 7.1 units July 26, 1992.

WATER TEMPERATURES: Maximum, 31.5°C July 17, Aug. 18, 1988; minimum 0.0°C on many days during winters.

DISSOLVED OXYGEN: Maximum, 19.2 mg/L Feb. 11, 13, 1987; minimum recorded, 3.8 mg/L Aug. 16, 1986.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 668 microsiemens Jan. 5; minimum, 212 microsiemens Apr. 17.

pH: Maximum, 8.5 units July 27, Aug. 1, and 3; minimum 7.5 units Apr. 21.

WATER TEMPERATURE: Maximum, 28.5°C July 22, Aug. 7, and 8; minimum, 1.0°C Jan. 1.

DISSOLVED OXYGEN: Maximum, 15.0 mg/L Jan. 22; minimum, 5.5 mg/L June 6.

**SURFACE-WATER RECORDS  
Scioto River Basin**

**03234300 PAINT CREEK AT CHILLICOTHE, OHIO—Continued**

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	591	579	585	484	481	482	549	480	504	635	552	584
2	586	581	583	490	473	480	528	488	505	584	572	574
3	585	580	583	482	474	477	539	527	532	620	573	601
4	589	573	585	501	482	490	561	539	550	613	600	606
5	583	570	577	496	486	489	544	507	526	668	602	620
6	583	572	579	512	496	504	533	510	526	617	480	560
7	574	562	569	523	510	517	535	528	531	522	326	470
8	571	563	567	531	520	525	543	528	537	340	264	290
9	574	566	570	529	457	476	557	536	547	378	319	363
10	584	572	578	478	458	465	557	404	502	380	341	368
11	582	570	578	505	478	493	443	419	430	433	380	416
12	587	567	581	525	504	517	552	441	521	504	430	454
13	590	569	582	528	479	519	552	509	527	485	472	481
14	588	553	564	586	500	534	610	505	563	508	478	490
15	554	545	551	559	465	504	576	564	569	544	506	524
16	548	535	544	466	440	451	583	566	576	564	543	549
17	544	535	541	470	445	452	586	569	582	551	541	545
18	554	542	549	488	420	441	569	544	551	570	541	549
19	562	459	515	463	437	450	581	543	562	573	565	569
20	466	440	459	500	462	479	589	579	584	567	547	553
21	494	466	482	529	492	510	594	584	587	591	554	561
22	498	479	488	536	463	494	586	571	580	585	552	565
23	482	469	475	515	476	504	591	573	582	588	576	583
24	472	464	470	525	503	514	576	564	572	581	550	560
25	480	465	473	503	484	489	576	525	546	550	524	536
26	482	440	472	509	491	501	529	514	522	589	524	565
27	541	471	495	518	508	513	579	526	556	594	574	588
28	541	519	533	529	517	523	570	552	561	649	569	576
29	519	501	510	558	528	543	560	544	552	580	570	576
30	503	495	500	562	542	553	647	549	572	570	566	568
31	502	478	488	---	---	---	568	546	560	575	565	568
MONTH	591	440	536	586	420	496	647	404	546	668	264	529

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	571	558	564	568	549	563	582	558	570	366	305	332
2	582	563	572	570	548	563	569	551	558	388	345	375
3	587	576	584	589	570	577	572	555	565	420	383	393
4	645	568	585	599	579	590	563	547	557	406	365	384
5	580	566	572	579	567	572	549	540	547	410	383	401
6	582	568	576	574	567	570	561	549	554	435	409	419
7	586	574	580	573	567	571	583	561	574	450	433	440
8	594	576	586	577	562	571	584	521	557	455	351	385
9	578	557	572	562	461	521	526	302	381	443	374	415
10	557	490	532	481	456	468	356	290	311	479	443	466
11	499	413	450	508	481	493	487	356	437	472	456	462
12	465	381	414	532	507	524	489	452	468	487	470	481
13	465	419	445	531	518	523	452	427	444	510	487	501
14	448	416	431	565	522	531	470	428	450	516	490	509
15	459	443	452	565	539	545	456	373	450	490	476	483
16	488	459	475	557	541	545	434	214	314	493	488	490
17	484	476	481	568	554	559	352	212	272	495	489	492
18	483	422	456	566	556	561	426	352	390	496	485	490
19	454	422	431	558	543	549	428	351	403	489	475	485
20	496	454	482	556	529	547	412	356	377	476	463	470
21	510	494	501	529	441	496	412	375	388	481	465	473
22	524	506	511	493	436	465	384	360	373	483	472	477
23	529	518	524	505	490	497	366	353	359	473	443	458
24	536	525	531	496	460	471	362	354	357	472	419	451
25	555	534	542	478	449	470	368	344	356	454	425	445
26	560	533	551	516	478	490	382	352	368	468	439	450
27	580	559	573	543	516	533	382	351	369	481	468	473
28	576	568	574	536	527	533	377	356	365	504	481	497
29	---	---	---	550	536	543	412	365	390	507	496	501
30	---	---	---	585	549	568	416	315	365	527	507	518
31	---	---	---	587	577	582	---	---	---	539	526	533
MONTH	645	381	520	599	436	535	584	212	429	539	305	456



**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03234300 PAINT CREEK AT CHILLICOTHE, OHIO—Continued**

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	526	318	427	543	502	530	541	463	505	---	---	---	
2	477	426	465	551	525	545	479	463	472	---	---	---	
3	483	466	475	558	548	554	487	466	474	---	---	---	
4	527	483	510	548	489	526	507	487	500	---	---	---	
5	554	527	544	521	498	512	526	507	520	567	559	562	
6	554	533	543	541	506	522	546	525	539	565	560	563	
7	546	531	537	564	541	557	555	539	548	568	559	564	
8	544	538	541	572	539	559	554	540	546	564	547	560	
9	562	543	555	540	535	537	550	533	542	562	545	552	
10	555	525	545	549	540	546	554	536	546	555	546	549	
11	526	365	470	549	542	546	---	---	---	559	550	555	
12	413	365	382	550	540	546	499	434	461	563	556	559	
13	416	284	316	551	538	547	515	498	508	562	555	558	
14	416	342	404	571	544	560	510	469	489	559	551	556	
15	410	275	324	580	568	575	485	470	478	555	532	544	
16	323	297	315	592	575	585	490	482	487	540	525	536	
17	---	---	---	597	590	594	501	490	497	536	525	531	
18	---	---	---	601	538	590	523	501	516	537	530	533	
19	---	---	---	588	571	580	544	523	536	548	535	541	
20	---	---	---	---	---	---	551	539	544	545	530	541	
21	401	361	377	502	463	469	---	---	---	540	515	533	
22	457	401	425	520	502	513	---	---	---	547	534	541	
23	480	457	472	523	516	520	---	---	---	547	510	524	
24	509	480	499	526	513	517	---	---	---	512	491	500	
25	504	465	474	540	526	536	---	---	---	495	489	492	
26	475	467	471	536	519	531	---	---	---	506	492	501	
27	496	473	483	532	520	526	---	---	---	524	505	516	
28	525	496	516	---	---	---	---	---	---	524	516	520	
29	---	---	---	---	---	---	---	---	---	523	516	519	
30	---	---	---	575	556	564	---	---	---	527	517	520	
31	---	---	---	575	503	543	---	---	---	---	---	---	
MONTH	562	275	461	601	463	544	555	434	511	568	489	537	
YEAR	668	212	509										

PH, WATER, WHOLE, FIELD, STANDARD UNITS, 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	8.0	7.9	7.9	8.2	8.0	8.1	8.0	7.9	8.0	8.2	8.2	8.2	
2	8.1	7.9	8.0	8.2	7.9	8.0	8.1	8.0	8.1	8.2	8.2	8.2	
3	8.0	7.9	8.0	8.1	7.9	8.0	8.2	8.1	8.2	8.2	8.1	8.2	
4	8.0	7.9	7.9	8.2	8.0	8.1	8.1	8.1	8.1	8.2	8.1	8.2	
5	8.0	7.9	7.9	8.2	8.0	8.1	8.2	8.1	8.1	8.2	8.1	8.2	
6	8.0	7.9	7.9	8.2	8.0	8.1	8.3	8.2	8.2	8.1	8.0	8.1	
7	8.0	7.8	7.9	8.2	8.0	8.0	8.3	8.2	8.2	8.1	7.8	8.0	
8	8.0	7.8	7.9	8.1	7.9	8.0	8.3	8.2	8.2	7.9	7.8	7.8	
9	8.0	7.8	7.9	8.1	7.9	8.0	8.2	8.1	8.2	8.0	7.8	7.9	
10	7.9	7.8	7.9	8.1	7.9	8.0	8.2	7.8	8.0	7.8	7.8	7.8	
11	8.0	7.8	7.9	8.1	7.9	8.0	8.0	7.8	7.9	7.9	7.8	7.8	
12	8.0	7.9	7.9	8.2	8.0	8.1	8.2	8.0	8.1	7.9	7.9	7.9	
13	8.0	7.9	7.9	8.2	8.1	8.2	8.2	8.1	8.1	8.0	7.9	8.0	
14	8.0	7.8	7.9	8.1	8.0	8.1	8.2	8.1	8.1	8.1	8.0	8.0	
15	8.1	7.9	8.0	8.1	8.0	8.0	8.2	8.1	8.2	8.1	8.0	8.0	
16	8.2	8.0	8.0	8.2	8.1	8.1	8.1	8.1	8.1	8.1	8.0	8.1	
17	8.1	8.0	8.1	8.3	8.1	8.2	8.1	8.1	8.1	8.1	8.1	8.1	
18	8.1	8.0	8.0	8.2	8.1	8.2	8.2	8.1	8.1	8.1	8.1	8.1	
19	8.1	7.9	8.0	8.3	8.1	8.2	8.2	8.1	8.1	8.1	8.1	8.1	
20	8.1	7.9	8.0	8.3	8.1	8.2	8.2	8.1	8.2	8.1	8.1	8.1	
21	8.1	7.9	8.0	8.2	8.1	8.1	8.2	8.1	8.2	8.1	8.1	8.1	
22	8.2	8.0	8.1	8.1	7.9	8.0	8.2	8.1	8.1	8.1	8.1	8.1	
23	8.2	8.1	8.1	8.1	7.9	8.0	8.2	8.1	8.1	8.1	8.1	8.1	
24	8.2	8.0	8.1	8.2	8.1	8.1	8.2	8.1	8.2	8.1	8.1	8.1	
25	8.2	8.0	8.1	8.3	8.2	8.2	8.2	8.1	8.1	8.1	8.1	8.1	
26	8.1	7.9	8.0	8.3	8.1	8.2	8.2	8.1	8.1	8.2	8.1	8.2	
27	8.1	7.9	8.0	8.3	8.1	8.2	8.2	8.2	8.2	8.2	8.2	8.2	
28	8.1	8.0	8.1	8.3	8.1	8.2	8.2	8.2	8.2	8.2	8.2	8.2	
29	8.2	8.0	8.1	8.3	8.1	8.2	8.2	8.2	8.2	8.2	8.1	8.1	
30	8.2	8.0	8.1	8.2	8.0	8.1	8.2	8.2	8.2	8.2	8.1	8.2	
31	8.2	8.0	8.1	---	---	---	8.2	8.2	8.2	8.2	8.1	8.2	
MONTH	8.2	7.8	8.0	8.3	7.9	8.1	8.3	7.8	8.1	8.2	7.8	8.1	



**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03234300 PAINT CREEK AT CHILLICOTHE, OHIO—Continued**

TEMPERATURE, WATER (DEG. C), 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	18.5	17.0	17.5	12.0	10.5	11.5	10.0	7.5	8.5	2.0	1.0	1.5
2	18.0	14.5	16.5	12.0	11.0	11.5	7.5	6.0	7.0	3.5	2.0	3.0
3	19.0	15.0	16.5	11.0	9.5	10.0	7.5	6.0	6.5	6.0	3.5	5.0
4	20.5	16.5	18.0	9.5	8.5	9.0	7.5	7.0	7.5	7.0	6.0	6.5
5	21.0	18.0	19.5	10.5	8.0	9.0	7.0	5.0	6.0	8.0	6.5	7.0
6	22.0	18.5	20.0	9.5	8.0	9.0	5.0	3.0	3.5	9.5	8.0	9.0
7	21.5	19.0	20.0	9.5	9.0	9.0	3.0	3.0	3.0	10.0	8.0	8.5
8	22.0	19.0	20.5	9.5	9.0	9.0	3.5	3.0	3.5	10.0	8.0	9.5
9	21.5	19.0	20.5	10.5	9.0	9.5	4.0	3.5	3.5	9.0	8.0	9.0
10	22.5	20.0	21.0	10.0	9.5	10.0	5.5	4.0	5.0	8.5	8.0	8.5
11	20.5	18.0	19.5	10.0	9.0	9.5	5.5	5.0	5.0	8.0	7.0	7.5
12	19.0	16.5	18.0	9.0	6.5	8.0	5.0	4.0	4.5	7.0	6.0	6.5
13	20.5	18.0	19.0	6.5	6.0	6.0	4.5	3.5	4.0	6.5	5.5	6.5
14	19.5	17.0	18.5	6.5	5.5	6.0	4.0	3.5	4.0	5.5	4.0	4.5
15	17.0	14.5	16.0	5.5	5.0	5.5	3.5	2.5	3.0	5.0	4.5	4.5
16	15.5	13.0	14.0	5.0	4.0	4.5	3.5	2.0	3.0	5.0	4.5	4.5
17	15.0	13.0	14.0	4.5	3.0	4.0	4.0	2.5	3.0	4.5	4.0	4.5
18	14.5	13.0	13.5	5.0	3.0	4.0	3.5	2.5	3.0	4.0	3.5	4.0
19	14.5	12.0	13.0	5.5	4.0	5.0	4.5	3.0	3.5	4.0	3.0	3.5
20	15.5	12.0	14.0	7.0	5.0	6.0	5.0	4.0	4.5	3.0	2.5	3.0
21	14.0	11.5	12.5	7.0	6.0	6.5	5.5	4.5	5.0	3.0	2.5	2.5
22	12.0	10.0	11.0	7.0	6.5	7.0	6.0	5.0	5.5	4.5	3.0	3.5
23	10.5	8.0	9.5	7.0	5.5	6.5	6.0	5.5	6.0	5.0	4.5	4.5
24	10.0	8.5	9.0	5.5	4.0	5.0	5.5	5.5	5.5	4.5	4.0	4.5
25	11.5	9.5	10.5	5.5	3.5	4.5	6.0	5.5	6.0	4.0	3.5	3.5
26	12.5	11.0	11.5	6.5	5.5	6.0	5.5	4.5	5.0	3.5	2.5	3.0
27	12.0	10.0	11.0	6.5	5.5	6.0	4.5	4.0	4.5	4.0	3.0	3.5
28	11.0	9.0	10.0	8.5	5.5	7.0	4.0	3.0	3.5	5.0	3.5	4.0
29	11.0	8.0	9.5	10.0	8.5	9.0	3.5	3.0	3.5	4.5	3.5	4.5
30	11.5	8.5	10.0	10.5	9.5	10.0	3.5	3.0	3.0	4.5	4.0	4.5
31	12.0	9.5	11.0	---	---	---	3.0	2.0	2.5	5.0	3.5	4.0
MONTH	22.5	8.0	15.0	12.0	3.0	7.5	10.0	2.0	4.5	10.0	1.0	5.1

TEMPERATURE, WATER (DEG. C), 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	4.5	3.0	3.5	9.5	8.5	9.0	17.5	15.5	16.5	15.0	14.0	14.5
2	5.5	4.0	4.5	9.0	8.0	8.5	16.0	14.0	15.0	15.5	14.5	14.5
3	5.5	5.0	5.0	8.0	6.5	7.0	15.0	13.0	13.5	17.0	14.0	15.5
4	5.0	2.0	3.5	7.0	6.5	6.5	13.5	11.5	12.5	16.0	14.0	15.0
5	2.0	1.5	1.5	6.5	6.0	6.5	13.5	10.0	11.5	17.0	15.0	16.0
6	3.5	1.5	2.5	7.5	5.5	6.5	14.5	11.0	13.0	17.0	15.0	16.0
7	4.0	2.5	3.0	9.0	7.0	8.0	14.0	12.0	13.0	16.5	15.5	15.5
8	4.0	2.5	3.0	10.0	8.5	9.5	16.0	13.0	14.5	17.0	15.5	16.0
9	4.0	2.5	3.5	10.0	8.0	9.5	15.5	12.5	14.0	17.5	16.5	17.0
10	5.0	3.5	4.0	8.0	5.0	6.0	12.5	11.0	11.5	18.0	16.0	17.0
11	5.0	4.5	4.5	5.0	3.5	4.0	13.5	11.0	12.5	17.5	16.5	17.0
12	4.5	4.5	4.5	5.0	3.0	4.0	14.5	12.0	13.0	19.0	16.0	17.5
13	5.0	4.5	4.5	4.5	3.5	4.0	14.0	12.5	13.5	19.5	17.0	18.5
14	5.5	4.5	5.0	6.5	4.5	5.5	14.0	13.5	13.5	21.5	17.5	19.5
15	5.5	4.0	5.0	6.5	4.5	5.5	13.5	13.0	13.5	21.0	19.0	20.0
16	5.5	5.0	5.5	6.5	5.0	5.5	15.5	13.0	14.0	21.0	20.0	20.5
17	6.5	5.5	6.0	6.5	5.5	6.0	16.0	14.0	15.0	21.5	19.0	20.5
18	6.5	6.5	6.5	8.0	6.5	7.0	14.0	12.5	13.0	21.5	19.0	20.5
19	6.5	6.0	6.5	11.0	8.0	9.5	12.5	11.5	12.0	21.5	19.0	20.5
20	6.5	6.0	6.5	10.5	9.0	10.0	14.0	11.0	12.5	22.5	20.5	21.5
21	7.0	6.5	6.5	9.0	5.0	7.0	15.0	13.5	14.0	23.0	21.0	22.0
22	7.5	6.5	7.0	6.0	5.0	5.5	14.5	14.0	14.5	22.0	19.5	20.5
23	7.5	6.5	7.0	7.0	5.5	6.0	14.5	13.5	14.0	20.0	18.0	19.0
24	6.5	5.5	6.0	6.5	5.5	6.0	15.0	13.0	14.0	21.5	19.0	20.0
25	7.5	5.5	6.5	6.5	6.0	6.0	15.0	14.0	14.5	20.5	19.5	20.0
26	8.0	6.5	7.0	10.5	6.5	8.5	15.0	14.0	14.5	21.0	19.5	20.0
27	10.0	7.5	8.5	14.0	10.5	12.5	15.0	13.0	14.0	21.5	19.5	20.5
28	10.0	9.0	9.5	14.5	13.0	14.0	15.5	13.0	14.0	23.0	20.0	21.5
29	---	---	---	16.5	13.5	15.0	15.0	14.0	14.5	23.5	20.5	22.5
30	---	---	---	17.0	14.5	16.0	14.5	14.0	14.5	24.0	22.0	23.0
31	---	---	---	18.0	15.5	17.0	---	---	---	24.0	22.5	23.5
MONTH	10.0	1.5	5.0	18.0	3.0	8.0	17.5	10.0	13.5	24.0	14.0	19.0

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03234300 PAINT CREEK AT CHILLICOTHE, OHIO—Continued**  
TEMPERATURE, WATER (DEG. C), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	23.0	20.0	22.0	25.5	23.5	24.0	26.0	22.5	24.0	---	---	---
2	22.5	21.0	21.5	25.5	23.0	24.0	26.0	23.0	24.5	---	---	---
3	22.0	20.0	21.0	25.5	22.5	23.5	27.0	23.5	25.0	---	---	---
4	21.0	19.5	20.0	24.0	23.0	23.5	27.0	23.5	25.5	---	---	---
5	19.5	17.0	18.0	24.5	22.5	23.5	26.5	24.0	25.5	26.0	21.5	24.0
6	17.5	16.0	16.5	25.5	22.5	24.0	27.5	24.0	26.0	26.5	22.5	24.5
7	18.5	16.0	17.0	25.0	23.5	24.5	28.5	25.0	27.0	26.0	23.5	24.5
8	19.5	17.0	18.0	26.0	24.0	25.0	28.5	25.5	27.0	24.0	20.5	22.5
9	18.5	17.5	18.0	26.5	24.5	25.5	28.0	26.5	27.0	22.5	18.0	20.5
10	21.5	17.0	19.0	26.5	24.0	25.0	---	---	---	23.0	17.5	20.0
11	21.5	19.5	20.5	26.0	23.0	24.5	---	---	---	22.5	18.0	20.5
12	21.5	19.5	20.0	26.0	22.5	24.0	26.5	23.0	24.5	23.5	19.0	21.0
13	21.5	19.5	20.5	26.5	22.5	24.5	26.5	23.5	25.0	24.5	19.5	22.0
14	21.0	20.5	21.0	25.5	24.0	24.5	25.5	23.5	24.5	25.5	21.0	23.0
15	21.0	19.5	20.0	25.0	23.5	24.0	26.5	23.5	25.0	25.0	22.5	24.0
16	---	---	---	24.5	23.0	23.5	27.0	24.0	25.5	26.0	22.5	24.5
17	---	---	---	26.5	23.0	24.5	27.5	24.5	26.0	25.5	23.5	24.5
18	---	---	---	27.0	23.5	25.0	27.5	25.5	26.5	26.5	22.5	24.5
19	---	---	---	27.5	24.0	26.0	26.5	24.0	25.5	26.5	23.0	24.5
20	---	---	---	---	---	---	26.0	22.5	24.5	26.0	23.0	24.5
21	---	---	---	---	---	---	---	---	---	26.5	23.5	24.5
22	23.5	21.5	22.5	28.5	26.0	27.5	---	---	---	25.5	23.5	24.0
23	23.5	22.0	22.5	27.5	26.0	26.5	---	---	---	23.5	20.5	21.5
24	24.5	21.0	22.5	26.5	24.5	25.5	---	---	---	21.0	18.0	19.5
25	26.0	23.5	24.5	26.0	23.0	24.5	---	---	---	22.0	19.5	20.5
26	26.0	24.0	25.0	26.5	23.0	24.5	---	---	---	24.5	21.0	22.5
27	26.5	24.0	25.5	26.5	23.0	24.5	---	---	---	25.0	21.5	23.5
28	27.0	24.5	25.5	27.0	23.0	25.0	---	---	---	25.5	22.0	23.5
29	---	---	---	27.0	24.0	25.0	---	---	---	25.5	20.0	22.5
30	---	---	---	26.5	24.5	25.5	---	---	---	25.0	20.5	22.5
31	---	---	---	25.5	23.0	24.5	---	---	---	---	---	---
MONTH	27.0	16.0	21.0	28.5	22.5	24.5	28.5	22.5	25.5	26.5	17.5	23.0
YEAR	28.5	1.0	13.5									

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	11.5	10.9	11.1	11.2	9.4	10.1	9.1	8.1	8.7
2	11.7	9.9	10.6	11.2	10.4	10.8	9.4	8.3	8.9	10.9	9.1	9.9
3	11.7	8.8	10.4	10.5	10.0	10.2	9.8	8.6	9.1	12.1	10.7	11.3
4	11.4	9.8	10.5	10.5	9.8	10.2	10.1	9.0	9.5	13.3	11.3	12.0
5	11.5	9.3	10.3	11.5	10.2	10.7	9.1	7.9	8.6	12.5	11.2	11.8
6	11.3	9.1	10.1	11.1	10.1	10.6	8.2	7.5	7.7	12.4	12.0	12.3
7	10.8	9.0	9.8	11.0	10.4	10.7	8.2	7.4	7.8	12.9	11.8	12.4
8	11.1	8.9	9.7	10.9	10.5	10.7	8.2	7.8	8.0	12.3	11.5	11.8
9	10.4	8.7	9.5	11.4	10.5	10.9	8.3	7.9	8.1	---	---	---
10	10.4	8.7	9.4	11.0	10.5	10.8	8.7	8.1	8.4	---	---	---
11	10.9	6.6	9.0	11.2	10.6	10.8	9.8	8.4	9.0	---	---	---
12	9.6	7.9	8.6	11.0	10.1	10.6	12.8	8.8	10.7	---	---	---
13	9.9	8.7	9.3	10.8	8.2	9.9	11.6	10.8	11.2	---	---	---
14	9.7	8.4	9.1	10.9	9.9	10.6	11.5	10.8	11.1	14.5	13.5	13.9
15	9.3	8.2	8.8	10.8	10.3	10.5	11.1	9.7	10.4	14.4	11.4	12.9
16	9.1	7.7	8.5	10.8	10.4	10.6	11.1	9.6	10.3	12.3	11.7	11.9
17	9.8	8.5	9.0	11.2	9.5	10.5	11.1	9.7	10.3	12.2	11.5	11.7
18	9.9	8.6	9.2	11.4	10.0	10.5	10.8	9.5	10.2	12.0	11.1	11.7
19	10.0	8.6	9.2	12.3	10.7	11.4	11.9	10.1	10.8	11.8	11.1	11.5
20	10.0	9.0	9.4	12.9	11.4	12.1	11.7	10.6	11.0	12.2	11.1	11.6
21	9.8	8.9	9.3	12.4	11.2	11.7	11.4	10.2	10.8	12.1	11.4	11.6
22	9.6	7.6	8.8	11.6	11.2	11.3	11.6	10.5	11.0	15.0	11.5	12.6
23	10.1	7.8	9.0	11.6	10.7	11.1	12.4	10.9	11.3	14.8	11.5	13.1
24	9.9	9.3	9.6	11.1	9.8	10.5	10.9	10.6	10.7	12.4	11.1	11.6
25	11.2	9.8	10.4	11.5	9.1	10.2	11.0	10.4	10.7	12.4	11.4	11.8
26	10.7	10.2	10.4	11.6	11.0	11.3	10.7	10.1	10.4	12.8	10.8	11.8
27	10.7	10.0	10.3	11.4	10.1	10.8	10.6	9.9	10.3	12.4	11.5	12.0
28	10.8	9.6	10.2	13.2	10.6	11.9	9.9	8.8	9.3	13.1	11.3	12.1
29	11.1	9.5	10.2	12.6	11.8	12.2	10.6	8.7	9.6	13.0	11.6	12.2
30	11.4	9.8	10.5	12.2	10.6	11.6	9.8	9.3	9.5	12.7	11.7	12.2
31	12.0	10.2	11.2	---	---	---	9.6	8.8	9.2	12.7	11.7	12.1
MONTH	12.0	6.6	9.7	13.2	8.2	10.9	12.8	7.4	9.8	15.0	8.1	11.9



SURFACE-WATER RECORDS

Scioto River Basin

03234500 SCIOTO RIVER AT HIGBY, OHIO

LOCATION.--Lat 39°12'44", long 82°51'50", in sec. 6, T.7 N., R.20 W., Ross County, Hydrologic Unit 05060002, on left bank at downstream side of highway bridge, 0.8 mi downstream from Walnut Creek, 1.2 mi north of Higby, 3 mi northwest of Richmondale and 5.0 mi upstream from Salt Creek.  
 DRAINAGE AREA.--5,131 mi<sup>2</sup>.

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.--October 1930 to current year. Monthly discharge only for some periods, published in WSP 1305.  
 REVISED RECORDS.--WSP 893: 1937(M). WSP 1908: Drainage area.  
 GAGE.--Water-stage recorder. Datum of gage is 567.28 ft above sea level. Prior to Nov. 7, 1930, nonrecording gage at same site and datum.  
 REMARKS.--Records excellent except periods of estimated records, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.  
 EXTREMES OUTSIDE PERIOD OF RECORD.--A stage of 31.6 ft occurred Mar. 26, 1913.

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	829	1320	2840	2410	2800	4040	3570	15600	3260	26400	1870	809
2	823	1310	2920	2190	2680	3790	3940	15500	3300	15800	1610	771
3	804	1230	2520	1980	2560	3580	3250	18400	3090	12800	1420	761
4	826	1280	2160	1900	2400	3290	2950	21200	2620	11600	1280	784
5	848	1300	2380	1800	2410	3220	2880	15400	2200	11600	1130	775
6	809	1210	2200	2560	2900	3160	2670	12500	2120	10600	1090	758
7	817	1130	1890	5600	3460	3030	2280	11500	2060	8010	1070	746
8	825	1090	1680	21800	3810	3080	2550	14000	1950	5030	1030	719
9	799	1390	1580	26800	3940	4370	8800	17200	1820	e4300	1140	739
10	795	1780	2290	26400	4110	7100	17600	18200	1990	e3800	1680	817
11	804	1440	6080	23700	5450	9110	14700	12800	3070	e3500	2310	759
12	811	1250	6070	19300	8890	8410	11300	8660	6540	e3200	3310	690
13	855	1160	4350	14500	8860	6500	8990	6550	15300	e3000	2410	652
14	867	1510	4270	10500	7620	4900	8250	5110	14700	e2700	2010	633
15	818	2770	3360	7520	5720	4290	6720	4880	18600	2400	1970	623
16	840	2300	2570	5620	4520	3840	15400	4690	19100	2110	1670	611
17	821	2000	2260	4710	5160	3520	31900	4240	20000	1970	1490	594
18	809	2090	2370	4090	8970	3330	28800	4210	16400	1880	1560	588
19	1010	1790	2280	3590	19100	3710	26800	4100	13800	1710	1320	585
20	1090	1550	2150	3250	22700	4070	20100	3960	11200	2170	1070	581
21	947	1480	1840	3010	16500	6490	18700	3490	9410	2990	955	744
22	1000	2570	1720	2870	13800	13700	19000	3330	7940	3040	882	791
23	1030	3510	2180	2860	10800	15800	17700	3370	5930	2600	841	974
24	1070	2920	2780	3960	8670	14400	15900	4460	4090	2190	816	1070
25	1140	2700	3570	4330	6460	11400	12400	5760	3750	2780	822	810
26	1250	2460	4740	4960	5240	7920	11100	5220	3460	3160	1100	757
27	1590	2100	4680	4310	4570	5770	13100	3600	3100	2740	1710	702
28	2410	1750	5300	4000	4230	4730	14500	2860	3700	2320	1090	636
29	1640	1550	4810	3550	---	4250	12500	2740	e12000	1970	924	970
30	1440	1620	3780	3250	---	3970	11700	2600	e28000	1530	857	899
31	1340	---	2910	3000	---	3590	---	3070	---	1530	842	---
TOTAL	31757	53560	96530	230320	198330	182360	370050	259200	244500	161430	43279	22348
MEAN	1024	1785	3114	7430	7083	5883	12340	8361	8150	5207	1396	745
MAX	2410	3510	6080	26800	22700	15800	31900	21200	28000	26400	3310	1070
MIN	795	1090	1580	1800	2400	3030	2280	2600	1820	1530	816	581

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1998, BY WATER YEAR (WY)

MEAN	1195	2422	4340	6751	7802	9714	8398	6041	4277	2899	1993	1343
MAX	6524	15460	17190	39500	18620	28220	19610	25070	13580	11430	10070	13230
(WY)	1991	1973	1991	1937	1951	1963	1957	1996	1997	1992	1980	1979
MIN	263	304	349	433	518	1375	1485	809	718	518	457	301
(WY)	1931	1935	1935	1931	1954	1941	1941	1941	1934	1944	1936	1953

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1931 - 1998

ANNUAL TOTAL	1911342	1893664										
ANNUAL MEAN		5237								4749		
HIGHEST ANNUAL MEAN										8178		1996
LOWEST ANNUAL MEAN										1364		1954
HIGHEST DAILY MEAN				45100	Mar 2	31900	Apr 17	127000	Jan 23	1959		
LOWEST DAILY MEAN				795	Oct 10	581	Sep 20	244	Oct 23	1930		
ANNUAL SEVEN-DAY MINIMUM				809	Oct 6	602	Sep 14	255	Oct 19	1930		
INSTANTANEOUS PEAK FLOW						33800	Apr 17	177000	Jan 23	1937		
INSTANTANEOUS PEAK STAGE						16.63	Apr 17	26.40	Jan 23	1937		
INSTANTANEOUS LOW FLOW						576	Sep 18	244	Oct 23	1930		
10 PERCENT EXCEEDS				14100		14600		12200				
50 PERCENT EXCEEDS				2620		2920		2090				
90 PERCENT EXCEEDS				1030		820		534				

e Estimated.

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

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**03234500 SCIOTO RIVER AT HIGBY, OHIO—Continued**

WATER-QUALITY RECORDS

PERIOD OF RECORD.--Water years 1954 to 1993, 1996 to current year.

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: March 1967 to September 1993, October 1995 to September 1996.

pH: March 1967 to September 1993, October 1995 to September 1996.

WATER TEMPERATURES: March 1967 to September 1993, October 1995 to September 1996.

DISSOLVED OXYGEN: March 1967 to September 1993, October 1995 to September 1996.

INSTRUMENTATION.--Water-quality monitor since March 1967. Digital recorder set for 1-hour interval punch since May 1972. Electronic data logger since April 30, 1991, set for 1-hour interval.

REMARKS.--Samples were collected quarterly as part of the National Stream Quality Accounting Network. Interruptions in the water-quality record were due to malfunction of the instrument. Daily sediment data collected 1954-1974, 1979-1982.

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,070 microsiemens Sept. 29, 1984; minimum, 113 microsiemens Sept. 16, 1975.

pH: Maximum, 9.3 units July 21, 1982, July 19, Aug. 21, 1984; minimum, 5.9 units Mar. 8, 1980.

WATER TEMPERATURES: Maximum, 34.0°C June 29, 1966; minimum, 0.0°C on many days during winter.

DISSOLVED OXYGEN: Maximum, >20.0 mg/L on several days from 1982 to 1989; minimum, 0.0 mg/L on many days during 1968, Sept. 13, 1969.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 952 microsiemens Oct. 13; minimum, 252 microsiemens Apr. 17.

pH: Maximum, 8.7 units May 21; minimum 7.5 units Sept. 30.

WATER TEMPERATURE: Maximum, 29.5°C June 29; minimum, 3.0°C Jan. 1, 20, and 21.

DISSOLVED OXYGEN: Maximum, 14.4 mg/L Aug. 1; minimum, 4.9 mg/L July 21.

## SURFACE-WATER RECORDS Scioto River Basin

### 03234500 SCIOTO RIVER AT HIGBY, OHIO—Continued

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	870	861	865	668	639	653	648	604	625	707	692	699
2	877	866	872	698	668	688	658	648	654	715	703	709
3	894	874	883	723	694	711	657	602	635	747	714	728
4	887	863	877	729	723	727	632	600	613	757	743	746
5	901	850	875	744	724	731	649	632	643	768	757	760
6	881	862	873	757	743	750	680	648	660	780	626	698
7	887	872	882	755	743	750	690	680	686	654	290	559
8	904	884	895	743	729	738	686	675	680	411	274	342
9	922	904	916	742	651	697	683	674	678	449	410	429
10	926	914	920	699	643	667	685	537	638	485	448	468
11	939	926	934	746	675	718	610	539	569	450	399	419
12	942	931	937	748	741	745	603	528	546	399	377	386
13	952	868	912	752	724	744	574	549	561	394	379	386
14	868	841	855	724	667	694	632	574	603	490	392	431
15	846	839	844	680	662	668	637	616	624	490	450	468
16	857	846	852	695	662	687	622	591	608	532	485	510
17	860	853	857	662	629	641	647	611	633	558	532	545
18	866	859	863	629	600	613	684	647	675	584	558	570
19	909	797	862	666	617	641	686	634	666	606	584	597
20	802	698	768	687	666	678	653	633	644	621	606	617
21	763	703	741	704	687	697	644	637	640	633	620	629
22	787	759	771	697	601	643	646	608	626	638	633	635
23	759	745	751	630	581	599	669	610	639	663	635	650
24	751	745	749	631	616	627	689	669	685	659	645	653
25	757	747	753	616	592	603	683	622	652	660	631	647
26	747	720	738	602	593	597	641	611	624	631	608	618
27	723	706	712	641	602	627	636	597	606	636	628	632
28	766	723	743	644	614	630	641	596	614	629	618	623
29	766	710	750	638	626	631	678	641	660	636	623	627
30	710	630	658	639	619	631	689	678	684	673	636	658
31	639	629	634	---	---	---	697	686	692	672	643	648
MONTH	952	629	824	757	581	674	697	528	638	780	274	583

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	664	651	658	666	648	656	643	635	639	383	346	363
2	674	662	666	663	645	651	647	638	643	383	313	344
3	680	672	676	649	631	638	657	646	650	411	363	396
4	680	653	671	691	632	674	654	642	647	414	376	389
5	653	634	642	684	678	680	665	654	661	461	414	432
6	652	630	638	689	682	686	670	663	667	490	461	479
7	671	634	643	687	679	682	703	668	687	492	480	487
8	681	649	669	686	669	681	700	570	646	481	421	453
9	671	628	649	669	480	569	605	394	472	430	406	422
10	665	590	623	582	548	569	434	371	390	442	404	415
11	590	470	527	572	549	559	482	394	448	476	442	458
12	479	422	442	599	566	584	536	482	520	490	474	486
13	515	479	504	616	597	606	556	527	547	508	489	500
14	523	513	518	637	613	628	552	510	535	536	508	524
15	556	522	539	645	630	637	545	500	540	532	521	525
16	578	549	561	653	633	642	500	286	376	546	532	541
17	573	552	560	653	645	650	323	252	286	547	536	541
18	573	469	528	654	641	649	389	323	358	555	541	547
19	538	480	516	651	624	636	412	389	404	556	515	543
20	553	535	543	653	604	643	421	396	406	533	492	517
21	548	498	522	604	479	544	432	411	419	497	452	479
22	504	478	492	479	448	464	426	406	416	---	---	---
23	504	486	495	494	469	477	418	400	409	---	---	---
24	488	472	477	523	494	513	401	389	396	---	---	---
25	518	476	492	517	469	491	397	365	383	---	---	---
26	555	518	535	517	469	491	423	397	411	---	---	---
27	630	540	597	549	515	534	418	374	390	---	---	---
28	657	628	642	566	545	555	409	378	392	---	---	---
29	---	---	---	585	565	575	390	376	381	---	---	---
30	---	---	---	618	583	601	397	336	368	---	---	---
31	---	---	---	642	613	636	---	---	---	---	---	---
MONTH	681	422	572	691	448	600	703	252	483	556	313	469



**SURFACE-WATER RECORDS  
Scioto River Basin**

**03234500 SCIOTO RIVER AT HIGBY, OHIO—Continued**

SPECIFIC CONDUCTANCE (MICROSIEMENS/CM AT 25 DEG.C), 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	680	583	637	387	258	319	680	614	660	---	---	---
2	607	582	591	430	387	413	626	553	605	---	---	---
3	596	578	587	427	398	405	567	510	549	---	---	---
4	598	574	584	401	392	396	581	350	528	---	---	---
5	635	598	617	397	393	395	591	524	558	---	---	---
6	649	635	644	412	396	403	683	524	644	---	---	---
7	640	635	637	459	412	438	700	644	682	---	---	---
8	640	635	638	---	---	---	687	629	667	---	---	---
9	645	638	642	---	---	---	691	653	683	---	---	---
10	647	634	642	---	---	---	721	685	707	---	---	---
11	634	498	590	---	---	---	704	679	688	---	---	---
12	510	435	464	---	---	---	721	688	708	---	---	---
13	488	375	411	---	---	---	679	651	668	---	---	---
14	477	401	460	629	618	625	657	642	649	---	---	---
15	470	344	406	627	608	622	650	640	644	844	834	840
16	443	358	422	627	603	622	655	636	648	853	840	847
17	431	396	415	619	588	609	642	610	630	860	850	855
18	455	426	446	627	588	611	644	550	618	871	852	861
19	477	452	463	646	606	631	691	583	643	858	832	846
20	480	469	474	632	540	597	700	677	691	838	809	825
21	479	474	476	---	---	---	693	669	685	---	---	---
22	536	479	517	---	---	---	679	655	670	---	---	---
23	527	478	491	---	---	---	673	650	660	---	---	---
24	543	486	515	635	589	626	---	---	---	---	---	---
25	562	543	552	619	574	600	---	---	---	---	---	---
26	575	561	567	582	502	555	---	---	---	---	---	---
27	586	574	580	734	497	571	---	---	---	---	---	---
28	625	575	610	658	630	644	---	---	---	---	---	---
29	---	---	---	672	638	659	---	---	---	785	753	769
30	---	---	---	664	634	649	---	---	---	789	755	769
31	---	---	---	671	655	664	---	---	---	---	---	---
MONTH	680	344	539	734	258	548	721	350	647	871	753	827
YEAR	952	252	609									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, 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	8.3	7.8	7.9	8.1	8.0	8.1	8.2	8.1	8.2	8.3	8.3	8.3
2	8.1	8.0	8.0	8.1	8.0	8.1	8.3	8.1	8.2	8.3	8.3	8.3
3	8.4	8.0	8.2	8.1	8.1	8.1	8.3	8.2	8.2	8.3	8.2	8.3
4	8.4	8.3	8.4	8.1	8.1	8.1	8.3	8.2	8.2	8.3	8.2	8.2
5	8.5	8.3	8.4	8.2	8.1	8.1	8.3	8.2	8.2	8.2	8.1	8.2
6	8.5	8.3	8.4	8.2	8.1	8.1	8.3	8.2	8.2	8.2	8.1	8.2
7	8.4	8.3	8.4	8.1	8.1	8.1	8.3	8.2	8.2	8.2	7.9	8.1
8	8.4	8.2	8.3	8.1	8.0	8.0	8.3	8.2	8.3	8.0	7.8	7.9
9	8.3	8.2	8.2	8.1	8.0	8.1	8.3	8.2	8.3	8.0	7.8	7.9
10	8.4	8.1	8.2	8.1	8.1	8.1	8.3	8.2	8.2	8.0	7.9	8.0
11	8.3	8.1	8.2	8.1	8.0	8.1	8.2	8.0	8.1	8.0	8.0	8.0
12	8.3	8.1	8.2	8.1	8.0	8.1	8.3	7.9	8.1	8.0	8.0	8.0
13	8.3	8.1	8.2	8.1	8.1	8.1	8.3	8.3	8.3	8.0	8.0	8.0
14	8.3	8.1	8.2	8.2	8.1	8.1	8.4	8.3	8.3	8.1	8.0	8.1
15	8.3	8.1	8.2	8.1	8.1	8.1	8.4	8.3	8.3	8.2	8.1	8.1
16	8.5	8.1	8.2	8.1	8.1	8.1	8.4	8.3	8.3	8.2	8.2	8.2
17	8.3	8.1	8.2	8.2	8.1	8.1	8.4	8.3	8.4	8.2	8.2	8.2
18	8.3	8.1	8.2	8.2	8.1	8.2	8.4	8.4	8.4	8.2	8.2	8.2
19	8.2	8.1	8.2	8.2	8.2	8.2	8.4	8.3	8.4	8.2	8.2	8.2
20	8.2	8.2	8.2	8.2	8.1	8.2	8.4	8.3	8.3	8.2	8.2	8.2
21	8.2	8.2	8.2	8.2	8.1	8.2	8.4	8.3	8.3	8.2	8.2	8.2
22	8.3	8.2	8.2	8.2	8.1	8.1	8.4	8.2	8.3	8.2	8.2	8.2
23	8.3	8.2	8.3	8.2	8.1	8.1	8.3	8.2	8.2	8.3	8.2	8.2
24	8.3	8.2	8.2	8.2	8.1	8.2	8.3	8.2	8.2	8.3	8.3	8.3
25	8.2	8.2	8.2	8.2	8.2	8.2	8.3	8.2	8.3	8.3	8.3	8.3
26	8.2	8.2	8.2	8.2	8.2	8.2	8.3	8.2	8.2	8.4	8.3	8.3
27	8.2	8.1	8.1	8.3	8.2	8.2	8.3	8.2	8.2	8.3	8.3	8.3
28	8.2	8.1	8.2	8.3	8.2	8.2	8.3	8.3	8.3	8.3	8.3	8.3
29	8.1	8.1	8.1	8.2	8.2	8.2	8.4	8.3	8.3	8.3	8.3	8.3
30	8.1	8.1	8.1	8.2	8.1	8.2	8.3	8.3	8.3	8.3	8.3	8.3
31	8.1	8.0	8.1	---	---	---	8.3	8.3	8.3	8.3	8.2	8.3
MONTH	8.5	7.8	8.2	8.3	8.0	8.1	8.4	7.9	8.3	8.4	7.8	8.2



## SURFACE-WATER RECORDS

## Scioto River Basin

## 03234500 SCIOTO RIVER AT HIGBY, OHIO—Continued

TEMPERATURE, WATER (DEG. C), 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	19.5	18.0	18.0	12.5	12.0	12.0	10.5	9.5	9.5	3.5	3.0	3.0
2	18.5	17.5	17.5	12.5	12.0	12.0	9.0	8.5	8.5	4.5	3.5	3.5
3	19.0	17.5	17.5	11.5	11.0	11.0	8.5	8.0	8.0	6.5	5.5	5.5
4	20.0	18.5	18.5	10.5	10.0	10.0	8.5	8.0	8.0	7.5	7.0	7.0
5	21.5	20.0	20.0	11.0	10.0	10.0	8.0	7.0	7.0	8.5	8.0	8.0
6	22.0	20.5	20.5	10.5	10.0	10.0	6.0	5.0	5.0	10.0	9.0	9.0
7	22.0	21.0	21.0	10.5	10.0	10.0	4.5	4.0	4.0	10.5	10.0	10.0
8	22.0	21.0	21.0	10.0	10.0	10.0	4.5	4.0	4.0	10.5	10.5	10.5
9	21.5	21.0	21.0	10.5	10.0	10.0	4.5	4.5	4.5	10.5	9.5	9.5
10	23.0	21.5	21.5	10.0	10.0	10.0	6.0	5.5	5.5	8.5	7.5	7.5
11	21.5	20.5	20.5	10.5	10.0	10.0	6.0	5.5	5.5	7.5	7.0	7.0
12	21.0	19.5	19.5	10.0	9.0	9.0	6.0	5.0	5.0	6.5	6.0	6.0
13	21.5	20.5	20.5	8.5	8.0	8.0	5.0	4.5	4.5	6.0	6.0	6.0
14	20.5	19.5	19.5	8.0	7.5	7.5	4.5	4.5	4.5	5.5	5.0	5.0
15	18.5	17.5	17.5	7.0	6.5	6.5	4.0	4.0	4.0	4.5	4.5	4.5
16	17.0	15.5	15.5	6.0	6.0	6.0	4.5	4.0	4.0	4.5	4.5	4.5
17	16.5	15.5	15.5	5.5	5.0	5.0	4.5	3.5	3.5	4.5	4.5	4.5
18	16.0	15.0	15.0	5.0	4.5	4.5	4.5	4.0	4.0	4.5	4.5	4.5
19	16.5	15.0	15.0	5.5	5.0	5.0	5.5	4.5	4.5	4.0	4.0	4.0
20	15.0	14.5	14.5	6.5	6.0	6.0	6.0	5.0	5.0	3.5	3.0	3.5
21	14.0	13.5	13.5	7.0	7.0	7.0	6.0	5.5	5.5	3.5	3.0	3.0
22	13.0	12.5	12.5	7.5	7.0	7.0	7.0	6.5	6.5	4.5	4.0	4.0
23	11.5	11.0	11.0	7.5	7.0	7.0	7.0	7.0	7.0	5.5	5.0	5.0
24	11.0	10.5	10.5	7.0	6.5	6.5	7.0	7.0	7.0	5.0	5.0	5.0
25	12.0	11.0	11.0	6.5	5.5	5.5	7.0	7.0	7.0	5.0	4.5	4.5
26	12.5	12.0	12.0	7.0	6.5	6.5	6.5	6.5	6.5	4.5	4.0	4.0
27	12.5	11.5	11.5	7.0	6.5	6.5	6.0	5.5	5.5	4.5	4.5	4.5
28	12.0	11.0	11.0	9.0	8.0	8.0	5.0	4.5	4.5	5.5	5.0	5.0
29	12.0	11.0	11.0	10.0	9.5	9.5	4.5	4.0	4.0	5.5	5.0	5.0
30	12.0	11.0	11.0	10.5	10.0	10.0	4.0	4.0	4.0	5.5	5.5	5.5
31	12.5	11.5	11.5	---	---	---	4.0	3.5	3.5	6.0	5.5	5.5
MONTH	23.0	10.5	16.0	12.5	4.5	8.2	10.5	3.5	5.5	10.5	3.0	5.5

TEMPERATURE, WATER (DEG. C), 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	6.0	5.0	5.0	10.0	9.5	9.5	18.0	17.5	17.5	14.5	14.5	14.5
2	6.5	6.0	6.0	9.5	9.0	9.0	17.0	16.0	16.0	14.5	14.0	14.0
3	6.0	6.0	6.0	9.0	8.0	8.0	16.0	14.5	14.5	15.0	14.0	14.0
4	6.0	5.0	5.0	7.5	7.5	7.5	14.5	13.5	13.5	15.5	14.5	14.5
5	4.0	4.0	4.0	7.5	7.0	7.0	---	---	---	16.5	15.5	15.5
6	5.0	4.5	4.5	8.5	7.5	7.5	14.5	13.0	13.0	17.0	16.5	16.5
7	5.5	4.5	4.5	9.5	8.5	8.5	14.0	13.5	13.5	16.5	16.5	16.5
8	5.0	4.5	4.5	10.5	9.5	9.5	16.0	14.5	14.5	17.0	16.5	16.5
9	5.5	4.5	4.5	10.5	10.0	10.0	15.5	14.0	14.0	17.0	17.0	17.0
10	6.0	5.5	5.5	8.5	7.5	7.5	13.0	12.5	12.5	17.5	17.0	17.0
11	6.0	6.0	6.0	6.5	5.5	5.5	13.5	12.5	12.5	17.5	17.0	17.0
12	6.0	5.5	5.5	5.0	4.5	4.5	14.5	13.0	13.0	18.5	17.5	17.5
13	6.0	5.5	5.5	4.5	4.0	4.0	14.5	13.5	13.5	19.0	18.0	18.0
14	6.5	6.0	6.0	6.0	4.5	4.5	14.5	14.0	14.0	21.0	19.0	19.0
15	6.5	6.0	6.0	6.5	5.5	5.5	14.5	14.0	14.0	22.0	20.5	20.5
16	6.5	6.0	6.0	6.5	6.0	6.0	15.0	14.0	14.0	22.5	21.5	21.5
17	7.0	6.5	6.5	7.0	6.5	6.5	15.0	15.0	15.0	23.0	21.5	21.5
18	7.5	7.0	7.0	8.5	7.5	7.5	14.5	13.5	13.5	23.0	21.5	21.5
19	7.0	7.0	7.0	11.0	9.5	9.5	13.5	13.0	13.0	23.5	22.0	22.0
20	6.5	6.5	6.5	10.5	10.5	10.5	13.0	12.0	12.0	24.0	22.5	22.5
21	6.5	6.5	6.5	10.0	8.0	8.0	14.0	13.0	13.0	24.5	23.0	23.0
22	7.0	6.5	6.5	6.5	6.0	6.0	14.5	14.0	14.0	23.5	22.0	22.0
23	7.0	6.5	6.5	6.0	5.5	5.5	14.5	14.0	14.0	21.5	20.0	20.0
24	6.5	6.0	6.0	7.0	6.0	6.0	15.0	14.5	14.5	21.0	20.0	20.0
25	7.5	6.5	6.5	7.0	6.5	6.5	15.5	15.0	15.0	21.0	20.5	20.5
26	8.0	7.0	7.0	10.0	8.0	8.0	15.5	15.0	15.0	21.0	20.5	20.5
27	9.5	8.5	8.5	13.5	11.5	11.5	15.0	14.5	14.5	22.5	21.0	21.0
28	10.0	9.5	9.5	14.5	13.5	13.5	15.5	14.5	14.5	23.5	22.0	22.0
29	---	---	---	16.5	15.0	15.0	15.0	14.5	14.5	24.5	23.0	23.0
30	---	---	---	17.5	16.0	16.0	14.5	14.0	14.0	25.5	24.0	24.0
31	---	---	---	18.5	17.5	17.5	---	---	---	25.0	24.5	24.5
MONTH	10.0	4.0	6.0	18.5	4.0	8.5	18.0	12.0	14.0	25.5	14.0	19.5

**SURFACE-WATER RECORDS**  
**Scioto River Basin**

**03234500 SCIOTO RIVER AT HIGBY, OHIO—Continued**

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	24.5	23.5	23.5	24.0	23.5	23.5	26.5	25.0	25.0	---	---	---
2	24.5	23.5	23.5	24.5	23.5	23.5	26.5	25.0	25.0	---	---	---
3	23.5	22.5	22.5	24.5	23.5	23.5	26.5	25.5	25.5	---	---	---
4	22.0	21.0	21.0	24.0	23.5	23.5	26.5	25.5	25.5	---	---	---
5	21.0	19.5	19.5	24.0	23.5	23.5	26.0	25.5	25.5	---	---	---
6	18.5	18.0	18.0	24.5	23.5	23.5	26.5	25.5	25.5	---	---	---
7	19.0	18.0	18.0	24.5	24.0	24.0	28.0	26.5	26.5	---	---	---
8	19.5	18.0	18.0	---	---	---	28.0	27.0	27.0	---	---	---
9	19.0	18.5	18.5	---	---	---	27.5	27.0	27.0	---	---	---
10	22.0	19.5	19.5	---	---	---	---	---	---	---	---	---
11	21.5	21.0	21.0	---	---	---	---	---	---	---	---	---
12	22.5	20.5	20.5	---	---	---	---	---	---	---	---	---
13	21.5	19.0	19.0	---	---	---	27.0	26.0	26.0	---	---	---
14	22.0	21.5	21.5	---	---	---	26.5	25.5	25.5	---	---	---
15	21.5	20.5	20.5	25.0	24.5	24.5	26.0	25.5	25.5	---	---	---
16	21.0	20.5	20.5	24.5	24.5	24.5	26.0	25.5	25.5	25.5	24.5	24.5
17	22.0	21.0	21.0	26.0	24.5	24.5	27.0	26.0	26.0	25.0	24.5	24.5
18	23.0	22.0	22.0	26.5	25.0	25.0	27.5	26.5	26.5	25.0	24.0	24.0
19	23.5	22.5	22.5	27.0	25.5	25.5	27.0	26.0	26.0	25.5	24.5	24.5
20	24.0	23.0	23.0	27.0	26.0	26.0	26.0	25.0	25.0	25.5	24.5	24.5
21	23.5	23.0	23.0	28.5	26.5	26.5	26.0	24.5	24.5	---	---	---
22	25.0	23.5	23.5	28.5	27.5	27.5	26.0	25.0	25.0	---	---	---
23	24.5	23.5	23.5	28.0	27.0	27.0	27.0	25.5	25.5	---	---	---
24	26.0	24.0	24.0	27.0	26.0	26.0	---	---	---	---	---	---
25	27.0	25.5	25.5	26.5	25.5	25.5	---	---	---	---	---	---
26	27.5	26.5	26.5	27.0	25.5	25.5	---	---	---	---	---	---
27	28.0	27.0	27.0	26.5	25.5	25.5	---	---	---	---	---	---
28	29.0	28.0	28.0	26.5	25.5	25.5	---	---	---	---	---	---
29	29.5	26.5	26.5	27.0	26.0	26.0	---	---	---	---	---	---
30	26.5	24.0	24.0	26.5	26.0	26.0	---	---	---	23.5	23.0	23.0
31	---	---	---	26.5	25.0	25.0	---	---	---	---	---	---
MONTH	29.5	18.0	22.0	28.5	23.5	25.0	28.0	24.5	25.5	25.5	23.0	24.0
YEAR	29.5	3.0	14.0									

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	10.3	7.4	8.7	9.6	8.9	9.2	10.8	9.5	10.3	13.4	12.8	13.0
2	10.9	8.0	9.2	9.4	8.6	9.0	11.5	10.4	10.9	13.3	12.9	13.1
3	12.3	8.1	9.8	9.6	9.0	9.3	11.4	11.0	11.2	13.1	12.3	12.6
4	11.6	8.9	9.9	9.9	9.3	9.6	11.2	10.4	10.6	12.4	11.8	12.1
5	12.7	8.7	10.6	10.7	9.6	10.1	11.7	10.6	11.1	11.7	11.3	11.5
6	12.9	8.9	10.7	10.6	9.7	10.1	12.4	11.4	11.8	11.7	10.8	11.1
7	12.5	8.7	10.2	10.2	9.3	9.7	12.6	11.8	12.2	11.0	10.0	10.7
8	11.3	8.2	9.5	9.8	9.0	9.2	13.0	12.1	12.5	10.4	9.7	10.1
9	10.1	8.0	9.1	10.0	9.0	9.4	12.9	12.0	12.4	11.2	9.7	10.4
10	10.6	7.2	8.7	10.0	9.3	9.7	12.3	11.6	11.8	11.8	11.1	11.5
11	10.3	7.5	8.8	9.7	9.0	9.3	11.8	11.1	11.5	12.0	11.6	11.8
12	9.6	7.8	8.7	10.3	9.2	9.7	11.9	11.1	11.7	---	---	---
13	9.9	7.3	8.6	10.6	9.7	10.1	12.1	11.9	12.0	12.4	12.2	12.3
14	10.0	7.5	8.7	10.5	9.7	10.1	12.4	12.0	12.2	13.0	12.3	12.7
15	10.3	7.9	8.9	10.3	10.2	10.2	12.6	12.1	12.3	13.0	12.7	12.9
16	10.2	8.4	9.2	10.7	10.2	10.3	12.6	12.3	12.4	12.7	12.4	12.6
17	10.6	8.4	9.4	11.5	10.7	11.1	12.6	12.3	12.5	12.6	12.4	12.4
18	10.2	8.5	9.3	11.9	11.3	11.6	12.6	12.3	12.5	12.6	12.6	12.6
19	9.8	8.8	9.3	11.9	11.3	11.6	12.5	12.2	12.3	12.7	12.6	12.7
20	9.6	8.9	9.2	11.6	11.0	11.3	12.4	11.9	12.1	13.1	12.7	12.9
21	10.0	9.0	9.5	11.4	10.4	11.1	12.2	11.6	12.0	13.1	13.1	13.1
22	10.6	9.3	9.9	11.3	10.6	11.0	---	---	---	13.1	12.8	13.0
23	10.9	9.9	10.4	11.1	10.8	10.9	12.3	11.8	12.1	12.8	12.4	12.5
24	10.5	9.9	10.1	11.7	11.1	11.3	12.2	11.6	11.7	12.8	12.6	12.7
25	10.3	9.5	9.9	12.0	11.5	11.8	12.0	11.5	11.7	13.1	12.7	12.9
26	10.1	8.9	9.4	---	---	---	11.9	11.6	11.8	13.5	13.1	13.4
27	9.6	8.6	9.1	12.1	11.3	11.6	12.1	11.6	11.9	13.4	13.1	13.2
28	9.6	9.5	9.5	12.0	10.9	11.2	12.6	12.1	12.3	13.1	12.8	13.0
29	9.7	9.2	9.5	11.0	10.1	10.4	12.9	12.4	12.6	12.8	12.6	12.7
30	9.8	9.3	9.6	10.4	9.5	9.7	12.7	12.4	12.5	13.3	12.6	13.1
31	9.8	9.1	9.5	---	---	---	13.1	12.3	12.6	13.4	13.2	13.3
MONTH	12.9	7.2	9.4	12.1	8.6	10.3	13.1	9.5	11.9	13.5	9.7	12.4



## SURFACE-WATER RECORDS

### Scioto River Basin

#### RESERVOIRS IN SCIOTO RIVER BASIN

- 03220500 O'Shaughnessy Reservoir near Dublin.**--Lat 40°09'14", long 83°07'33", Delaware County, Hydrologic Unit 0506001, in gate house of dam on Scioto River, 4.0 mi north of Dublin.  
 DRAINAGE AREA.--979 mi<sup>2</sup>.  
 PERIOD OF RECORD.--October 1924 to current year.  
 GAGE.--water-stage recorder. Monthend contents only for some periods published in WSP 1305. Datum of gage is sea level (levels by city of Columbus). Prior to Dec. 2, 1940, nonrecording gage at same site and datum.  
 REMARKS.--Reservoir is formed by concrete dam; dam completed and storage begun in 1924. Usable capacity, 14,500 acre-ft, between elevations 789.5 ft (sill of outlet gate) and 845 ft (crest of spillway), based on survey made in 1942. Flashboards installed May 8, 1945, additional capacity, 2,480 acre-ft, between elevations 845 ft (crest of spillway) and 847.9 ft (crest of flashboards). Dead storage below elevation 789.5 ft, 55 acre-ft. Figures given herein represent usable contents. Water used for municipal supply of city of Columbus and recreational purposes. Reservoir also used for power generation since July 1987. Capacity table computed from data furnished by city of Columbus.  
 EXTREMES FOR PERIOD OF RECORD.-- Maximum contents, 24,240 acre-ft Jan. 22, 1959, elevation, 854.40 ft; minimum, 43 acre-ft Feb. 11, 1945, elevation, 791.97 ft.  
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 19,880 acre-ft Jan. 9, elevation, 850.71 ft; minimum, 13,520 acre-ft Sept. 30, elevation, 843.68 ft.
- 03221500 Griggs Reservoir near Columbus.**--Lat 40°00'54", long 83°05'38", Franklin County, Hydrologic Unit 05060001, on left abutment of dam on Scioto River, 6.2 mi northwest of State Capitol building in Columbus, and 6.5 mi upstream from Olentangy River.  
 DRAINAGE AREA.--1,044 mi<sup>2</sup>.  
 PERIOD OF RECORD.--January 1921 to current year.  
 GAGE.--Water-stage recorder. Monthend contents only for some periods, published in WSP 1305. Daily readings have been obtained by city of Columbus, Division of Water, since 1908. Datum of gage is 680.38 ft above sea level (levels by city of Columbus). Prior to Oct. 4, 1940, nonrecording gage at same site and datum.  
 REMARKS.--Reservoir formed by concrete dam; dam completed and storage begun in 1905. Usable capacity, 3,700 acre-ft between elevations 735.4 ft (lowest outlets) and 753.4 ft (crest of spillway), based on survey made in 1935. Flashboards installed July 28, 1945, additional capacity, 750 acre-ft, between elevations 753.4 ft (crest of spillway) and 755.6 ft (crest of flashboards). Dead storage below elevation 735.4 ft, 239 acre-ft. Figures given herein represent usable contents. Water is used for municipal supply of city of Columbus and recreational purposes. Capacity table computed from data furnished by city of Columbus.  
 EXTREMES FOR PERIOD OF RECORD.-- Maximum contents, 7,490 acre-ft Jan. 22, 1959, elevation, 763.91 ft; minimum, 38 acre-ft Jan. 24, 1945, elevation, 735.78 ft.  
 EXTREMES FOR CURRENT YEAR.--Maximum contents, 5,820 acre-ft Jan. 9, elevation 759.41 ft; minimum, 4,280 acre-ft Oct. 14, elevation 755.10.
- 03228400 Hoover Reservoir at Central College.**--Lat 40°06'30", long 82°52'59", in T.2 N., R.17 W., Franklin County, Hydrologic Unit 05060001, in gate house of dam on Big Walnut Creek, 0.5 mi northeast of Central College, and 12 mi northeast of Columbus.  
 DRAINAGE AREA.--190 mi<sup>2</sup>.  
 PERIOD OF RECORD.--March 1955 to current year.  
 REVISED RECORDS.--WRD OH-78-1: 1975 (M).  
 GAGE.--Water-stage recorder. Datum of gage is sea level. Prior to Sept. 10, 1956, nonrecording gage at same site and datum.  
 REMARKS.--Reservoir formed by earthfill dam with concrete spillway; dam completed in 1954 and storage begun in March 1955. Usable capacity, 60,130 acre-ft between elevations 830.0 ft (lowest outlet) and 890.0 ft (crest of spillway). Additional flood-control storage above elevation 890.0 ft by bascule gates installed in May 1970, 25,750 acre-ft. Dead storage below elevation 830.0 ft, 214 acre-ft. Figures given herein represent usable contents. Reservoir is used for municipal supply of city of Columbus and for recreational purposes. Outflow is controlled mostly by operation of valves in tunnel through dam, but above spillway level bascule gates can be used. Capacity table computed from data furnished by city of Columbus.  
 EXTREMES FOR PERIOD OF RECORD: Maximum contents, 87,480 acre-ft, June 2, 1997, elevation, 898.45 ft; minimum, 19,010 acre-ft Mar. 1, 1964, elevation, 868.58 ft.  
 EXTREMES FOR CURRENT YEAR: 78,445 acre-ft May 3, elevation, 895.99 ft; minimum, 44,850 acre-ft Nov. 28, elevation, 884.07 ft.

MONTHEND ELEVATION AND CONTENTS AT 2400, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DATE	O'SHAUGHNESSY RESERVOIR			GRIGGS RESERVOIR			HOOVER RESERVOIR		
	Elevation (ft)	Contents (acre-ft)	Change in Contents (acre-ft)	Elevation (ft)	Contents (acre-ft)	Change in Contents (acre-ft)	Elevation (ft)	Contents (acre-ft)	Change in Contents (acre-ft)
Sept. 30	847.43	16,540		755.52	4,420		890.10	60,400	
Oct. 31	845.24	14,680	-1,860	755.68	4,470	+50	886.54	51,000	-9,400
Nov. 30	845.10	14,570	-110	756.29	4,680	+210	884.38	45,600	-5,400
Dec. 31	848.67	17,730	+3,160	756.49	4,750	+70	887.62	53,200	+7,600
Calendar Year 1997			-190			-190			-13,560
Jan. 31	848.77	17,830	+100	756.67	4,820	+70	892.10	65,960	+12,760
Feb. 28	848.79	17,850	+20	756.70	4,830	+10	894.57	73,830	+7,870
Mar. 31	848.88	17,940	+90	756.78	4,860	+30	894.52	73,650	-180
Apr. 30	848.54	17,600	-340	756.80	4,860	0	894.58	73,860	+210
May 31	848.63	17,690	+90	756.44	4,730	-130	893.08	68,910	-4,950
June 30	848.12	17,180	-510	757.13	4,980	+250	895.24	76,130	+7,220
July 31	848.36	17,420	+240	756.33	4,690	-290	892.84	68,180	-7,950
Aug. 31	848.00	17,060	-360	755.80	4,510	-180	889.08	57,660	-10,520
Sept. 30	844.30	13,980	-3,080	756.12	4,620	+110	884.84	46,710	-10,950
Water Year 1998			-2,560			+200			-13,690

**SURFACE-WATER RECORDS**  
**Upper Twin Creek Basin**

**03237280 UPPER TWIN CREEK AT MCGAW, OHIO**  
**Hydrologic Benchmark Station**

LOCATION.--Lat 38°38'37", long 83°12'57", Scioto County, Hydrologic Unit 05090201, on right bank, 0.3 mi downstream from Brown Run, 0.3 mi upstream from Tucker Run, 0.7 mi upstream from bridge on U.S. Highway 52 at McGaw, 2.7 mi northeast of Buena Vista, and 3.2 mi upstream from mouth.

DRAINAGE AREA.--12.2 mi<sup>2</sup>.

PERIOD OF RECORD.--June 1963 to current year.

GAGE.--Water-stage recorder. Datum of gage is 538.41 ft above sea level (revised). Ohio Department of Highways benchmark. Prior to July 21, 1972, at site 0.7 mi downstream at datum 18.41 ft lower. July 21, 1972, to September 30, 1984, at same site at datum 5.00 ft higher.

REMARKS.--Records poor. Periods of no flow occur most years.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of July 3, 1960, reached a stage of 11.62 ft; discharge, 7,230 ft<sup>3</sup>/s, on basis of contracted-opening and flow-over-road measurement of peak flow.

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.00	.09	2.9	.35	6.7	11	12	105	.82	4.2	1.0	.83
2	e.00	.09	1.3	.31	6.6	10	12	38	.69	3.7	.84	.83
3	e.00	.09	.88	.27	6.2	9.6	11	21	.69	2.9	.69	.83
4	e.00	.09	.74	.27	7.3	9.0	9.9	21	.66	2.9	.69	.83
5	e.00	.09	.50	.28	7.7	9.4	7.3	14	.59	2.9	.69	.83
6	e.00	.09	.37	15	7.9	7.8	6.5	10	.56	2.9	.69	.83
7	e.00	.10	.30	171	8.2	6.4	5.9	10	.56	2.9	.69	.83
8	e.00	.12	.25	63	11	9.1	6.5	15	.50	2.9	.69	.83
9	e.00	.12	.23	32	15	55	17	13	1.7	2.8	.69	.83
10	e.00	.13	.31	15	29	38	59	11	21	2.4	.69	.83
11	e.00	.15	.94	12	114	26	26	9.0	130	2.4	.69	.83
12	e.00	.15	1.2	9.6	150	17	22	7.6	30	2.4	.69	.83
13	e.00	.14	1.2	8.9	86	14	17	5.8	40	2.0	.69	.83
14	e.00	.09	.86	8.4	62	13	15	4.2	25	1.9	.69	.83
15	e.00	.12	.61	8.6	48	11	13	3.1	132	1.9	.69	.83
16	e.00	.12	.43	9.0	59	9.2	109	2.3	88	1.8	.69	.83
17	.00	.12	.33	9.0	72	8.4	90	1.8	47	1.6	.69	.77
18	.00	.34	.28	8.8	122	8.6	29	1.4	30	1.6	1.2	.69
19	.00	e.50	.26	8.4	68	8.7	38	1.2	24	1.6	1.5	.69
20	.00	.56	.23	7.9	45	21	27	1.0	18	6.1	.78	.69
21	.00	.64	.20	7.4	33	37	22	.93	13	4.5	.69	.67
22	.00	.86	.23	7.2	22	21	23	.83	11	2.9	.69	.56
23	.00	.97	.20	12	19	22	17	1.0	16	1.9	.81	.56
24	.03	1.1	.25	14	16	16	13	1.6	12	1.1	.83	.56
25	.04	1.2	.79	13	14	12	11	4.9	9.6	1.0	.83	.54
26	.04	1.1	2.2	11	13	10	8.9	2.2	7.3	1.0	.83	.46
27	.06	.89	1.9	10	12	8.6	12	2.5	6.2	1.0	.83	.46
28	.06	.80	1.2	9.1	11	7.3	9.1	1.8	5.3	1.0	.83	.46
29	.09	.68	.77	8.4	---	6.1	12	1.4	4.7	1.0	.83	.50
30	.09	1.2	.61	7.8	---	5.2	217	1.1	4.5	1.0	.83	.46
31	.09	---	.44	7.2	---	4.5	---	.89	---	1.8	.83	---
TOTAL	0.50	12.74	22.91	495.18	1071.6	451.9	878.1	314.55	681.37	72.0	24.50	21.35
MEAN	.016	.42	.74	16.0	38.3	14.6	29.3	10.1	22.7	2.32	.79	.71
MAX	.09	1.2	2.9	171	150	55	217	105	132	6.1	1.5	.83
MIN	.00	.09	.20	.27	6.2	4.5	5.9	.83	.50	1.0	.69	.46
CFSM	.00	.03	.06	1.31	3.14	1.19	2.40	.83	1.86	.19	.06	.06
IN.	.00	.04	.07	1.51	3.27	1.38	2.68	.96	2.08	.22	.07	.07

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

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998		
MEAN	2.38	6.27	16.7	17.9	24.0	30.9	29.2	21.2	7.69	3.86	3.14	2.98																										
MAX	16.8	29.0	81.6	46.3	60.9	90.7	66.7	93.1	35.3	30.8	38.0	32.5																										
(WY)	1990	1986	1979	1996	1975	1964	1965	1996	1979	1986	1979	1979																										
MIN	.000	.000	.000	.44	4.42	4.39	4.41	1.63	.043	.071	.009	.010																										
(WY)	1964	1964	1964	1981	1978	1969	1971	1991	1988	1964	1993	1983																										

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1963 - 1998

ANNUAL TOTAL	6212.70	4046.70		
ANNUAL MEAN	17.0	11.1	13.8	
HIGHEST ANNUAL MEAN			31.9	1979
LOWEST ANNUAL MEAN			5.15	1969
HIGHEST DAILY MEAN	780	Mar 2	217	Apr 30
LOWEST DAILY MEAN	.00	Oct 1	.00	Oct 1
ANNUAL SEVEN-DAY MINIMUM	.00	Oct 1	.00	Oct 1
INSTANTANEOUS PEAK FLOW			1760	Jan 7
INSTANTANEOUS PEAK STAGE			7.57	Jan 7
INSTANTANEOUS LOW FLOW			.00	Sep 1
ANNUAL RUNOFF (CFSM)	1.40	.91		1.13
ANNUAL RUNOFF (INCHES)	18.94	12.34		15.38
10 PERCENT EXCEEDS	45	25		32
50 PERCENT EXCEEDS	2.7	1.6		3.1
90 PERCENT EXCEEDS	.04	.09		.08

e Estimated.

# SURFACE-WATER RECORDS

## Beaver River Basin

### 03237500 OHIO BRUSH NEAR WEST UNION, OHIO

LOCATION.--Lat 38°48'13", long 83°25'16", Adams County, Hydrologic Unit 05090201, on right bank at downstream side of bridge on State Highway 348, 0.3 mi downstream from Cedar Run, 7.0 mi east of West Union, and 7.1 mi upstream from Beasley Fork.

DRAINAGE AREA.--387 mi<sup>2</sup>.

PERIOD OF RECORD.--August 1926 to November 1935, September 1940 to current year.

REVISED RECORDS.--WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 510.6 ft above sea level. Prior to Nov. 22, 1940, nonrecording gage at same site and datum.

REMARKS.--Records fair except for periods of estimated records, 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	e.26	e35	1100	86	147	220	514	5110	53	61	59	e22
2	e.30	e28	250	76	135	215	457	1940	47	55	72	e18
3	e.90	e23	138	78	128	188	263	1240	44	47	47	e14
4	e1.2	e20	215	86	128	172	223	1460	39	40	34	e12
5	1.4	e17	248	86	163	186	214	832	36	37	30	e10
6	1.7	e16	137	2740	189	268	176	564	35	63	e25	e8.8
7	1.9	e15	94	7500	201	235	156	832	35	45	e20	e7.6
8	1.8	e17	70	8010	252	378	1430	3810	39	36	e18	e6.8
9	1.6	e20	58	1840	396	2900	5220	1450	85	31	e15	e6.2
10	1.6	e24	1170	1000	797	1430	3970	827	3490	27	e13	e5.6
11	1.3	e30	699	601	4930	804	1350	574	5110	28	e12	e5.2
12	1.3	e46	308	437	6950	557	784	436	5320	23	e11	e5.0
13	1.3	62	199	395	2240	435	548	342	3910	20	e9.4	e4.9
14	1.6	85	144	389	1290	366	448	367	1440	20	e9.0	e5.2
15	1.0	101	109	331	853	295	397	311	7520	19	e8.4	e6.8
16	.56	77	87	314	902	236	5880	218	7110	19	e8.0	e9.0
17	.64	35	72	280	1390	211	4970	179	4190	18	e7.7	e14
18	.64	16	63	283	2780	216	1390	154	1090	18	e7.4	e22
19	.38	e9.0	55	269	1990	395	2340	135	643	18	e7.2	29
20	.32	e7.0	50	244	1250	1190	1660	123	487	671	e7.0	26
21	.32	e8.0	45	218	1030	2260	973	e110	309	432	e6.8	25
22	.32	e10	157	198	710	1830	729	88	388	170	e6.6	1070
23	.32	122	439	1330	553	1250	706	195	377	106	e6.4	354
24	1.2	79	368	990	454	845	508	586	270	67	e6.2	119
25	3.3	33	1200	564	369	613	379	419	184	48	e6.0	67
26	6.5	e20	503	380	307	472	309	218	135	39	e8.0	45
27	16	e15	297	298	276	371	1070	144	106	33	e13	34
28	17	e14	212	255	241	305	605	111	87	32	e20	32
29	21	e30	158	218	---	257	929	90	71	31	28	31
30	36	65	131	188	---	218	14100	73	66	31	27	e30
31	39	---	115	165	---	193	---	62	---	31	26	---
TOTAL	162.66	1079.0	8891	29849	31051	19511	52698	23000	42716	2316	574.1	2045.1
MEAN	5.25	36.0	287	963	1109	629	1757	742	1424	74.7	18.5	68.2
MAX	.39	122	1200	8010	6950	2900	14100	5110	7520	671	72	1070
MIN	.26	7.0	45	76	128	172	156	62	35	18	6.0	4.9
CFSM	.01	.09	.74	2.49	2.87	1.63	4.54	1.92	3.68	.19	.05	.18
IN.	.02	.10	.85	2.87	2.98	1.88	5.07	2.21	4.11	.22	.06	.20

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

	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	90.3	259	537	750	827	1024	755	556	272	184	148	129																																																												
MAX	651	1447	2252	2637	1989	3909	2030	2230	1424	1222	1000	2053																																																												
(WY)	1976	1986	1991	1950	1951	1964	1948	1996	1998	1932	1935	1979																																																												
MIN	.13	.28	2.28	12.1	24.9	96.5	106	27.5	3.18	1.46	1.04	.43																																																												
(WY)	1954	1954	1954	1977	1954	1941	1971	1930	1988	1988	1988	1953																																																												

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1927 - 1998
ANNUAL TOTAL	222113.69	213892.86	
ANNUAL MEAN	609	586	459
HIGHEST ANNUAL MEAN			951
LOWEST ANNUAL MEAN			158
HIGHEST DAILY MEAN	49400	Mar 2	14100
LOWEST DAILY MEAN	.18	Sep 16	.26
ANNUAL SEVEN-DAY MINIMUM	.42	Oct 17	.42
INSTANTANEOUS PEAK FLOW		25700	Jan 7a
INSTANTANEOUS PEAK STAGE		17.57	Jan 7
INSTANTANEOUS LOW FLOW		.26	Oct 1
ANNUAL RUNOFF (CFSM)	1.57	1.51	1.19
ANNUAL RUNOFF (INCHES)	21.35	20.56	16.13
10 PERCENT EXCEEDS	1090	1370	1010
50 PERCENT EXCEEDS	123	122	109
90 PERCENT EXCEEDS	1.1	6.7	5.2

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



**SURFACE-WATER RECORDS**  
**Whiteoak Creek Basin**

**03238500 WHITEOAK CREEK NEAR GEORGETOWN, OHIO**

LOCATION.--Lat 38°51'29", long 83°55'43", Brown County, Hydrologic Unit 05090201, on left bank 150 ft upstream from diversion dam for Georgetown water treatment plant, 0.7 mi upstream from Town Run, 1.4 mi southwest of Georgetown, and 7.2 mi upstream from mouth.

DRAINAGE AREA.--218 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1923 to November 1935, October 1939 to current year.

REVISED RECORDS.--WSP 728: 1924-31. WSP 758: 1933. WSP 1908: Drainage area. WRD OH-74-1: 1973 (P)

GAGE.--Water-stage recorder. Datum of gage is 604.20 ft above sea level. Prior to Oct. 12, 1972, nonrecording gage at a site 1.0 mi downstream at datum 35.24 ft lower. See WSP 2108 for history of changes prior to Dec. 8, 1940.

REMARKS.--Records good except for periods of estimated record and those below 30 ft<sup>3</sup>/s, which are poor. Water-quality and sediment data collected at this site. Satellite telemeter at this 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	.00	.66	80	26	41	76	112	1780	27	27	55	11
2	.00	2.2	105	24	39	72	142	452	23	25	28	9.5
3	.00	2.9	41	24	36	65	84	389	21	23	20	9.5
4	.00	e1.6	31	27	35	62	63	469	21	23	15	9.5
5	.00	e1.4	33	228	38	63	54	207	19	22	13	9.2
6	.00	e1.2	33	2410	58	82	44	135	18	19	11	8.1
7	.00	e1.3	26	3500	62	88	39	2060	18	16	10	6.9
8	.00	e1.5	21	3820	75	164	1060	3180	18	53	8.8	4.1
9	.00	e1.8	17	634	107	2070	4860	471	193	31	7.5	1.4
10	.00	e2.2	245	290	219	652	2790	229	3110	18	7.7	.02
11	.00	3.9	363	166	4310	273	432	151	4480	14	12	.00
12	.00	4.9	105	122	4320	157	217	114	4360	12	64	.00
13	.00	6.2	51	118	704	121	148	1040	3860	9.9	26	.00
14	.00	16	33	121	325	112	125	1260	1120	e9.0	15	.00
15	.00	24	26	97	209	97	115	238	5050	e8.0	11	.00
16	.00	24	22	83	271	81	5010	131	4170	e8.6	8.3	.00
17	.00	17	19	73	688	72	2980	92	833	e9.6	7.8	.00
18	.00	11	16	72	1370	80	419	66	255	11	8.1	.00
19	.00	9.3	15	72	794	140	1520	52	373	424	9.4	.00
20	.00	7.2	14	70	476	559	630	47	265	3760	7.3	.00
21	.00	7.0	13	58	403	1190	264	46	233	337	6.0	309
22	.00	12	20	56	244	866	187	40	497	102	5.4	927
23	.00	13	101	802	173	413	216	515	407	47	.97	216
24	.00	18	172	385	134	299	148	523	180	31	.00	53
25	.00	18	632	195	115	215	108	415	102	25	.00	25
26	.00	15	253	130	102	153	89	167	66	22	.00	17
27	.38	12	116	99	95	122	583	98	47	18	6.5	13
28	2.2	9.5	67	83	90	98	220	63	38	16	11	9.9
29	1.4	8.8	44	68	---	81	307	46	34	14	11	6.9
30	.31	14	36	56	---	63	7930	37	31	93	13	5.1
31	.00	---	27	47	---	55	---	31	---	127	13	---
TOTAL	4.29	267.56	2777	13956	15533	8641	30896	14544	29869	5355.1	411.77	1651.12
MEAN	.14	8.92	89.6	450	555	279	1030	469	996	173	13.3	55.0
MAX	2.2	24	632	3820	4320	2070	7930	3180	5050	3760	64	927
MIN	.00	.66	13	24	35	55	39	31	18	8.0	.00	.00

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

	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	62.1	162	295	438	488	561	442	295	169	97.5	87.3	80.8																																																														
MAX	580	1103	1427	1487	1281	1822	1134	1646	996	598	531	1220																																																														
(WY)	1984	1986	1991	1950	1955	1963	1973	1996	1998	1980	1926	1979																																																														
MIN	.071	.17	1.64	1.67	12.2	41.5	31.6	10.9	4.55	1.02	1.28	.17																																																														
(WY)	1941	1931	1964	1977	1934	1941	1971	1934	1988	1930	1993	1985																																																														

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1925 - 1998

ANNUAL TOTAL	107785.68	123905.84	
ANNUAL MEAN	295	339	264
HIGHEST ANNUAL MEAN			583
LOWEST ANNUAL MEAN			82.4
HIGHEST DAILY MEAN	15300	Mar 2	19400
LOWEST DAILY MEAN	.00	Sep 19	.00
ANNUAL SEVEN-DAY MINIMUM	.00	Sep 19	.00
INSTANTANEOUS PEAK FLOW			9880
INSTANTANEOUS PEAK STAGE			7.47
INSTANTANEOUS LOW FLOW			.00
10 PERCENT EXCEEDS	464	641	538
50 PERCENT EXCEEDS	42	44	43
90 PERCENT EXCEEDS	.00	.00	2.5

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

**SURFACE-WATER RECORDS**  
**Little Miami River Basin**

**03240000 LITTLE MIAMI RIVER NEAR OLDTOWN, OHIO**

LOCATION.--Lat 39°44'54", long 83°55'53", in sec. 34, R.7, T.4, Greene County, Hydrologic Unit 05090202, on right bank at downstream side of bridge on U.S. Highway 68, 0.8 mi downstream from Conner Branch, 0.9 mi upstream from Massies Creek, 1.3 mi northeast of Oldtown, and at mile 82.25.

DRAINAGE AREA.--129 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1952 to current year.

GAGE.--Water-stage recorder. Datum of gage is 816.56 ft above sea level.

REMARKS.--Records excellent. Water-quality and sediment data collected at this site.

REVISIONS.--The peak discharge and annual maximum (\*) for water years 1991, 1993, and 1994 have been revised to 1,880 ft<sup>3</sup>/s, Dec. 19, 1990, gage height, 7.38 ft.; \*1,620 ft<sup>3</sup>/s, Mar. 5, 1993, gage height, \*6.87 ft.; and \*2,320 ft<sup>3</sup>/s, Jan. 28, 1994, gage height, \*8.14 ft. These revisions supersede figures published in reports for 1991, 1993, and 1994.

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	17	21	39	38	58	89	105	264	129	172	49	22
2	18	23	33	36	57	84	96	244	128	129	45	21
3	20	22	30	35	55	81	87	236	117	111	43	21
4	18	22	33	34	54	79	86	274	107	160	41	21
5	18	22	32	33	57	74	79	209	101	142	41	20
6	19	19	30	36	55	70	75	178	98	115	40	19
7	17	20	27	169	65	69	74	452	91	103	39	21
8	17	21	26	571	92	74	97	1930	86	99	37	20
9	17	25	26	325	96	140	493	821	92	92	37	19
10	18	21	54	213	94	200	509	401	97	84	44	18
11	17	20	71	158	103	146	296	298	302	77	40	14
12	19	20	51	131	181	122	208	243	581	73	38	16
13	19	18	42	115	165	110	169	213	963	72	35	16
14	21	25	37	97	128	105	151	225	419	73	34	16
15	19	31	33	93	107	93	138	186	490	74	33	16
16	21	26	31	87	103	86	1700	167	433	72	31	16
17	20	24	29	79	159	92	1610	152	309	69	31	17
18	19	23	28	74	302	126	531	140	237	66	29	17
19	19	22	27	69	336	159	428	133	213	63	28	17
20	20	22	26	66	227	145	423	172	180	75	27	18
21	19	23	25	62	181	160	321	415	175	71	26	18
22	18	32	28	62	152	222	268	185	184	73	25	18
23	19	33	33	76	138	178	237	208	166	80	25	17
24	19	28	36	92	124	151	203	181	150	74	25	17
25	21	26	103	85	113	132	179	161	135	63	25	17
26	22	25	95	76	104	124	178	143	125	59	29	15
27	24	24	70	72	101	113	236	130	121	56	28	14
28	21	24	57	69	93	107	191	122	116	55	25	15
29	21	24	50	68	---	101	169	117	114	64	25	15
30	20	34	47	65	---	94	203	163	191	80	23	15
31	20	---	41	61	---	90	---	149	---	57	23	---
TOTAL	597	720	1290	3247	3500	3616	9540	8912	6650	2653	1021	526
MEAN	19.3	24.0	41.6	105	125	117	318	287	222	85.6	32.9	17.5
MAX	24	34	103	571	336	222	1700	1930	963	172	49	22
MIN	17	18	25	33	54	69	74	117	86	55	23	14
CFSM	.15	.19	.32	.81	.97	.90	2.47	2.23	1.72	.66	.26	.14
IN.	.17	.21	.37	.94	1.01	1.04	2.75	2.57	1.92	.77	.29	.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1998, BY WATER YEAR (WY)

	MEAN	35.3	70.7	111	141	181	214	200	175	134	88.4	63.7	37.6
MAX	163	315	513	497	485	655	446	637	469	406	413	378	
(WY)	1991	1986	1991	1959	1975	1963	1996	1996	1981	1990	1980	1979	
MIN	9.46	11.0	11.3	10.4	20.9	35.1	54.9	35.2	22.1	10.6	11.3	9.09	
(WY)	1954	1954	1954	1977	1954	1954	1971	1954	1988	1954	1955	1964	

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1952 - 1998	
ANNUAL TOTAL	43656		42272			
ANNUAL MEAN	120		116		121	
HIGHEST ANNUAL MEAN					228	
LOWEST ANNUAL MEAN					28.6	
HIGHEST DAILY MEAN	2790	Jun 2	1930	May 8	6140	Jan 21 1959
LOWEST DAILY MEAN	17	Sep 30	14	Sep 11	3.5	Sep 2 1988
ANNUAL SEVEN-DAY MINIMUM	18	Oct 5	15	Sep 24	7.4	Sep 30 1953
INSTANTANEOUS PEAK FLOW			2910	May 8a	14800	Jan 21 1959
INSTANTANEOUS PEAK STAGE			8.16	May 8	12.20	Jan 21 1959
INSTANTANEOUS LOW FLOW			14	Sep 26	2.8	Sep 2 1988
ANNUAL RUNOFF (CFSM)	.93		.90		.94	
ANNUAL RUNOFF (INCHES)	12.59		12.19		12.73	
10 PERCENT EXCEEDS	229		226		256	
50 PERCENT EXCEEDS	73		71		63	
90 PERCENT EXCEEDS	21		19		17	

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

**SURFACE-WATER RECORDS**  
**Little Miami River Basin**

**03241500 MASSIES CREEK AT WILBERFORCE, OHIO**

LOCATION.--Lat 39°43'22", long 83°52'58", Greene County, Hydrologic Unit 05090202, on left bank at bridge on Wilberforce-Clifton Road, 0.5 mi northwest of Wilberforce, 0.6 mi downstream from unnamed right bank tributary, and 1.7 mi upstream from Clark Run.

DRAINAGE AREA.--63.2 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1952 to current year. Prior to October 1962, published as Massie Creek at Wilberforce.

REVISED RECORDS.--WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 865.15 ft above sea level. Aug. 4, 1972, to Sept. 30, 1979, at site 150 ft downstream at same datum.

REMARKS.--Records good except for periods of estimated daily discharge, which are poor. Water-quality and sediment data collected at this site. Satellite 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	6.7	9.0	16	29	29	49	59	163	82	76	13	6.2
2	7.0	9.8	13	25	29	46	49	140	70	56	13	5.5
3	7.5	11	12	24	28	45	45	157	80	47	12	5.0
4	7.6	10	15	23	29	41	44	173	63	97	10	6.3
5	7.3	11	14	22	32	38	39	125	56	91	10	5.0
6	7.2	10	12	28	32	36	37	103	51	63	10	5.2
7	7.4	9.3	11	129	46	36	34	372	45	52	10	5.3
8	7.2	8.1	11	358	70	41	63	598	42	47	9.7	5.2
9	7.0	8.1	49	e260	72	82	540	254	44	41	10	4.7
10	7.3	8.1	58	e170	75	90	341	170	46	36	23	4.4
11	7.5	8.0	62	e140	97	70	181	129	139	32	19	4.1
12	7.4	7.8	40	e110	161	59	126	106	397	30	16	4.1
13	7.5	8.2	31	e90	116	56	101	111	622	27	12	4.3
14	9.3	13	25	71	90	54	86	145	299	25	11	4.7
15	9.3	11	22	67	75	45	129	108	542	25	10	4.8
16	8.8	10	20	58	77	43	1440	90	417	24	10	4.4
17	8.4	8.9	19	52	121	46	904	75	283	22	9.4	4.4
18	8.4	8.2	16	45	188	69	289	67	182	20	8.7	4.1
19	8.4	8.1	16	42	194	82	274	61	150	21	8.1	4.5
20	8.4	8.1	14	37	138	80	234	65	121	61	7.8	5.3
21	8.4	9.2	14	34	108	107	177	158	117	32	7.5	5.9
22	8.4	14	19	34	92	145	156	109	126	31	7.1	6.8
23	8.4	14	34	48	85	128	171	136	102	51	7.3	6.2
24	8.6	13	39	57	73	107	132	174	88	33	8.1	5.9
25	9.6	13	136	49	66	89	111	138	74	25	7.3	5.7
26	11	13	99	44	62	80	108	103	65	21	6.3	5.3
27	11	13	69	42	59	73	127	85	59	18	6.0	5.5
28	9.8	14	52	40	53	66	103	73	53	16	6.0	5.6
29	9.1	15	44	40	---	58	92	67	49	15	6.0	5.3
30	9.0	19	38	35	---	55	138	179	98	15	6.0	4.9
31	9.0	---	29	32	---	55	---	107	---	15	6.0	---
TOTAL	257.9	322.9	1049	2235	2297	2071	6330	4541	4562	1165	306.3	154.6
MEAN	8.32	10.8	33.8	72.1	82.0	66.8	211	146	152	37.6	9.88	5.15
MAX	11	19	136	358	194	145	1440	598	622	97	23	6.8
MIN	6.7	7.8	11	22	28	36	34	61	42	15	6.0	4.1
CFSM	.13	.17	.54	1.14	1.30	1.06	3.34	2.32	2.41	.59	.16	.08
IN.	.15	.19	.62	1.32	1.35	1.22	3.73	2.67	2.69	.69	.18	.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 1998, BY WATER YEAR (WY)

MEAN	15.4	41.6	65.2	79.2	102	121	109	94.3	65.2	40.8	28.3	14.8
MAX	99.7	248	290	273	236	372	254	335	253	199	196	186
(WY)	1991	1986	1991	1959	1975	1963	1996	1968	1981	1990	1958	1979
MIN	1.55	1.95	2.35	4.59	6.41	13.1	19.8	12.8	6.90	1.75	1.49	1.05
(WY)	1954	1954	1954	1977	1954	1954	1971	1954	1988	1954	1953	1953

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1952 - 1998

ANNUAL TOTAL	23868.5			25291.7				64.5				
ANNUAL MEAN	65.4			69.3				64.5				
HIGHEST ANNUAL MEAN								113 1973				
LOWEST ANNUAL MEAN								8.68 1954				
HIGHEST DAILY MEAN	1300			Jun 2		1440		Apr 16		3620 Jan 21 1959		
LOWEST DAILY MEAN	6.3			Sep 17		4.1		Sep 11		.30 Sep 3 1954		
ANNUAL SEVEN-DAY MINIMUM	6.6			Sep 25		4.4		Sep 10		.33 Sep 1 1954		
INSTANTANEOUS PEAK FLOW						1640		Apr 16a		7300 Jan 21 1959		
INSTANTANEOUS PEAK STAGE						7.98		Apr 16		11.25 Jan 21 1959		
INSTANTANEOUS LOW FLOW						4.1		Sep 11		.30 Sep 3 1954		
ANNUAL RUNOFF (CFSM)	1.03					1.10				1.02		
ANNUAL RUNOFF (INCHES)	14.05					14.89				13.87		
10 PERCENT EXCEEDS	152					145		148		148		
50 PERCENT EXCEEDS	33					37		28		28		
90 PERCENT EXCEEDS	8.1					6.8		4.8		4.8		

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

**SURFACE-WATER RECORDS**  
**Little Miami River Basin**

**03245500 LITTLE MIAMI RIVER AT MILFORD, OHIO**

LOCATION.--Lat 39°10'17", long 84°17'53", Clermont County, Hydrologic Unit 05090202, on right bank 500 ft downstream from Wooster Pike Bridge on U.S. Highway 50 in Milford, 1.2 mi upstream from East Fork, 6.4 mi downstream from North Branch Creek, and at mile 12.9.

DRAINAGE AREA.--1,203 mi<sup>2</sup>.

PERIOD OF RECORD.--July 1915 to September 1917, October 1917 to May 1920 (gage heights only), March 1925 to September 1936, October 1938 to current year. Monthly discharge only for some periods, published in WSP 1305, published as "at Miamiville" 1915-20.

REVISED RECORDS.--WSP 728: 1931. WSP 743: 1932. WSP 873: 1925-36. WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 494.35 ft above sea level. June 22, 1915, to May 14, 1920, nonrecording gage at site 4 mi upstream at different datum. Mar. 11, 1925, to Aug.16,1928, nonrecording gage at bridge 500 ft upstream at datum 5.72 ft higher. Aug. 17, 1928, to Sept. 30, 1977, water-stage recorder at same site at datum 5.00 ft higher.

REMARKS.--Records fair. Some regulation since 1948 by Cowan Lake, capacity 12,000 acre-ft, 45 mi upstream on Cowan Creek, tributary to Todd Fork, and Caesar Creek Lake capacity 242,200 acre-ft 41.3 mi upstream on Caesar Creek. U.S. Army Corps of Engineers satellite telemeter at station. Water-quality and sediment data collected at this site.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 30.5 ft, present datum, from information by U.S. Army Corps of Engineers.

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	158	299	969	533	577	783	1050	4920	1820	1170	458	183
2	155	318	602	494	505	768	1010	3960	1850	1080	438	179
3	154	337	378	443	465	751	742	3220	1580	919	342	175
4	156	384	392	433	444	725	776	3710	986	879	281	175
5	154	378	373	455	528	664	918	3030	925	1800	272	177
6	154	326	352	696	695	610	798	2010	878	1390	264	177
7	153	299	328	4710	687	575	553	4270	742	1330	265	171
8	152	298	287	9990	667	629	3620	8840	643	855	362	167
9	150	289	266	5790	719	2280	10400	6470	906	735	315	164
10	149	274	867	4340	878	2490	10700	4520	2950	655	292	164
11	149	254	1340	3370	4010	1670	6020	3320	4880	558	317	164
12	150	250	848	1970	6750	1280	4050	2100	5880	508	346	162
13	149	274	708	1380	4710	1140	3440	2270	11100	483	281	160
14	178	509	627	1230	2620	1060	2090	1990	6280	486	257	157
15	164	388	578	1130	1500	859	1570	1910	8730	485	245	154
16	176	338	413	1030	1180	745	30600	1590	8310	482	237	148
17	166	308	367	963	1480	729	14300	1420	7520	472	234	158
18	166	281	351	926	2630	984	7470	1310	5160	468	225	153
19	165	266	337	813	3660	1150	5830	1240	6470	445	217	151
20	165	260	327	796	3420	1860	5750	1980	3830	5940	207	311
21	163	249	317	646	2230	3620	5100	1500	2390	1600	203	497
22	157	327	508	542	1430	4240	4650	1800	2440	893	198	819
23	161	356	829	961	1310	3110	4610	2930	4740	822	192	295
24	164	297	860	1200	1250	2670	3580	3330	2800	880	188	202
25	199	260	3440	1050	1120	2110	2680	4890	1550	727	190	178
26	224	247	1990	1070	860	1460	2050	2560	1100	549	263	166
27	284	230	1320	691	872	1260	3770	2330	935	475	238	160
28	260	217	1270	633	832	1080	3220	1470	837	429	201	154
29	238	214	615	629	---	957	2450	1170	789	403	220	148
30	300	585	537	602	---	824	7290	1070	898	494	193	142
31	298	---	555	595	---	768	---	1260	---	680	188	---
TOTAL	5611	9312	22951	50111	48029	43851	151087	88390	99919	29092	8129	6211
MEAN	181	310	740	1616	1715	1415	5036	2851	3331	938	262	207
MAX	300	585	3440	9990	6750	4240	30600	8840	11100	5940	458	819
MIN	149	214	266	433	444	575	553	1070	643	403	188	142
CFSM	.15	.26	.62	1.34	1.43	1.18	4.19	2.37	2.77	.78	.22	.17
IN.	.17	.29	.71	1.55	1.49	1.36	4.67	2.73	3.09	.90	.25	.19

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

	MEAN	351	799	1310	1897	2106	2447	2154	1683	1056	705	478	360
MAX (WY)	2775	4189	5494	7131	4951	8212	5396	7594	4686	3542	3014	3711	
MIN (WY)	1927	1986	1991	1949	1950	1945	1940	1996	1973	1958	1926	1979	
MIN (WY)	47.0	60.2	73.4	88.6	145	218	369	138	117	78.0	77.6	43.0	
	1954	1954	1935	1977	1954	1941	1941	1934	1925	1930	1930	1953	

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1916 - 1998	
ANNUAL TOTAL	494084		562693			
ANNUAL MEAN	1354		1542		1280	
HIGHEST ANNUAL MEAN					2364	
LOWEST ANNUAL MEAN					301	
HIGHEST DAILY MEAN	28300	Jun 1	30600	Apr 16	72400	Jan 22 1959
LOWEST DAILY MEAN	149	Oct 10	142	Sep 30	27	Sep 18 1954
ANNUAL SEVEN-DAY MINIMUM	150	Oct 7	150	Oct 7	37	Sep 12 1964
INSTANTANEOUS PEAK FLOW			49400	Apr 16a	84100	Jan 22 1959
INSTANTANEOUS PEAK STAGE			21.69	Apr 16b	27.33	Jan 22 1959
INSTANTANEOUS LOW FLOW			142	Sep 30	27	Sep 18 1954
ANNUAL RUNOFF (CFSM)	1.13		1.28		1.06	
ANNUAL RUNOFF (INCHES)	15.28		17.40		14.46	
10 PERCENT EXCEEDS	3750		4130		3020	
50 PERCENT EXCEEDS	545		695		496	
90 PERCENT EXCEEDS	202		166		113	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.  
b Gage height from outside high-water mark.

**SURFACE-WATER RECORDS**  
**Little Miami River Basin**

**03247500 EAST FORK LITTLE MIAMI RIVER AT PERINTOWN, OHIO**

LOCATION.--Lat 39°08'13", long 84°14'17", Clermont County, Hydrologic Unit 05090202, on right bank at upstream wingwall of highway bridge at Perintown, 0.2 mi downstream from Sugarcamp Run, 5 mi upstream from mouth, and at mile 6.4.

DRAINAGE AREA.--476 mi<sup>2</sup>.

PERIOD OF RECORD.--May 1915 to September 1917, October 1917 to May 1920 (gage heights only), January 1925 to current year.

GAGE.--Water-stage recorder. Datum of gage is 507.03 ft above sea level. Prior to Feb. 6, 1940, nonrecording gage at same site and datum.

REMARKS.--Records fair. Occasional regulation by Stonelick Lake 14 mi upstream. Surface area at spillway level, 171 acres. Flow regulated by William H. Harsha Reservoir, formerly East Fork Lake, since 1977. Water-quality data collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 42,400 ft<sup>3</sup>/s Mar. 10, 1964, gage height, 23.84 ft; minimum daily, 0.4 ft<sup>3</sup>/s July 24, 1930, Sept. 11, 12, 23, 1939; minimum gage height, -0.18 ft Oct. 3-7, 1917. Maximum discharge since start of construction of East Fork Dam, 23,200 ft<sup>3</sup>/s Aug. 30, 1974, gage height, 19.52 ft, result of failure of cofferdam.

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	44	264	68	108	166	252	1520	127	102	70	49
2	e42	64	76	72	123	140	197	2540	127	91	59	48
3	e42	70	58	92	104	136	169	3350	102	90	55	47
4	e42	70	109	94	105	137	170	2840	101	102	54	48
5	e42	68	108	93	102	146	152	2390	108	93	52	49
6	e42	69	104	1100	232	145	135	1270	103	78	53	48
7	42	71	100	2250	327	139	126	1690	88	74	53	47
8	42	73	62	2790	161	193	1370	2290	84	74	53	47
9	42	68	58	3340	175	1200	2820	2860	183	92	95	47
10	42	67	280	3330	293	1620	2990	2060	1130	74	75	55
11	42	65	189	3120	2040	2100	1290	537	2850	73	69	75
12	43	65	252	2530	2940	1080	2800	481	2860	67	55	64
13	43	69	321	1600	3590	657	2730	357	3320	67	51	50
14	48	141	310	1020	3540	222	2190	383	3430	84	45	48
15	44	73	235	677	2540	203	1070	556	3970	82	50	48
16	44	66	111	344	1330	193	5420	539	4160	74	52	48
17	44	63	101	384	819	191	2290	469	3080	71	53	48
18	44	55	63	292	1340	206	2910	330	3860	70	55	45
19	44	47	61	199	1800	219	2800	155	4300	145	53	121
20	43	44	60	206	1630	535	3550	228	3650	3310	51	91
21	41	45	50	161	1310	952	3600	169	2430	2200	50	83
22	41	69	140	154	626	1240	3320	154	3400	2890	51	70
23	41	55	143	429	623	1080	2350	672	3740	636	51	52
24	43	50	211	515	572	1640	1160	1160	3520	1240	50	63
25	46	45	651	557	370	1280	707	1540	2450	564	51	63
26	45	43	749	532	179	679	454	1460	1090	288	75	63
27	55	43	1110	579	183	492	676	1350	443	172	54	62
28	47	42	477	449	221	249	663	508	304	66	50	68
29	45	43	196	256	---	178	872	375	164	60	65	50
30	45	241	83	210	---	154	4450	234	127	116	54	44
31	44	---	73	122	---	148	---	137	---	158	51	---
TOTAL	1353	2028	6805	27565	27383	17720	53683	34604	55301	13303	1755	1741
MEAN	43.6	67.6	220	889	978	572	1789	1116	1843	429	56.6	58.0
MAX	55	241	1110	3340	3590	2100	5420	3350	4300	3310	95	121
MIN	41	42	50	68	102	136	126	137	84	60	45	44

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

	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988
MEAN	252	405	712	788	1004	1106	949	976	560	252	185	208
MAX	980	1446	2108	1637	2162	2432	1789	3657	2165	947	1220	1869
(WY)	1984	1986	1991	1991	1990	1997	1998	1996	1997	1980	1979	1979
MIN	18.5	49.3	54.1	15.3	168	138	73.5	48.4	35.6	32.4	38.6	30.1
(WY)	1983	1988	1977	1977	1987	1983	1986	1988	1988	1984	1987	1983

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	FOR 1997 WATER YEAR	FOR 1998 WATER YEAR	FOR 1999 WATER YEAR
ANNUAL TOTAL	217202	243241	217202	243241	217202
ANNUAL MEAN	595	666	595	666	595
HIGHEST ANNUAL MEAN			1058	1996	
LOWEST ANNUAL MEAN			266	1977	
HIGHEST DAILY MEAN	6360	Jun 18	5420	Apr 16	10800
LOWEST DAILY MEAN	36	Sep 5	41	Oct 21	14
ANNUAL SEVEN-DAY MINIMUM	38	Sep 2	42	Oct 2	14
INSTANTANEOUS PEAK FLOW			11300	Apr 16	29000
INSTANTANEOUS PEAK STAGE			13.51	Apr 16	21.00
INSTANTANEOUS LOW FLOW			41	Oct 21	14
10 PERCENT EXCEEDS	2390		2620		2090
50 PERCENT EXCEEDS	88		139		158
90 PERCENT EXCEEDS	42		45		38

e Estimated.

**SURFACE-WATER RECORDS**  
**Mill Creek Basin**

**03259000 MILL CREEK AT CARTHAGE, OHIO**

LOCATION.--Lat 39°12'07", long 84°28'16", in SW 1/4 sec. 1, R.1, T.3, Hamilton County, Hydrologic Unit 05090203, on right bank at Anthony Wayne Avenue Bridge in Carthage, 1.0 mi downstream from West Fork Mill Creek, and 11.0 mi upstream from mouth.

DRAINAGE AREA.--115 mi<sup>2</sup>.

PERIOD OF RECORD.--November 1946 to current year.

REVISED RECORDS.--WDR-OH-95-1: 1993 (M). WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 507.00 ft above Ohio River datum. Prior to Oct. 1, 1954, at same site at datum 512.00 ft above Ohio River Datum. Oct. 1, 1954, to Sept. 30, 1977, at site 100 ft downstream at datum 512.00 ft above Ohio River Datum. Oct. 1, 1977, to Oct. 16, 1984, at site 100 ft upstream at present datum.

REMARKS.--Records good except for periods of estimated record, which are poor. Some interbasin transfers of water between Mill Creek and Great Miami River basins by industrial and municipal operations. Flow regulated by West Fork Mill Creek Reservoir, 6.9 mi upstream, beginning 1953. Water-quality data collected at this site. Because of interbasin transfers and regulation, statistics are not published.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,030 ft<sup>3</sup>/s Sept. 14, 1979, gage height, 21.82 ft present datum, from rating curve extended above 4,000 ft<sup>3</sup>/s on basis of slope-area measurement of peak flow; no flow many days in 1947-48.

EXTREMES FOR CURRENT YEAR.--Maximum discharge, 8,620 ft<sup>3</sup>/s Apr. 16, gage height, 19.36 ft; minimum daily, 13.0 ft<sup>3</sup>/s Dec. 21.

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	e20	25	172	20	33	42	276	595	55	79	51	25
2	e19	32	94	20	33	41	72	563	50	55	47	24
3	e19	25	100	33	32	40	62	562	47	46	49	23
4	e20	23	117	35	36	46	134	221	52	157	45	23
5	e20	20	70	26	67	56	81	140	110	65	41	21
6	e20	19	37	78	100	58	61	104	74	53	38	20
7	e20	31	29	1170	108	63	66	1070	63	51	50	20
8	e20	37	30	1030	135	113	878	944	54	54	35	22
9	e20	21	33	599	144	528	1610	530	319	68	106	22
10	e20	21	390	603	187	287	1010	522	474	37	75	22
11	e22	19	132	251	599	131	686	135	1300	31	76	22
12	e21	17	64	114	618	110	278	106	798	26	57	22
13	e25	117	37	98	279	84	131	99	1490	27	34	21
14	e50	186	20	60	127	68	135	90	847	50	33	21
15	e30	40	18	57	99	58	180	73	757	46	30	22
16	e23	33	18	54	104	57	3270	60	619	42	27	23
17	e21	24	17	52	112	81	730	52	383	34	28	23
18	18	23	15	62	247	162	1020	50	116	35	34	23
19	16	22	15	75	233	100	981	50	832	39	33	22
20	18	21	14	43	153	359	1080	1060	397	2500	32	216
21	17	45	13	38	139	400	804	156	330	824	33	422
22	17	113	140	43	119	355	e450	117	138	717	31	357
23	15	61	69	207	106	261	e330	677	773	547	30	61
24	27	26	263	118	75	154	e250	535	380	421	32	41
25	65	23	473	79	68	110	e200	337	124	64	41	23
26	162	23	151	49	62	77	e170	144	96	42	77	20
27	70	20	90	46	51	66	e150	106	81	42	31	19
28	26	20	63	42	45	61	e140	85	71	44	31	20
29	21	20	29	41	---	61	138	74	68	44	58	19
30	18	474	27	50	---	58	1450	61	137	236	27	19
31	16	---	22	59	---	60	---	55	---	87	26	---
TOTAL	896	1581	2762	5252	4111	4147	16823	9373	11035	6563	1338	1638
MEAN	28.9	52.7	89.1	169	147	134	561	302	368	212	43.2	54.6
MAX	162	474	473	1170	618	528	3270	1070	1490	2500	106	422
MIN	15	17	13	20	32	40	61	50	47	26	26	19
CAL YR 1997	TOTAL 54953	MEAN 151	MAX 2950	MIN 13								
WTR YR 1998	TOTAL 65519	MEAN 180	MAX 3270	MIN 13								

e Estimated.



**SURFACE-WATER RECORDS**  
**Great Miami River Basin**

**03261950 LORAMIE CREEK NEAR NEWPORT, OHIO**

LOCATION.--Lat 40°18'25", long 84°23'02", in SE 1/4 sec, 24, T.11 N., R.4 E., Shelby County, Hydrologic Unit 05080001, right bank at downstream side of bridge on Cardo Roman Road, 1.1 mi northwest of Newport, 3 mi south of Fort Loramie, 3 mi downstream from Mile Creek, and at mile 16.5.

DRAINAGE AREA.--152 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1964 to current year.

REVISED RECORDS.--WRD Ohio 1971: 1966(M). WDR Ohio 1985-1: 1984 (M).

GAGE.--Water-stage recorder. Datum of gage is 926.57 ft above sea level. October 1, 1964, to September 30, 1980, water-stage recorder at same site at datum 0.43 ft higher.

REMARKS.--Records good except for discharge over 300 ft<sup>3</sup>/s, which are fair. Some regulation by Lake Loramie 5 mi upstream, capacity, 13,000 acre-ft. Sediment data collected at this site.

COOPERATION.--Gage-height record and 8 discharge measurements furnished by Miami Conservancy District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 25, 1913, reached a stage of 17.0 ft and flood of Jan. 21, 1959, a stage of 14.2 ft, from flood profile furnished by Miami Conservancy District.

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	5.5	3.8	61	18	41	48	92	97	25	60	10	2.5
2	5.5	7.7	39	16	37	40	81	185	23	27	6.8	2.8
3	6.1	7.4	26	14	36	35	73	290	18	16	4.9	2.7
4	6.5	6.9	25	19	39	38	63	517	13	188	79	2.4
5	3.3	5.3	16	22	30	34	41	257	30	117	743	2.2
6	2.5	4.2	8.4	94	21	29	37	151	47	49	876	2.1
7	2.4	3.8	8.7	902	16	30	33	145	26	101	928	3.3
8	2.3	3.7	10	2100	14	41	111	230	18	225	859	3.4
9	2.5	3.0	9.5	1890	13	663	1800	161	17	102	443	2.5
10	6.1	3.0	57	836	13	465	2080	114	19	58	208	2.1
11	4.2	3.0	109	352	17	224	901	81	1160	33	126	1.9
12	2.8	3.8	67	192	29	133	361	62	2800	20	79	1.6
13	2.7	11	38	133	24	102	198	51	2410	13	43	1.6
14	12	19	32	96	20	84	144	45	1230	114	28	1.6
15	6.6	27	22	84	16	64	115	32	1050	81	19	2.1
16	3.9	19	18	66	18	56	701	29	794	38	14	2.7
17	3.0	11	14	54	309	101	804	26	802	23	8.8	2.8
18	2.2	8.6	10	43	1070	703	369	19	425	15	7.2	2.5
19	2.0	8.4	9.0	35	787	597	219	26	234	31	6.3	2.4
20	2.0	8.8	7.8	32	478	760	145	162	159	284	4.2	2.1
21	1.8	14	6.7	27	328	1080	113	155	105	68	2.9	6.5
22	1.8	27	7.0	26	212	635	94	68	77	1450	2.4	4.2
23	1.8	20	8.4	115	156	342	75	44	65	2450	2.1	2.5
24	1.8	10	28	159	111	205	57	55	47	1280	2.0	2.0
25	1.8	5.1	247	126	87	140	47	62	34	389	3.1	2.5
26	1.8	4.5	180	97	75	103	107	38	25	160	5.9	2.4
27	7.5	3.5	116	85	65	90	199	27	19	83	3.6	2.1
28	6.1	4.8	74	81	56	102	109	20	15	48	2.6	2.4
29	4.2	7.1	52	73	---	125	81	17	42	32	3.2	2.2
30	3.3	29	40	60	---	98	74	18	144	24	3.0	2.4
31	2.8	---	28	48	---	83	---	17	---	17	2.6	---
TOTAL	118.8	293.4	1374.5	7895	4118	7250	9324	3201	11873	7596	4526.6	76.5
MEAN	3.83	9.78	44.3	255	147	234	311	103	396	245	146	2.55
MAX	12	29	247	2100	1070	1080	2080	517	2800	2450	928	6.5
MIN	1.8	3.0	6.7	14	13	29	33	17	13	13	2.0	1.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 1998, BY WATER YEAR (WY)

	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998			
MEAN	35.1	112	187	170	217	279	240	132	122	114	47.2	23.7																									
MAX	360	656	802	560	613	826	700	437	561	830	322	186																									
(WY)	1987	1973	1991	1996	1975	1978	1972	1996	1981	1992	1995	1972																									
MIN	.75	1.32	1.63	.63	14.1	38.9	23.1	7.14	1.47	.51	.22	.53																									
(WY)	1965	1981	1977	1977	1978	1981	1971	1988	1988	1965	1965	1966																									

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1965 - 1998	
ANNUAL TOTAL	49120.9		57646.8			
ANNUAL MEAN	135		158		140	
HIGHEST ANNUAL MEAN					249	
LOWEST ANNUAL MEAN					39.6	
HIGHEST DAILY MEAN	4060	Jun 2	2800	Jun 12	5100	Jul 14 1992
LOWEST DAILY MEAN	1.3	Sep 28	1.6	Sep 12	.10	Aug 15 1965
ANNUAL SEVEN-DAY MINIMUM	1.6	Sep 23	1.8	Oct 20	.13	Sep 9 1966
INSTANTANEOUS PEAK FLOW			2920		Jun 12a	6500
INSTANTANEOUS PEAK STAGE			12.00		Jun 12	14.31
INSTANTANEOUS LOW FLOW			1.6		Sep 12	.10
10 PERCENT EXCEEDS	321		403		359	
50 PERCENT EXCEEDS	27		32		24	
90 PERCENT EXCEEDS	2.3		2.5		1.6	

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



**SURFACE-WATER RECORDS**  
**Great Miami River Basin**

**03262000 LORAMIE CREEK AT LOCKINGTON, OHIO**

LOCATION.--Lat 40°12'35", long 84°14'32", in NE 1/4 sec. 30, T.7 N., R.6 E., Shelby County, Hydrologic Unit 05080001, on left bank at downstream side of county road bridge, 1,300 ft downstream from Lockington Dam, 0.5 mi northwest of Lockington, and at mile 1.9.

DRAINAGE AREA.--257 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1915 to current year.

REVISED RECORDS.--WSP 923: 1916. WSP 1908: Drainage area.

GAGE.--Water-stage recorder and concrete control. Datum of gage is 800.03 ft above sea level. Prior to July 3, 1924, nonrecording gage at same site at datum 75.96 ft higher. July 3, 1924, to Aug. 17, 1926, nonrecording gage, and Aug. 18 to Sept. 30, 1926, water-stage recorder, at same site at datum 74.96 ft higher.

REMARKS.--Records good. Slight regulation by Lake Loramie 18 mi upstream, capacity, 13,000 acre-ft. Flood flow regulated by Lockington retarding basin beginning in 1921.

COOPERATION.--Gage-height record and 8 discharge measurements furnished by Miami Conservancy District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 10,400 ft<sup>3</sup>/s May 7, 1916, gage height, 86.4 ft, present datum, from rating curve extended above 5,400 ft<sup>3</sup>/s.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 25, 1913, reached a stage of 91.6 ft, present datum; discharge, 25,600 ft<sup>3</sup>/s, at site upstream from Turtle Creek, drainage area, 211 mi<sup>2</sup>, computed by Miami Conservancy District.

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	9.9	10	55	33	73	79	134	183	42	121	43	19
2	10	9.9	49	33	68	63	115	370	43	72	37	18
3	8.7	14	37	27	62	63	107	425	39	51	34	18
4	6.7	17	31	25	58	66	109	744	37	241	55	18
5	6.3	13	29	29	56	63	84	384	36	205	1380	17
6	4.9	11	25	98	53	57	71	233	63	98	1730	17
7	8.1	9.9	21	1320	41	54	67	275	56	319	1500	16
8	11	11	23	3070	36	66	81	551	42	375	1030	16
9	9.3	16	25	2250	28	1110	2810	330	38	164	529	16
10	6.4	15	49	1080	36	725	2580	211	39	102	271	16
11	5.7	13	116	463	37	341	1190	155	2180	73	171	12
12	13	10	86	252	50	184	478	120	3580	54	124	7.9
13	9.8	10	57	173	49	141	279	101	3130	44	85	7.4
14	11	12	46	128	43	121	217	90	1550	175	57	7.2
15	13	12	39	115	39	98	181	72	1490	145	52	6.8
16	14	13	36	100	31	91	1430	64	1290	74	50	14
17	13	15	27	85	452	150	1010	58	1060	51	44	19
18	11	14	23	74	1500	918	542	52	527	40	39	20
19	9.5	12	21	60	1010	778	331	44	360	39	37	20
20	8.1	13	19	61	637	977	235	145	235	302	34	18
21	7.9	19	18	51	459	1350	181	186	164	130	32	18
22	9.4	24	22	50	290	818	159	121	129	2400	30	18
23	10	24	25	209	206	460	139	73	124	2550	29	17
24	12	20	36	224	152	283	116	102	102	1570	25	16
25	17	17	296	168	123	196	98	116	81	476	19	9.1
26	16	15	207	129	107	159	118	79	69	216	26	5.8
27	18	13	129	116	100	134	317	63	62	133	28	5.6
28	13	21	88	110	87	128	182	53	51	94	26	12
29	15	21	65	105	---	157	139	45	64	69	24	15
30	13	28	54	96	---	128	136	44	167	59	23	14
31	11	---	42	82	---	112	---	42	---	51	22	---
TOTAL	331.7	452.8	1796	10816	5883	10070	13636	5531	16850	10493	7586	433.8
MEAN	10.7	15.1	57.9	349	210	325	455	178	562	338	245	14.5
MAX	18	28	296	3070	1500	1350	2810	744	3580	2550	1730	20
MIN	4.9	9.9	18	25	28	54	67	42	36	39	19	5.6

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

	48.6	127	229	336	348	456	390	210	187	129	65.9	48.0
MEAN	48.6	127	229	336	348	456	390	210	187	129	65.9	48.0
MAX	540	1025	1203	1728	1119	1235	1301	1017	1754	1088	682	1093
(WY)	1987	1973	1991	1937	1950	1978	1922	1933	1958	1992	1995	1926
MIN	2.92	4.64	4.59	4.35	9.19	21.4	43.0	11.9	9.23	5.35	3.37	2.46
(WY)	1964	1964	1964	1977	1964	1941	1971	1941	1988	1936	1936	1983

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1921 - 1998

ANNUAL TOTAL	79720.6	83879.3		
ANNUAL MEAN	218	230	214	
HIGHEST ANNUAL MEAN			413	1973
LOWEST ANNUAL MEAN			53.0	1931
HIGHEST DAILY MEAN	4510	Jun 2	3580	Jun 12
LOWEST DAILY MEAN	4.9	Oct 6	4.9	Oct 6
ANNUAL SEVEN-DAY MINIMUM	7.4	Oct 5	7.4	Oct 5
INSTANTANEOUS PEAK FLOW			3920	Jun 12
INSTANTANEOUS PEAK STAGE			82.86	Jun 12
INSTANTANEOUS LOW FLOW			2.9	Oct 11
10 PERCENT EXCEEDS	504		534	544
50 PERCENT EXCEEDS	62		58	43
90 PERCENT EXCEEDS	11		12	7.2

**SURFACE-WATER RECORDS  
Great Miami River Basin**

**03262700 GREAT MIAMI RIVER AT TROY, OHIO**

LOCATION.--Lat 40°02'25", long 84°11'52", Miami County, Hydrologic Unit 05080001, 400 ft downstream from B & O Railroad bridge, 1,300 ft downstream from bridge on State Highway 55 at Troy, 1.2 mi upstream from small left bank tributary, 2.3 mi downstream from Spring Creek, and at mile 105.

DRAINAGE AREA.--926 mi<sup>2</sup>.

PERIOD OF RECORD.--Occasional low-flow measurements, water years 1961, 1962 (published as Miami River at Troy).

October 1962 to current year.

GAGE.--Water-stage recorder. Datum of gage is 810.67 ft above sea level.

REMARKS.--Records fair except for periods of estimated record, which are poor. Flood flow regulated by retarding basin on Loramie Creek, 18 mi upstream. Low and medium flow slightly regulated by Indian Lake; capacity, 45,900 acre-ft, 54 mi upstream. Water supply for city of Troy is pumped from wells adjacent to the Great Miami River upstream from the station. The pumpage averaged 8.1 ft<sup>3</sup>/s in 1998 and is returned as sewage 1 mi downstream from the station. Water-quality and sediment data collected at this site.

COOPERATION.--Gage-height record and 9 discharge measurements furnished by Miami Conservancy District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of June 11, 1958, reached a stage of 16.4 ft; discharge, 21,000 ft<sup>3</sup>/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	73	86	196	231	433	471	792	1080	513	530	246	164
2	e70	85	284	238	395	454	897	1440	627	362	201	156
3	75	87	226	229	383	425	746	1450	395	279	212	154
4	73	89	187	200	385	419	672	2230	319	699	212	157
5	70	89	177	203	505	407	645	1670	250	858	1550	150
6	69	85	177	324	448	384	461	1200	273	545	3570	145
7	58	84	158	3640	332	367	384	1160	315	465	4740	150
8	62	82	146	10900	264	416	423	2930	257	1740	3600	146
9	67	80	143	8800	253	1960	4930	2440	244	1120	2470	132
10	72	81	213	5910	232	2520	7300	1530	220	616	1920	143
11	e64	89	443	3720	252	1670	4990	1150	3650	438	1600	120
12	63	82	539	2560	314	1130	3110	866	8160	343	1430	112
13	67	79	351	1880	437	802	2080	715	7760	282	844	114
14	73	90	263	1380	386	641	1520	592	5220	289	517	e110
15	63	103	224	1010	331	619	1200	500	5180	451	412	e110
16	61	101	192	788	312	497	4570	448	5520	301	363	e100
17	64	100	176	682	839	539	5510	413	5820	249	331	e100
18	69	97	159	552	4570	1640	3540	395	3480	227	294	e100
19	71	91	188	481	4240	2180	2480	360	2580	244	257	e110
20	74	89	157	441	3000	2380	1940	396	1860	501	251	e110
21	72	94	137	419	2270	3700	1430	520	1290	422	226	e120
22	69	105	149	405	1650	3080	1080	421	876	4170	211	e120
23	68	105	152	698	1230	2260	926	337	1010	5870	204	e120
24	73	116	226	1090	951	1600	788	363	769	4300	225	e120
25	87	107	697	878	733	1180	683	428	551	2310	222	e110
26	94	105	1170	700	619	930	638	395	404	1370	218	e110
27	103	92	803	595	569	765	1150	349	361	758	209	e110
28	101	119	577	579	498	718	1020	285	321	514	198	e110
29	104	144	436	549	---	734	733	295	440	407	180	e110
30	100	192	367	508	---	743	730	359	640	321	170	e100
31	88	---	333	455	---	661	---	643	---	286	170	---
TOTAL	2317	2948	9646	51045	26831	36292	57368	27360	59305	31267	27253	3713
MEAN	74.7	98.3	311	1647	958	1171	1912	883	1977	1009	879	124
MAX	104	192	1170	10900	4570	3700	7300	2930	8160	5870	4740	164
MIN	58	79	137	200	232	367	384	285	220	227	170	100

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

	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
MEAN	245	650	1036	945	1234	1661	1539	973	800	652	348	176																									
MAX	2268	3824	3949	3069	3403	4005	4032	3294	2858	3458	2246	671																									
(WY)	1987	1973	1991	1974	1975	1963	1964	1996	1981	1993	1995	1972																									
MIN	24.9	49.4	49.2	34.6	58.7	308	270	140	65.9	65.2	41.0	24.1																									
(WY)	1964	1964	1977	1977	1964	1981	1971	1988	1988	1965	1965	1963																									

SUMMARY STATISTICS

FOR 1997 CALENDAR YEAR

FOR 1998 WATER YEAR

WATER YEARS 1963 - 1998

ANNUAL TOTAL			300393			335345						
ANNUAL MEAN			823			919						853
HIGHEST ANNUAL MEAN												1662
LOWEST ANNUAL MEAN												300
HIGHEST DAILY MEAN			13100		Jun 2	10900		Jan 8	18900		Aug 9 1995	
LOWEST DAILY MEAN			58		Oct 7	58		Oct 7	4.3		Jul 17 1977	
ANNUAL SEVEN-DAY MINIMUM			65		Oct 7	65		Oct 7	19		Oct 6 1963	
INSTANTANEOUS PEAK FLOW						11500		Jan 8	21700		Aug 8 1995	
INSTANTANEOUS PEAK STAGE						11.46		Jan 8	16.02		Aug 8 1995	
INSTANTANEOUS LOW FLOW						56		Oct 7	4.3		Jul 17 1977	
10 PERCENT EXCEEDS			1980			2470			2210			
50 PERCENT EXCEEDS			377			395			310			
90 PERCENT EXCEEDS			86			89			72			

e Estimated.

**SURFACE-WATER RECORDS  
Great Miami River Basin**

**03263000 GREAT MIAMI RIVER AT TAYLORSVILLE, OHIO**

LOCATION.--Lat 39°52'27", long 84°09'45", in SW 1/4 sec. 36, R.8, T.2, Montgomery County, Hydrologic Unit 05080001, on right upstream face of Taylorsville Dam, 0.8 mi north of Taylorsville, 2.1 mi east of Vandalia, 9.5 mi upstream from Stillwater River, and at mile 90.9.

DRAINAGE AREA.--1,149 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1914 to September 1917 (published as Miami River at Tadmor), October 1921 to current year (published as Miami River at Taylorsville 1921-62). Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected at site at Tadmor, January 1914 to July 1920, are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 743: 1924(M). WSP 853: 1930, 1937. WSP 923: 1922-24. WSP 1385: 1916. WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 760.11 ft above sea level, levels by Miami Conservancy District. Prior to October 1921, nonrecording gage at site 1.7 mi upstream at different datum. Jan. 1, 1922, to Nov. 11, 1925, nonrecording gage at site 50 ft downstream at outlet works of Taylorsville Dam at datum 60.03 ft lower, October 1921 to September 1978 at site 650 ft downstream at datum 60.03 ft lower.

REMARKS.--Records good. Flood flow regulated by retarding basins on Great Miami River just downstream from station and on Loramie Creek 28 mi upstream from station beginning in 1921. Low and medium flow slightly regulated by Indian Lake, 64 mi upstream from station, and by Lake Loramie 47 mi upstream from station on Loramie Creek; combined capacity, 58,900 acre-ft.

COOPERATION.--Base data furnished by Miami Conservancy District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 25.4 ft at site at Tadmor; discharge, 127,000 ft<sup>3</sup>/s computed by Miami Conservancy District.

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	95	129	251	346	532	840	1430	1410	630	953	325	182
2	93	147	319	297	506	809	1580	1990	806	728	253	177
3	102	139	295	310	472	766	1340	1910	568	552	261	169
4	107	139	254	268	465	745	1190	2640	482	1440	264	170
5	96	140	222	259	580	714	1180	2170	389	1330	1040	155
6	94	138	223	340	573	666	867	1580	382	959	3780	144
7	86	130	210	3360	472	629	735	2040	461	686	4500	150
8	81	127	191	10800	388	698	1130	5380	390	1640	3960	154
9	91	127	187	11000	367	2420	5490	3810	387	1440	2600	154
10	103	128	279	7500	339	3750	8850	2370	350	927	2020	153
11	101	135	436	4620	384	2630	6440	1740	2540	691	1590	141
12	96	130	688	3070	604	1890	3780	1350	8170	546	1520	118
13	104	124	473	2260	669	1410	2590	1250	8530	467	1060	110
14	118	145	346	1700	607	1180	1960	1080	6010	416	704	115
15	109	148	286	1310	507	1050	1620	892	6600	596	550	119
16	97	154	245	1010	493	894	6520	798	6370	445	462	114
17	95	148	222	879	694	981	8100	707	6990	350	413	134
18	97	149	207	727	5330	2160	4830	661	4090	325	359	142
19	108	139	205	630	5870	3200	3320	641	3050	353	302	142
20	111	136	190	569	4150	3220	2550	673	2190	590	285	144
21	106	145	184	534	3210	4960	1930	1070	1640	646	255	148
22	100	173	197	513	2400	4380	1510	849	1240	3400	223	171
23	100	156	200	759	1860	3400	1310	753	1290	6390	222	146
24	106	153	266	1270	1500	2480	1140	674	1120	4800	221	136
25	128	154	749	1070	1240	1920	986	769	908	2540	258	132
26	143	146	1400	861	1090	1600	961	674	765	1520	250	133
27	153	138	1040	753	1010	1370	1350	611	662	962	227	125
28	147	138	746	721	890	1300	1370	501	608	678	211	132
29	147	194	576	694	---	1300	1030	428	667	529	191	118
30	145	293	470	641	---	1360	1030	461	1390	419	177	121
31	132	---	424	581	---	1250	---	789	---	374	171	---
TOTAL	3391	4442	11981	59652	37202	55972	78119	42671	69675	37692	28654	4249
MEAN	109	148	386	1924	1329	1806	2604	1376	2323	1216	924	142
MAX	153	293	1400	11000	5870	4960	8850	5380	8530	6390	4500	182
MIN	81	124	184	259	339	629	735	428	350	325	171	110
CFSM	.10	.13	.34	1.67	1.16	1.57	2.27	1.20	2.02	1.06	.80	.12
IN.	.11	.14	.39	1.93	1.20	1.81	2.53	1.38	2.26	1.22	.93	.14

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

MEAN	298	616	1031	1525	1582	1971	1833	1158	990	654	379	256
MAX	3089	4228	4587	8024	4473	5158	5525	4603	5567	4591	2786	3608
(WY)	1927	1973	1991	1937	1950	1963	1922	1996	1958	1993	1995	1926
MIN	45.8	63.9	65.3	46.8	94.4	205	361	137	91.2	70.8	68.3	46.5
(WY)	1964	1935	1977	1977	1964	1941	1971	1941	1988	1936	1965	1963

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR			FOR 1998 WATER YEAR			WATER YEARS 1922 - 1998			
ANNUAL TOTAL	375710			433700						
ANNUAL MEAN	1029			1188			1021			
HIGHEST ANNUAL MEAN							2005			
LOWEST ANNUAL MEAN							292			
HIGHEST DAILY MEAN	16000	Jun	2	11000	Jan	9	30200	Jan	22	1959
LOWEST DAILY MEAN	81	Oct	8	81	Oct	8	25	Jul	18	1977
ANNUAL SEVEN-DAY MINIMUM	93	Oct	5	93	Oct	5	31	Feb	4	1977
INSTANTANEOUS PEAK FLOW				12300			31400			
INSTANTANEOUS PEAK STAGE				17.17			75.44			
INSTANTANEOUS LOW FLOW				81			25			
ANNUAL RUNOFF (CFSM)	.90			1.03			.89			
ANNUAL RUNOFF (INCHES)	12.16			14.04			12.08			
10 PERCENT EXCEEDS	2380			3210			2480			
50 PERCENT EXCEEDS	479			581			396			
90 PERCENT EXCEEDS	129			128			94			

**SURFACE-WATER RECORDS**  
**Great Miami River Basin**

**03264000 GREENVILLE CREEK NEAR BRADFORD, OHIO**

LOCATION.--Lat 40°06'08", Long 84°25'48", in NW 1/4 sec. 34, T.9 N., R.4 E., Miami County, Hydrologic Unit 05080001, on left bank at downstream side of bridge on State Highway 721, 0.8 mi downstream from small left bank tributary, 1.8 mi south of Bradford, and 6 mi upstream from mouth.

DRAINAGE AREA.--193 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1930 to current year. Prior to April 1931, monthly discharge only, published in WSP 1305.

REVISED RECORDS.--WSP 803: 1933(M). WSP 1235: 1936, 1937(M). WSP 1908: Drainage area. WRD-OH-82-1: 1980.

GAGE.--Water-stage recorder. Datum of gage is 948.9 ft above sea level. Prior to Oct. 1, 1942, nonrecording gage at same site and datum. Apr. 6, 1962 to Nov. 13, 1963, water-stage recorder at site 200 ft downstream at same datum.

REMARKS.--Records good. Some diurnal fluctuation caused by mill 8 mi upstream from station; daily flows are not affected appreciably. Sediment data collected at this site.

COOPERATION.--Gage-height record and 9 discharge measurements furnished by Miami Conservancy District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a stage of 12.1 ft; discharge, 18,200 ft<sup>3</sup>/s, at site with drainage area of 213 mi<sup>2</sup>, computed by Miami Conservancy District.

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	23	33	80	47	81	94	154	195	113	350	59	38
2	23	33	69	51	79	88	145	190	95	213	55	38
3	27	34	54	47	73	85	130	166	84	162	54	37
4	28	34	51	45	69	82	129	152	195	1110	50	37
5	27	37	46	44	70	77	120	139	150	1200	284	41
6	26	38	42	72	68	73	112	128	79	456	815	40
7	24	37	39	823	66	70	113	248	74	302	476	36
8	24	36	36	1810	64	81	119	732	68	350	275	35
9	25	32	36	1200	63	475	1400	409	72	265	181	33
10	28	31	58	520	62	413	2160	278	79	192	133	32
11	28	32	87	338	64	249	890	217	553	156	105	33
12	28	33	77	251	74	191	489	180	1710	132	87	33
13	27	33	61	205	73	166	352	157	1380	116	76	32
14	33	34	53	170	71	150	288	139	635	105	72	30
15	40	35	47	156	66	124	239	124	1230	99	68	27
16	40	40	43	145	68	114	1040	120	1820	96	63	27
17	44	38	40	121	131	223	812	108	1520	88	59	27
18	34	36	39	107	394	839	405	100	699	81	56	27
19	31	36	37	96	398	714	311	94	737	78	51	29
20	31	37	35	88	296	860	256	170	533	78	47	28
21	29	39	34	82	259	1190	220	272	349	74	46	26
22	28	56	36	81	204	632	197	175	277	281	45	34
23	28	57	42	121	175	424	194	166	233	354	43	34
24	29	51	48	137	152	356	174	182	202	195	43	31
25	36	45	140	121	129	291	157	179	172	124	63	30
26	40	44	150	107	117	251	160	137	153	98	53	29
27	36	40	101	102	114	218	158	115	139	89	47	29
28	36	40	79	99	102	204	138	103	123	80	45	30
29	38	47	69	98	---	187	136	97	157	74	44	27
30	35	71	63	92	---	170	158	92	656	66	43	25
31	34	---	54	85	---	160	---	90	---	63	40	---
TOTAL	960	1189	1846	7461	3582	9251	11356	5654	14287	7127	3578	955
MEAN	31.0	39.6	59.5	241	128	298	379	182	476	230	115	31.8
MAX	44	71	150	1810	398	1190	2160	732	1820	1200	815	41
MIN	23	31	34	44	62	70	112	90	68	63	40	25
CFSM	.16	.21	.31	1.25	.66	1.55	1.96	.95	2.47	1.19	.60	.16
IN.	.19	.23	.36	1.44	.69	1.78	2.19	1.09	2.75	1.37	.69	.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 1998, BY WATER YEAR (WY)

	55.8	111	177	248	275	330	321	219	188	111	70.2	48.3
MEAN	55.8	111	177	248	275	330	321	219	188	111	70.2	48.3
MAX	496	724	772	1430	844	826	783	935	1142	502	723	425
(WY)	1987	1994	1991	1937	1950	1963	1964	1933	1958	1987	1979	1989
MIN	10.7	14.9	13.5	14.9	15.9	48.2	58.7	27.7	21.6	13.9	8.93	10.7
(WY)	1964	1935	1964	1945	1935	1941	1935	1941	1934	1934	1988	1941

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1931 - 1998

ANNUAL TOTAL	79133	67246	
ANNUAL MEAN	217	184	
HIGHEST ANNUAL MEAN			179
LOWEST ANNUAL MEAN			302
HIGHEST DAILY MEAN	4850	Jun 2	2160
LOWEST DAILY MEAN	23	Sep 29	23
ANNUAL SEVEN-DAY MINIMUM	24	Sep 26	25
INSTANTANEOUS PEAK FLOW			2360
INSTANTANEOUS PEAK STAGE			6.24
INSTANTANEOUS LOW FLOW			23
ANNUAL RUNOFF (CFSM)	1.12		.95
ANNUAL RUNOFF (INCHES)	15.25		12.96
10 PERCENT EXCEEDS	465		407
50 PERCENT EXCEEDS	100		82
90 PERCENT EXCEEDS	28		32

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

**SURFACE-WATER RECORDS  
Great Miami River Basin**

**03265000 STILLWATER RIVER AT PLEASANT HILL, OHIO**

LOCATION.--Lat 40°03'28", long 84°21'22", in SW 1/4 sec. 18, T.7 N., R.5 E., Miami County, Hydrologic Unit 05080001, on left bank at downstream side of bridge on Laurer Road, 0.8 mi northwest of Pleasant Hill, 2 mi downstream from Painter Creek, 2 mi upstream from Canyon Run, and at mile 28.35.

DRAINAGE AREA.--503 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1916 to September 1928, October 1934 to current year. Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected at same site March 1922 to December 1963 are contained in reports of the National Weather Service.

REVISED RECORDS.--WSP 523: 1917. WSP 1305: 1920(M). WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 846.73 ft above sea level. Prior to Dec. 23, 1934, nonrecording gage at same site and datum.

REMARKS.--Records good. Sediment data collected at this site.

COOPERATION.--Gage-height record and 9 discharge measurements furnished by Miami Conservancy District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 25, 1913, reached a stage of 17.5 ft. Discharge at site about 3 mi upstream, 51,400 ft<sup>3</sup>/s, computed by Miami Conservancy District. This stage is not comparable with present gage heights because of failure of levee in 1913.

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	50	172	68	163	216	339	505	201	1060	122	56
2	30	50	142	84	157	201	298	784	190	534	106	53
3	33	52	107	91	148	192	260	548	158	358	98	52
4	38	55	94	90	138	186	257	440	143	2170	93	53
5	35	57	80	94	140	171	239	376	136	2960	431	55
6	33	56	70	116	134	161	222	318	142	1140	2590	54
7	33	57	66	1540	129	152	221	369	133	681	1220	53
8	30	57	62	5250	124	164	244	1730	119	625	707	50
9	30	53	63	3600	121	1240	3060	1220	116	555	404	49
10	34	51	98	1480	120	1450	5450	729	132	383	288	46
11	34	51	159	867	126	692	2520	531	1410	300	215	44
12	37	51	170	609	152	484	1180	421	5590	249	176	45
13	38	51	122	482	153	402	809	357	4330	219	149	43
14	47	57	93	375	142	365	640	311	1900	200	133	40
15	55	56	77	330	130	293	511	271	3140	191	122	39
16	65	58	71	294	135	256	2560	248	4610	180	113	36
17	59	60	67	252	220	341	2700	228	3820	164	103	36
18	52	58	63	217	1400	2280	1200	206	1720	149	95	38
19	43	57	64	192	1360	2270	816	192	1830	139	90	42
20	40	56	60	179	823	1930	643	574	1300	463	83	42
21	41	60	56	162	726	3840	516	842	787	312	79	41
22	43	74	65	156	556	2050	447	538	634	2130	76	47
23	41	88	68	214	461	1230	403	398	501	3150	72	52
24	44	80	76	311	385	943	364	399	431	989	71	45
25	52	67	267	274	317	747	317	510	357	473	84	42
26	57	62	368	232	279	614	315	344	305	303	80	42
27	62	59	224	214	265	504	359	263	270	224	72	42
28	57	62	158	216	240	448	326	223	238	190	66	40
29	56	67	132	212	---	419	289	220	225	160	63	37
30	55	120	118	199	---	387	308	236	1510	143	61	35
31	50	---	92	178	---	358	---	194	---	131	59	---
TOTAL	1352	1832	3524	18578	9244	24986	27813	14525	36378	20925	8121	1349
MEAN	43.6	61.1	114	599	330	806	927	469	1213	675	262	45.0
MAX	65	120	368	5250	1400	3840	5450	1730	5590	3150	2590	56
MIN	28	50	56	68	120	152	221	192	116	131	59	35
CFSM	.09	.12	.23	1.19	.66	1.60	1.84	.93	2.41	1.34	.52	.09
IN.	.10	.14	.26	1.37	.68	1.85	2.06	1.07	2.69	1.55	.60	.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 1998, BY WATER YEAR (WY)

	1917	1918	1919	1920	1921	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942	1943	1944	1945	1946	1947	1948	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961	1962	1963	1964	1965	1966	1967	1968	1969	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
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SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1917 - 1998
ANNUAL TOTAL	167922	168627	
ANNUAL MEAN	460	462	454
HIGHEST ANNUAL MEAN			775
LOWEST ANNUAL MEAN			99.3
HIGHEST DAILY MEAN	13100	Jun 1	17400
LOWEST DAILY MEAN	28	Sep 30	4.0
ANNUAL SEVEN-DAY MINIMUM	30	Sep 26	8.1
INSTANTANEOUS PEAK FLOW		6090	26400
INSTANTANEOUS PEAK STAGE		9.62	18.46
INSTANTANEOUS LOW FLOW		28	4.0
ANNUAL RUNOFF (CFSM)	.91	.92	.90
ANNUAL RUNOFF (INCHES)	12.42	12.47	12.28
10 PERCENT EXCEEDS	953	1220	1020
50 PERCENT EXCEEDS	180	171	145
90 PERCENT EXCEEDS	47	45	33

**SURFACE-WATER RECORDS**  
**Great Miami River Basin**

**03266000 STILLWATER RIVER AT ENGLEWOOD, OHIO**

LOCATION.--Lat 39°52'10", long 84°16'57", in NW 1/4 sec. 23, T.5 N., R.5 E., Montgomery County, Hydrologic Unit 05080001, on right bank 1,000 ft downstream from Englewood Dam, 1 mi southeast of Englewood, and at mile 8.9.  
 DRAINAGE AREA.--650 mi<sup>2</sup>.  
 PERIOD OF RECORD.--October 1925 to current year (monthly discharge only, October 1925, published in WSP 1305).  
 REVISED RECORDS.--WSP 1908: Drainage area.  
 GAGE.--Water-stage recorder and concrete control. Datum of gage is 699.82 ft above sea level.  
 REMARKS.--Records good except for periods of estimated record, which are poor. Flood flow regulated by Englewood retarding basin.  
 COOPERATION.--Gage-height tapes and 9 discharge measurements furnished by Miami Conservancy District.  
 EXTREMES OUTSIDE PERIOD OF RECORD.--Flood in March 1913 reached a discharge of 85,400 ft<sup>3</sup>/s at site 1 mi downstream, computed by Miami Conservancy District.

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	65	171	106	230	e310	475	815	270	e1500	e180	77
2	40	63	180	107	221	e290	417	1560	269	e800	e160	76
3	42	62	147	107	208	e270	366	1110	245	e660	e150	72
4	41	61	125	103	e200	e250	354	834	228	e2000	e140	81
5	41	62	105	102	e200	e240	e330	640	221	e4000	e130	77
6	40	62	95	123	e190	e240	303	526	217	e1600	2850	76
7	38	62	86	1650	e180	e230	298	934	210	e1100	1760	75
8	38	61	80	4700	e180	239	361	2660	198	e960	956	74
9	38	60	78	5020	e180	1340	2640	2210	204	e800	506	68
10	36	58	104	3700	e190	2060	5010	1280	208	e560	393	66
11	36	56	143	1440	221	993	4810	882	1090	e450	284	64
12	38	55	182	925	312	646	2780	662	4540	e370	235	62
13	41	58	164	692	287	522	1280	548	5210	e330	204	63
14	50	63	131	533	e210	475	977	476	4560	e300	190	60
15	49	64	110	467	e250	382	796	420	3850	e280	177	58
16	51	63	99	415	e400	322	3150	380	4870	e260	163	60
17	63	60	91	363	e1200	413	4410	343	e5000	e240	156	57
18	62	64	84	306	e2100	2380	2820	e300	e2800	e220	147	59
19	59	64	80	276	e1300	3040	1550	e500	e2700	e250	133	58
20	53	63	77	260	e1100	2470	1170	e1200	e2000	e700	125	60
21	49	69	73	238	e860	4040	903	e1000	e1300	e580	114	61
22	47	81	81	237	e720	3490	759	e680	e1000	e2000	106	61
23	46	84	83	290	621	1980	676	e620	e840	e4500	104	67
24	47	97	106	403	521	1430	606	e700	e680	e2000	102	70
25	51	92	218	375	e420	1090	532	e700	e580	e800	106	65
26	58	81	373	319	e380	893	547	e450	e500	e500	114	62
27	65	74	273	293	e360	722	666	e350	e430	e340	104	57
28	65	74	202	288	e330	619	578	e340	e370	e280	96	54
29	63	76	168	286	---	569	487	e350	e350	e240	91	54
30	62	127	152	273	---	514	532	320	e2700	e210	86	53
31	62	---	134	249	---	481	---	280	---	e200	81	---
TOTAL	1514	2081	4195	24646	13571	32940	40583	24070	47640	29030	10143	1947
MEAN	48.8	69.4	135	795	485	1063	1353	776	1588	936	327	64.9
MAX	65	127	373	5020	2100	4040	5010	2660	5210	4500	2850	81
MIN	36	55	73	102	180	230	298	280	198	200	81	53
CFSM	.08	.11	.21	1.22	.75	1.63	2.08	1.19	2.44	1.44	.50	.10
IN.	.09	.12	.24	1.41	.78	1.89	2.32	1.38	2.73	1.66	.58	.11

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1998, BY WATER YEAR (WY)

MEAN	169	351	571	889	938	1152	1081	689	585	368	208	143
MAX	1781	2215	2495	5129	2840	3147	3015	2931	4244	1582	2438	1993
(WY)	1987	1973	1991	1937	1950	1963	1964	1933	1958	1993	1979	1926
MIN	15.6	27.3	27.9	28.6	63.0	111	180	61.1	52.2	30.0	19.7	17.9
(WY)	1964	1945	1945	1945	1964	1941	1941	1941	1934	1988	1988	1963

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1926 - 1998

ANNUAL TOTAL	217601	232360	
ANNUAL MEAN	596	637	593
HIGHEST ANNUAL MEAN			1027
LOWEST ANNUAL MEAN			130
HIGHEST DAILY MEAN	7880	Jun 3	9980
LOWEST DAILY MEAN	36	Oct 10	4.8
ANNUAL SEVEN-DAY MINIMUM	38	Oct 6	9.7
INSTANTANEOUS PEAK FLOW			9980
INSTANTANEOUS PEAK STAGE		77.57	80.88
INSTANTANEOUS LOW FLOW		36	3.7
ANNUAL RUNOFF (CFSM)	.92	.98	.91
ANNUAL RUNOFF (INCHES)	12.45	13.30	12.40
10 PERCENT EXCEEDS	1500	1850	1420
50 PERCENT EXCEEDS	232	249	200
90 PERCENT EXCEEDS	55	60	43

e Estimated.

# SURFACE-WATER RECORDS

## Great Miami River Basin

### 03266560 MAD RIVER AT WEST LIBERTY, OHIO

LOCATION.--Lat 40°15'08", long 83°44'59", Logan County, on left bank upstream from the SR 245 bridge, on east side of West Liberty, 0.4 mi east of intersection of SR 245 and SR 68.

DRAINAGE AREA.--36.6 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1993 to current year.

GAGE.--Water-stage recorder. Datum of gage is 1,078.00 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	15	18	24	15	23	31	48	e67	e35	e39	e31	24
2	16	18	22	17	23	29	39	e70	e34	e38	e30	24
3	16	19	21	18	22	29	36	e72	e34	e36	e29	23
4	15	19	23	17	22	30	34	e74	e33	e38	e29	22
5	17	19	21	17	22	29	33	e69	e33	e36	e28	22
6	18	19	19	18	22	28	32	e64	e32	e34	e28	22
7	21	19	18	224	22	28	e32	e62	e32	e40	26	21
8	25	19	19	355	22	29	e90	e250	e31	e48	25	21
9	28	20	19	99	22	112	e140	e200	e31	e42	25	20
10	29	20	34	63	22	74	e110	e145	e30	e37	25	20
11	31	21	30	46	24	47	e84	e115	e43	e36	25	19
12	31	21	23	41	40	39	e68	e92	e55	e33	24	19
13	31	21	21	38	32	37	e56	e80	e70	e31	23	18
14	39	22	20	32	28	37	e49	e70	e67	e30	23	18
15	39	22	19	33	26	34	e45	e63	e61	e30	23	17
16	40	21	19	31	27	33	e96	e58	e70	e31	23	17
17	41	20	18	30	85	34	e160	e56	e80	e30	24	18
18	41	20	18	28	138	43	e140	e54	e88	e29	24	17
19	41	20	17	25	80	46	e110	e51	e64	e30	23	16
20	16	18	17	26	52	54	e94	e49	e58	e31	23	16
21	17	17	17	25	44	86	e78	e47	e52	e29	23	17
22	17	19	18	26	39	61	e73	e45	e50	e110	23	16
23	17	18	19	37	36	55	e67	e44	e45	e97	23	16
24	18	18	19	35	34	46	e65	e43	e45	e78	23	16
25	18	17	37	30	32	42	e60	e42	e43	e65	25	16
26	19	17	26	28	31	40	e68	e40	e42	e52	24	15
27	22	18	22	27	31	37	e76	e38	e39	e43	23	15
28	19	25	20	27	29	36	e70	e38	e38	e37	24	15
29	18	24	19	26	---	36	e61	e37	e43	e33	24	14
30	18	26	18	25	---	34	e64	e37	e40	e32	24	14
31	18	---	16	24	---	33	---	e36	---	e32	24	---
TOTAL	751	595	653	1483	1030	1329	2178	2208	1418	1307	771	548
MEAN	24.2	19.8	21.1	47.8	36.8	42.9	72.6	71.2	47.3	42.2	24.9	18.3
MAX	41	26	37	355	138	112	160	250	88	110	31	24
MIN	15	17	16	15	22	28	32	36	30	29	23	14
CFSM	.66	.54	.58	1.31	1.01	1.17	1.98	1.95	1.29	1.15	.68	.50
IN.	.76	.60	.66	1.51	1.05	1.35	2.21	2.24	1.44	1.33	.78	.56

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1998, BY WATER YEAR (WY)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005
MEAN	23.3	25.9	38.3	47.5	45.4	53.3	65.4	77.9	62.6	37.9	28.3	21.3
MAX	30.4	40.9	81.2	70.8	66.6	86.6	96.5	140	101	50.2	41.3	33.4
(WY)	1997	1997	1997	1996	1997	1997	1996	1996	1997	1996	1995	1996
MIN	13.3	14.0	14.6	15.9	17.1	31.4	45.4	36.8	25.5	20.6	16.6	14.6
(WY)	1995	1995	1995	1995	1995	1995	1995	1994	1994	1994	1994	1994

#### SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1994 - 1998	
ANNUAL TOTAL	17034		14271			
ANNUAL MEAN	46.7		39.1		45.7	
HIGHEST ANNUAL MEAN					56.6	
LOWEST ANNUAL MEAN					32.9	
HIGHEST DAILY MEAN	704	Jun 2	355	Jan 8	704	Jun 2 1997
LOWEST DAILY MEAN	14	Sep 24	14	Sep 29	7.2	Jan 9 1995
ANNUAL SEVEN-DAY MINIMUM	14	Sep 24	15	Sep 24	7.7	Jan 3 1995
INSTANTANEOUS PEAK FLOW			732		1200	
INSTANTANEOUS PEAK STAGE			6.53		8.43	
INSTANTANEOUS LOW FLOW			14		5.0	
ANNUAL RUNOFF (CFSM)	1.28		1.07		1.25	
ANNUAL RUNOFF (INCHES)	17.31		14.50		16.95	
10 PERCENT EXCEEDS	75		70		79	
50 PERCENT EXCEEDS	37		30		33	
90 PERCENT EXCEEDS	18		18		16	

e Estimated.

## SURFACE-WATER RECORDS

### Great Miami River Basin

#### 03267000 MAD RIVER NEAR URBANA, OHIO

LOCATION.--Lat 40°06'27", long 83°47'57", on west line of sec. 35, T.5 E., R. 11 N., Champaign County, Hydrologic Unit 05080001, on left bank at downstream side of bridge on U.S. Highway 36, 1.8 mi upstream from Dugan Run, 1.8 mi downstream from Muddy Creek, 2.5 mi west of Urbana, and at mile 39.7.

DRAINAGE AREA.--162 mi<sup>2</sup>.

PERIOD OF RECORD.--September 1925 to September 1931, August 1939 to current year (discontinued).

REVISED RECORDS.--WSP 1305: 1930(M), WSP 1505: 1956, WSP 1625: 1929, WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 985.22 ft above sea level. Prior to May 18, 1930, nonrecording gage at same site and datum. May 18, 1930, to Sept. 30, 1931, nonrecording gage at site 600 ft downstream at datum 0.36 ft lower. Aug. 1 to Sept. 25, 1939, nonrecording gage at present site and datum.

REMARKS.--Records fair. Sediment data collected at this site.

COOPERATION.--Gage-height record and 10 discharge measurements furnished by Miami Conservancy District.

#### 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	67	82	69	104	122	145	240	142	141	112	82
2	75	66	76	71	104	118	139	245	138	135	110	82
3	76	66	76	71	100	115	132	255	133	128	109	80
4	75	66	78	71	98	115	128	257	131	136	109	78
5	73	66	77	71	98	113	120	233	131	132	110	78
6	70	66	73	71	96	112	118	216	131	125	111	78
7	68	66	72	362	95	109	117	217	126	125	113	78
8	68	66	75	1050	95	112	134	813	125	172	111	78
9	68	66	77	355	95	289	482	366	122	138	108	78
10	69	64	96	237	96	247	397	286	122	129	108	77
11	66	64	111	187	97	171	238	250	140	118	108	75
12	67	62	89	159	138	147	200	230	231	112	106	75
13	67	60	81	147	126	140	177	217	280	112	103	75
14	66	68	77	130	112	138	168	202	195	113	109	74
15	64	66	75	124	107	132	160	194	249	116	111	75
16	64	66	74	133	104	123	572	187	262	115	107	73
17	64	64	72	138	210	128	591	179	315	114	106	73
18	65	63	69	131	472	149	315	173	226	111	101	76
19	68	61	68	121	327	167	285	169	214	112	93	78
20	70	60	68	118	217	165	290	164	199	121	90	77
21	68	60	67	116	184	221	267	159	187	116	93	75
22	68	62	69	112	163	193	248	156	177	336	95	77
23	62	61	71	135	154	174	240	156	179	231	96	75
24	62	63	71	146	144	156	225	156	175	165	92	71
25	66	66	115	130	137	150	216	153	163	141	93	72
26	66	65	100	120	132	151	217	152	153	128	86	75
27	70	64	86	118	131	146	282	153	144	128	82	74
28	68	67	81	113	124	140	230	149	137	124	82	76
29	68	71	78	110	---	137	222	148	159	120	84	71
30	75	77	77	109	---	134	222	153	153	118	83	69
31	72	---	73	106	---	130	---	148	---	116	82	---
TOTAL	2123	1949	2454	5131	4060	4644	7277	6776	5239	4228	3103	2275
MEAN	68.5	65.0	79.2	166	145	150	243	219	175	136	100	75.8
MAX	76	77	115	1050	472	289	591	813	315	336	113	82
MIN	62	60	67	69	95	109	117	148	122	111	82	69
CFSM	.42	.40	.49	1.02	.90	.92	1.50	1.35	1.08	.84	.62	.47
IN.	.49	.45	.56	1.18	.93	1.07	1.67	1.56	1.20	.97	.71	.52

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 1998, BY WATER YEAR (WY)

	MEAN	84.8	101	131	174	201	224	189	165	135	103	86.0
MAX	355	315	473	730	523	567	486	620	507	454	302	250
(WY)	1987	1973	1991	1950	1950	1963	1948	1996	1947	1993	1995	1926
MIN	29.3	29.7	27.8	36.7	33.8	65.3	90.7	61.7	59.3	41.8	35.8	30.3
(WY)	1964	1964	1964	1964	1964	1992	1953	1941	1962	1954	1963	1963

#### SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1926 - 1998
ANNUAL TOTAL	63590	49259	
ANNUAL MEAN	174	135	151
HIGHEST ANNUAL MEAN			245
LOWEST ANNUAL MEAN			58.1
HIGHEST DAILY MEAN	2550	Jun 2	5740
LOWEST DAILY MEAN	60	Nov 13	24
ANNUAL SEVEN-DAY MINIMUM	61	Nov 18	25
INSTANTANEOUS PEAK FLOW		1610	8000
INSTANTANEOUS PEAK STAGE		5.84	12.05
INSTANTANEOUS LOW FLOW		60	24
ANNUAL RUNOFF (CFSM)	1.08	.83	.93
ANNUAL RUNOFF (INCHES)	14.60	11.31	12.67
10 PERCENT EXCEEDS	283	230	270
50 PERCENT EXCEEDS	150	113	110
90 PERCENT EXCEEDS	67	67	52



## SURFACE-WATER RECORDS Great Miami River Basin

### 03269500 MAD RIVER NEAR SPRINGFIELD, OHIO

LOCATION.--Lat 39°55'23", long 83°52'13", in NW 1/4 sec. 16, R.9, T.4, Clark County, Hydrologic Unit 05080001, on right bank 150 ft downstream from Rock Run, 300 ft downstream from bridge on Lower Valley Pike, 2 mi downstream from Buck Creek, 3 mi west of Springfield, and at mile 24.1.

DRAINAGE AREA.--490 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1904 to March 1906 (fragmentary), February 1914 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 603: 1924. WSP 823: 1929(M). WSP 1305: 1914(M), 1916-17(M), 1922-23(M), 1925(M). WSP 1625: 1924(M). WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 881.42 ft above sea level. Jan. 1, 1904, to Mar. 31, 1906, nonrecording gage at site 0.3 mi downstream at different datum. Feb. 1, 1914, to Feb. 29, 1924, nonrecording gage at site 1.8 mi upstream at datum 6.39 ft higher. Mar. 1, 1924, to July 31, 1925, nonrecording gage at site 300 ft upstream at same datum.

REMARKS.--Records good. Some regulation by C.J. Brown Reservoir, 8.3 mi upstream on Buck Creek, since 1972. Occasional low-flow regulation by powerplant 2.3 mi upstream; daily flows are not affected appreciably. Water-quality data collected at this site.

COOPERATION.--Gage-height charts, record, and 8 discharge measurements furnished by Miami Conservancy District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 30,500 ft<sup>3</sup>/s Jan. 21, 1959, gage height, 15.76 ft, from rating curve extended above 14,000 ft<sup>3</sup>/s on basis of slope-area and contracted opening measurements of peak flow; minimum daily discharge, 30 ft<sup>3</sup>/s Sept. 15, 1904.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 25, 1913, reached a stage of 16.9 ft, present datum; discharge, 55,400 ft<sup>3</sup>/s computed by Miami Conservancy District.

#### 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	279	278	297	223	282	373	409	676	468	506	305	207
2	280	275	271	225	277	395	355	675	403	465	293	204
3	278	286	286	226	271	379	334	797	364	442	283	200
4	249	276	276	221	274	366	332	832	354	636	276	199
5	228	274	266	240	306	355	312	694	352	499	287	194
6	229	273	259	304	301	334	308	606	348	468	284	189
7	219	273	244	1930	305	319	307	2840	335	447	283	200
8	216	273	209	2630	321	366	594	3900	332	483	282	197
9	230	271	216	1210	314	1020	2080	1580	352	419	272	194
10	243	271	366	893	312	767	1280	1580	337	388	290	185
11	249	270	325	713	394	573	794	1480	779	370	286	209
12	250	269	282	622	603	497	621	933	1080	359	266	242
13	261	299	268	569	468	464	548	724	1360	351	260	177
14	264	291	260	518	402	442	504	727	819	351	258	174
15	253	283	259	502	372	411	558	674	2080	354	262	174
16	253	274	253	475	432	398	3300	630	1520	347	268	175
17	253	271	259	432	905	424	1940	593	1480	336	266	178
18	253	274	265	388	1540	496	1150	571	1210	327	264	193
19	253	276	260	360	1100	500	1130	578	1130	409	260	201
20	253	274	257	339	816	533	994	579	819	392	252	205
21	252	319	234	316	681	650	870	590	764	350	243	205
22	252	316	259	330	602	599	803	517	626	814	238	304
23	258	287	237	429	566	544	745	564	590	625	232	284
24	274	282	345	410	531	470	688	539	539	469	241	283
25	271	281	450	364	498	422	585	470	523	415	312	263
26	283	281	362	339	483	392	616	434	520	376	244	236
27	282	276	313	326	417	363	687	426	502	349	228	252
28	273	289	317	317	373	351	554	411	471	343	223	245
29	272	296	321	310	---	336	525	485	625	334	217	205
30	274	370	316	299	---	328	643	461	651	329	211	209
31	276	---	270	288	---	358	---	452	---	317	210	---
TOTAL	7960	8528	8802	16748	14146	14225	24566	27018	21733	13070	8096	6383
MEAN	257	284	284	540	505	459	819	872	724	422	261	213
MAX	283	370	450	2630	1540	1020	3300	3900	2080	814	312	304
MIN	216	269	209	221	271	319	307	411	332	317	210	174
CFSM	.52	.58	.58	1.10	1.03	.94	1.67	1.78	1.48	.86	.53	.43
IN.	.60	.65	.67	1.27	1.07	1.08	1.87	2.05	1.65	.99	.61	.48

#### STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1998, BY WATER YEAR (WY)

MEAN	357	434	553	591	688	721	718	686	609	503	362	329
MAX	1081	904	1583	1177	1409	1279	1174	2106	1371	1284	947	1279
(WY)	1987	1986	1991	1991	1975	1978	1996	1996	1980	1993	1979	1979
MIN	176	204	188	189	235	251	312	240	174	189	162	177
(WY)	1989	1978	1977	1977	1992	1983	1976	1988	1988	1988	1988	1977

#### SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1974 - 1998

ANNUAL TOTAL	190068	171275										
ANNUAL MEAN	521	469							545			
HIGHEST ANNUAL MEAN									792			1996
LOWEST ANNUAL MEAN									279			1977
HIGHEST DAILY MEAN	6060	Jun 1			3900	May 8		8200			Jan 31	1982
LOWEST DAILY MEAN	209	Dec 8			174	Sep 14		100			Jan 26	1977
ANNUAL SEVEN-DAY MINIMUM	231	Oct 4			182	Sep 13		103			Jan 24	1977
INSTANTANEOUS PEAK FLOW					10700	May 7		12200			Jun 29	1980
INSTANTANEOUS PEAK STAGE					11.66	May 7		11.88			Jun 29	1980
INSTANTANEOUS LOW FLOW					166	Sep 14		100			Jan 26	1977
ANNUAL RUNOFF (CFSM)		1.06				.96			1.11			
ANNUAL RUNOFF (INCHES)		14.43				13.00			15.11			
10 PERCENT EXCEEDS		895				795			1000			
50 PERCENT EXCEEDS		390				334			394			
90 PERCENT EXCEEDS		253				229			221			

**SURFACE-WATER RECORDS  
Great Miami River Basin**
**03270000 MAD RIVER NEAR DAYTON, OHIO**

LOCATION.--Lat 39°47'50", long 84°05'19", in SW 1/4 sec. 7, R. 8, T.2, Greene County, Hydrologic Unit 05080001, on left bank in retarding basin 300 ft upstream from Huffman Dam, 2.3 mi downstream from Mud Run, 6.2 mi northeast of Dayton and at mile 6.1. Water-quality sampling site was on left bank 900 ft downstream.

DRAINAGE AREA.--635 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1914 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.--WSP 453: 1915. WSP 743: 1929-32. WSP 1305: 1916(M), 1925(M) 1930-32(M). WSP 1908: Drainage area. WDR-OH-82-1: 1980.

GAGE.--Water-stage recorder. Datum of gage is 777.06 ft above sea level. Jan. 21, 1959, to Dec. 14, 1967, at site 900 ft downstream, at datum 77.01 ft lower. See WSP 1725 for history of changes prior to Jan. 21, 1959. Water-quality data collected at this site 1947-1948, 1962-1963, 1966-1980.

REMARKS.--Records good. Flood flows affected by backwater from Huffman retarding dam beginning in 1921, some regulation by C. J. Brown Reservoir 26 mi upstream on Buck Creek since 1974. Also see REMARKS for station 03269500. COOPERATION.--Gage-height record and 8 discharge measurements furnished by Miami Conservancy District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 21,200 ft<sup>3</sup>/s Jan. 22, 1959 (based on Huffman retarding basin outflow records); maximum gage height, 87.9 ft Feb. 26, 1929, at site and datum then in use; minimum daily discharge, 94 ft<sup>3</sup>/s Aug. 6, 1934, but may have been less during period 1921-24.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of March 25, 1913, reached a stage of 14.0 ft, original site and datum; discharge 75,700 ft<sup>3</sup>/s, computed by Miami Conservancy District.

**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	298	277	359	286	375	483	596	905	614	648	366	247
2	298	281	330	281	368	488	534	901	579	566	350	243
3	298	287	318	281	358	488	494	959	513	530	331	237
4	294	286	338	277	351	473	489	1130	499	937	321	252
5	255	283	311	278	383	459	469	906	486	651	343	235
6	247	279	300	362	391	442	460	799	481	573	505	230
7	243	277	295	2170	395	424	454	1750	464	542	423	230
8	228	277	261	4420	410	459	738	7120	452	549	363	238
9	230	277	253	1900	410	1090	2590	2720	493	515	364	227
10	245	277	442	1250	400	1090	2010	2160	473	464	408	223
11	243	277	417	951	461	767	1150	2040	1120	438	386	220
12	244	274	355	800	716	655	864	1480	1620	424	355	273
13	255	292	326	723	632	607	742	1110	2500	412	336	233
14	281	331	309	646	539	582	681	1060	1280	403	333	211
15	258	295	303	622	494	543	757	950	3190	403	322	209
16	256	289	294	588	519	522	4450	869	2470	402	321	217
17	256	283	289	556	799	577	3670	801	2220	390	325	214
18	256	279	289	504	2000	661	1690	756	1630	376	325	214
19	256	277	289	472	1660	680	1510	755	1520	405	318	233
20	256	274	289	449	1100	697	1340	1150	1190	542	311	244
21	256	304	283	417	894	849	1130	1110	986	403	298	262
22	256	353	296	416	770	818	1020	786	859	732	292	337
23	258	300	290	518	715	742	938	894	774	959	287	358
24	267	292	360	541	660	661	856	795	698	643	287	352
25	287	286	578	485	622	590	769	717	640	539	317	350
26	284	280	488	453	596	558	760	637	625	490	353	300
27	297	277	410	433	564	522	868	610	600	436	280	287
28	284	275	377	423	495	498	721	583	565	417	270	325
29	281	284	384	409	---	482	668	641	603	432	264	288
30	279	455	383	397	---	471	815	719	998	398	254	236
31	277	---	359	385	---	489	---	593	---	386	249	---
TOTAL	8223	8778	10575	22693	18077	18867	34233	38406	31142	16005	10257	7725
MEAN	265	293	341	732	646	609	1141	1239	1038	516	331	258
MAX	298	455	578	4420	2000	1090	4450	7120	3190	959	505	358
MIN	228	274	253	277	351	424	454	583	452	376	249	209
CFSM	.42	.46	.54	1.15	1.02	.96	1.80	1.95	1.63	.81	.52	.41
IN.	.48	.51	.62	1.33	1.06	1.11	2.01	2.25	1.82	.94	.60	.45

**STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 1998, BY WATER YEAR (WY)**

	MEAN	431	538	714	768	897	955	947	907	771	629	452	398
MAX	1425	1175	2027	1559	1839	1637	1561	2885	1745	1525	1235	1528	
(WY)	1987	1986	1991	1991	1975	1978	1996	1996	1981	1993	1979	1979	
MIN	216	235	236	239	287	344	444	268	192	211	172	217	
(WY)	1989	1995	1977	1977	1992	1983	1976	1988	1988	1988	1988	1987	

**SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1974 - 1998**

ANNUAL TOTAL		244086		224981									
ANNUAL MEAN		669		616						700			
HIGHEST ANNUAL MEAN										1029			1996
LOWEST ANNUAL MEAN										336			1988
HIGHEST DAILY MEAN			7120	Jun 2	7120	May 8	10300				Feb 24	1975	
LOWEST DAILY MEAN			228	Oct 8	209	Sep 15	112				Jul 17	1988	
ANNUAL SEVEN-DAY MINIMUM			240	Oct 6	219	Sep 13	124				Jul 11	1988	
INSTANTANEOUS PEAK FLOW					8330	May 8	11400				Feb 24	1975	
INSTANTANEOUS PEAK STAGE					15.59	May 8	19.01				Feb 24	1975	
INSTANTANEOUS LOW FLOW					209	Sep 15	112				Jul 17	1988	
ANNUAL RUNOFF (CFSM)			1.05		.97		1.10						
ANNUAL RUNOFF (INCHES)			14.30		13.18		14.97						
10 PERCENT EXCEEDS			1180		1090		1300						
50 PERCENT EXCEEDS			527		424		500						
90 PERCENT EXCEEDS			279		256		259						



**SURFACE-WATER RECORDS  
Great Miami River Basin****03271510 GREAT MIAMI RIVER NEAR LINDEN AVENUE AT MIAMISBURG, OHIO**

## WATER QUALITY RECORDS

LOCATION.--Lat 39°38'14", long 84°17'33", Montgomery County, Hydrologic Unit 05080002, on left bank at Miamisburg, 1.0 mi downstream from Bear Creek, 0.6 mi downstream from discharge station at Miamisburg, 0.65 mi downstream from discharge station below Miamisburg, and at mile 65.75.

DRAINAGE AREA.--2,713 mi<sup>2</sup>.

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

PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: June 1978 to current year.

pH: June 1978 to current year.

WATER TEMPERATURES: June 1978 to current year.

DISSOLVED OXYGEN: June 1978 to current year.

INSTRUMENTATION.--Water-quality monitor since June 1978. Electronic data logger replaced digital recorder since June 19, 1991. Set for 1-hour interval.

REMARKS.--Interruptions in the water-quality record were due to malfunction of the instrument. Prior to June 1978, records published as 03271600, Great Miami River near Miamisburg, Ohio. See records of discharge for gaging station below Miamisburg (station 03271601).

EXTREMES FOR PERIOD OF DAILY RECORD.--

SPECIFIC CONDUCTANCE: Maximum, 1,620 microsiemens June 13, 1992; minimum 206 microsiemens Feb. 18, 1982.

pH: Maximum, 9.8 units Oct. 12, 1992; minimum, 7.0 units July 30, Aug. 30, 1979.

WATER TEMPERATURES: Maximum, 33.0°C July 20, 22, 1978; minimum, 0.0°C on many days during winters.

DISSOLVED OXYGEN: Maximum, >20.0 mg/L on several days in water year 1978-1994; minimum, 0.4 mg/L Aug. 27, 1981, Aug. 2, 1982.

EXTREMES FOR CURRENT YEAR.--

SPECIFIC CONDUCTANCE: Maximum, 1,500 microsiemens Feb. 6; minimum, 276 microsiemens Apr. 16.

pH: Maximum, 8.9 units Sept. 12; minimum, 7.6 units June 13, July 23-24, Aug. 7.

WATER TEMPERATURES: Maximum, 28.5°C Jul. 22; minimum, 1.5°C Jan. 1.

DISSOLVED OXYGEN: Maximum, 20.0 mg/L Aug. 27; minimum, 1.8 mg/L July 18.

**SURFACE-WATER RECORDS**  
**Great Miami River Basin**

**03271510 GREAT MIAMI RIVER NEAR LINDEN AVENUE AT MIAMISBURG, OHIO—Continued**

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

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	973	940	955	974	926	955	736	657	702	854	784	814
2	985	958	973	974	934	953	823	725	796	868	831	849
3	988	944	966	958	896	921	835	781	819	900	854	877
4	998	948	974	932	902	919	845	801	819	923	863	892
5	974	924	951	941	918	926	843	791	811	940	907	920
6	972	932	954	940	912	930	871	843	857	947	853	921
7	989	938	964	947	919	937	871	844	856	853	442	653
8	997	964	981	961	915	936	887	849	866	479	340	412
9	1010	979	996	968	911	940	920	879	892	377	331	350
10	1030	984	1010	955	920	937	923	778	846	428	377	402
11	1020	997	1010	946	922	934	833	758	792	490	428	458
12	1020	982	1000	952	917	938	832	787	816	539	490	515
13	1010	933	1000	963	867	938	809	766	792	578	539	556
14	984	928	949	931	838	897	849	804	828	606	578	587
15	993	926	959	897	821	852	877	842	853	651	606	627
16	943	913	927	887	849	866	881	860	869	687	647	661
17	989	942	964	881	837	859	882	839	869	719	686	701
18	991	960	975	921	876	890	883	863	874	730	718	723
19	999	969	983	937	893	916	884	858	872	755	730	744
20	1010	968	989	949	917	933	897	877	888	774	755	767
21	996	963	983	950	869	922	904	870	885	792	774	783
22	1010	964	988	913	851	879	904	818	869	809	781	798
23	1020	979	1000	861	812	831	892	860	870	821	778	800
24	1000	956	992	883	841	857	874	748	847	791	755	773
25	987	954	977	893	851	874	807	695	742	758	735	748
26	988	866	938	929	888	909	738	695	716	760	735	744
27	923	887	912	933	903	921	739	701	722	766	746	756
28	916	839	880	941	901	922	753	699	734	769	758	765
29	951	880	921	930	897	913	712	697	703	782	765	777
30	961	926	946	930	669	772	766	712	750	786	773	779
31	972	943	957	---	---	---	820	761	796	798	784	791
MONTH	1030	839	967	974	669	906	923	657	818	947	331	708

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

DAY	FEBRUARY			MARCH			APRIL			MAY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	803	784	795	756	740	750	718	654	692	692	657	675
2	810	791	804	762	737	754	715	695	703	692	645	662
3	826	805	819	770	742	760	724	676	708	645	619	635
4	939	807	862	776	758	768	740	704	716	643	625	634
5	1210	936	1090	779	763	770	746	710	731	637	612	624
6	1500	1160	1320	784	745	767	740	726	730	653	623	636
7	1310	1230	1270	784	766	778	750	731	740	662	398	575
8	1230	1040	1130	783	742	766	745	647	702	435	358	384
9	1040	934	972	742	631	682	666	444	565	537	394	483
10	934	877	895	660	538	609	510	367	403	595	537	565
11	929	852	887	595	537	565	420	362	388	633	595	615
12	876	821	851	626	585	601	499	420	457	666	633	646
13	821	789	807	671	626	644	568	499	536	712	666	682
14	789	768	779	698	671	683	607	568	588	712	676	694
15	795	780	787	724	690	704	632	468	603	721	685	698
16	809	786	801	737	703	721	570	276	375	740	721	728
17	820	787	807	812	737	770	415	375	391	744	723	733
18	807	591	724	777	723	754	489	412	444	746	726	736
19	591	489	519	723	565	641	564	489	527	753	644	736
20	546	492	516	592	536	568	655	552	580	724	644	678
21	582	546	565	770	545	622	639	601	620	656	559	603
22	612	582	598	545	508	519	672	639	654	611	547	572
23	645	611	630	571	520	543	691	668	678	633	548	603
24	672	637	655	607	570	586	706	688	694	648	413	591
25	697	660	677	642	607	624	724	705	712	698	586	654
26	716	696	704	672	633	652	725	677	713	729	697	707
27	729	715	721	698	672	683	716	660	680	750	729	740
28	750	727	736	712	693	699	692	682	687	763	750	757
29	---	---	---	716	698	708	704	686	694	771	758	765
30	---	---	---	723	709	716	703	604	666	781	709	760
31	---	---	---	728	654	717	---	---	---	753	697	734
MONTH	1500	489	811	812	508	681	750	276	613	781	358	655

## SURFACE-WATER RECORDS

### Great Miami River Basin

#### 03271510 GREAT MIAMI RIVER NEAR LINDEN AVENUE AT MIAMISBURG, OHIO—Continued

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	751	697	732	601	483	549	762	722	743	879	851	867
2	768	720	751	660	595	625	765	718	742	876	845	859
3	754	703	732	687	660	672	762	736	750	911	867	879
4	738	706	727	701	512	599	793	761	781	917	876	894
5	766	738	759	552	477	503	808	754	793	913	888	897
6	781	754	771	552	480	505	784	414	635	914	883	900
7	779	753	765	645	552	603	443	328	392	924	896	909
8	772	751	765	677	644	666	443	386	406	927	888	911
9	789	711	755	675	586	632	478	418	441	932	906	919
10	756	731	742	672	587	635	510	463	492	938	915	928
11	774	554	714	679	668	674	571	489	533	940	910	925
12	554	368	447	698	678	693	601	571	588	939	901	923
13	457	368	431	718	696	712	611	599	605	949	896	921
14	492	381	469	745	715	737	639	604	621	938	915	929
15	498	342	433	763	741	756	696	639	680	973	935	956
16	476	395	432	769	749	764	720	690	708	973	950	962
17	487	433	460	789	759	773	749	715	733	992	973	984
18	510	437	475	792	774	783	758	737	749	996	965	984
19	568	426	515	789	753	780	764	750	756	996	974	985
20	592	556	568	753	632	682	779	748	762	988	938	963
21	633	592	611	694	638	668	772	750	763	973	470	904
22	650	632	641	694	656	676	782	755	769	933	781	903
23	667	626	651	663	314	389	787	765	774	950	909	924
24	701	667	686	402	343	375	799	764	778	950	922	933
25	719	700	707	480	402	436	798	759	774	926	895	908
26	722	708	715	554	480	517	794	746	773	905	858	878
27	729	711	722	612	554	582	822	784	804	920	869	890
28	735	696	713	653	612	630	818	788	802	923	874	894
29	718	678	708	683	653	674	830	770	785	926	885	902
30	723	589	673	669	505	597	838	786	806	935	924	928
31	---	---	---	734	664	714	851	792	817	---	---	---
MONTH	789	342	642	792	314	632	851	328	695	996	470	919
YEAR	1500	276	753									

PH, WATER, WHOLE, FIELD, STANDARD UNITS, WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.6	8.3	8.5	8.4	8.2	8.3	8.2	8.0	8.1	8.5	8.3	8.4
2	8.6	8.3	8.5	8.4	8.2	8.3	8.3	8.1	8.2	8.5	8.3	8.4
3	8.6	8.3	8.5	8.4	8.1	8.2	8.3	8.1	8.2	8.4	8.3	8.4
4	8.6	8.3	8.4	8.3	8.2	8.2	8.3	8.2	8.2	8.5	8.3	8.3
5	8.6	8.3	8.5	8.5	8.2	8.3	8.3	8.1	8.2	8.4	8.2	8.3
6	8.8	8.3	8.6	8.4	8.1	8.3	8.4	8.2	8.3	8.4	8.2	8.3
7	8.7	8.4	8.6	8.4	8.2	8.3	8.4	8.3	8.3	8.2	7.9	8.1
8	8.7	8.5	8.6	8.4	8.1	8.3	8.5	8.3	8.4	7.9	7.8	7.9
9	8.6	8.4	8.5	8.5	8.2	8.3	8.5	8.3	8.4	7.9	7.8	7.8
10	8.6	8.3	8.4	8.4	8.1	8.3	8.3	8.2	8.3	8.0	7.9	7.9
11	8.6	8.3	8.4	8.4	8.2	8.3	8.3	8.1	8.2	8.0	8.0	8.0
12	8.5	8.3	8.4	8.5	8.2	8.3	8.3	8.2	8.2	8.1	8.0	8.1
13	8.5	8.3	8.4	8.5	8.2	8.3	8.4	8.2	8.3	8.1	8.1	8.1
14	8.5	8.2	8.4	8.4	8.2	8.3	8.5	8.3	8.4	8.1	8.1	8.1
15	8.4	8.2	8.3	8.3	8.2	8.3	8.6	8.3	8.4	8.1	8.1	8.1
16	8.4	8.1	8.3	8.4	8.2	8.3	8.6	8.3	8.4	8.2	8.1	8.2
17	8.4	8.2	8.3	8.5	8.1	8.3	8.6	8.2	8.4	8.2	8.2	8.2
18	8.4	8.2	8.3	8.6	8.3	8.4	8.6	8.2	8.4	8.2	8.2	8.2
19	8.3	8.1	8.2	8.6	8.3	8.4	8.6	8.3	8.4	8.2	8.2	8.2
20	8.4	8.1	8.3	8.6	8.3	8.5	8.6	8.3	8.4	8.2	8.2	8.2
21	8.4	8.1	8.3	8.5	8.3	8.4	8.7	8.3	8.5	8.2	8.2	8.2
22	8.4	8.2	8.3	8.4	8.2	8.3	8.5	8.3	8.4	8.2	8.2	8.2
23	8.5	8.2	8.3	8.3	8.1	8.2	8.3	8.2	8.3	8.2	8.2	8.2
24	8.4	8.2	8.3	8.5	8.2	8.3	8.3	8.1	8.2	8.2	8.2	8.2
25	8.4	8.1	8.3	8.5	8.2	8.4	8.2	8.1	8.2	8.2	8.2	8.2
26	8.4	8.1	8.2	8.5	8.2	8.4	8.2	8.1	8.2	8.3	8.2	8.2
27	8.4	8.2	8.2	8.6	8.3	8.4	8.3	8.2	8.2	8.2	8.2	8.2
28	8.3	8.1	8.2	8.6	8.2	8.4	8.3	8.2	8.3	8.3	8.2	8.2
29	8.4	8.1	8.2	8.6	8.2	8.4	8.3	8.2	8.2	8.2	8.2	8.2
30	8.5	8.1	8.3	8.4	8.2	8.3	8.3	8.2	8.2	8.2	8.2	8.2
31	8.5	8.1	8.3	---	---	---	8.4	8.2	8.3	8.3	8.2	8.2
MONTH	8.8	8.1	8.4	8.6	8.1	8.3	8.7	8.0	8.3	8.5	7.8	8.2



**SURFACE-WATER RECORDS**  
**Great Miami River Basin**

**03271510 GREAT MIAMI RIVER NEAR LINDEN AVENUE AT MIAMISBURG, OHIO—Continued**

TEMPERATURE, WATER (DEG. C), 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	19.5	17.5	18.5	13.0	12.5	13.0	10.5	9.0	10.0	3.0	1.5	2.5
2	18.5	16.5	18.0	13.0	12.0	12.0	9.5	8.5	9.0	4.0	2.5	3.0
3	20.0	17.0	18.5	12.0	10.5	11.0	9.0	8.0	8.5	6.0	4.0	5.0
4	21.0	18.0	19.5	10.5	10.0	10.0	9.0	8.0	8.0	8.0	6.0	7.0
5	22.0	19.0	20.5	11.0	9.5	10.0	8.0	6.0	7.0	9.5	8.0	8.5
6	22.5	20.0	21.0	11.0	9.5	10.5	6.0	4.5	5.0	11.0	9.5	10.0
7	22.5	20.5	21.5	11.5	10.5	11.0	4.5	3.5	4.0	12.5	10.5	11.5
8	23.0	21.0	22.0	11.5	10.5	11.0	4.5	3.5	4.0	11.0	8.0	9.5
9	22.5	21.0	22.0	11.5	10.0	11.0	5.5	4.0	4.5	8.0	6.5	7.0
10	23.0	21.0	22.0	11.0	10.5	11.0	6.0	5.5	5.5	6.5	5.5	6.0
11	21.5	19.5	20.5	10.5	10.0	10.5	6.0	5.5	5.5	5.5	4.5	5.0
12	21.5	19.0	20.5	10.0	8.5	9.0	6.0	5.0	5.5	5.0	4.5	4.5
13	21.0	20.0	20.5	8.5	7.5	8.0	5.0	4.5	4.5	5.0	4.5	5.0
14	20.0	18.5	19.0	7.5	7.0	7.0	5.0	4.0	4.5	4.5	3.5	4.0
15	19.0	16.5	17.5	7.0	6.5	6.5	5.0	3.5	4.0	4.0	3.5	4.0
16	17.5	15.0	16.0	6.5	5.5	6.0	5.5	3.5	4.5	4.0	4.0	4.0
17	15.0	14.0	14.5	6.0	4.5	5.0	5.5	4.0	5.0	4.0	4.0	4.0
18	15.0	13.5	14.0	5.5	4.0	5.0	5.5	4.0	5.0	4.0	3.5	3.5
19	15.5	13.0	14.5	6.5	5.0	6.0	6.5	5.0	5.5	3.5	3.0	3.5
20	16.0	14.0	15.0	7.5	5.5	6.5	6.5	5.5	6.0	4.0	3.0	3.5
21	15.5	13.5	14.5	8.0	7.0	7.5	6.5	6.0	6.0	3.5	3.0	3.0
22	14.5	12.5	13.0	8.0	8.0	8.0	6.5	6.0	6.0	4.5	3.5	4.0
23	13.0	11.5	12.5	8.5	7.0	8.0	6.5	6.5	6.5	5.0	4.5	5.0
24	12.5	11.5	12.0	8.0	6.5	7.0	7.0	6.5	6.5	5.0	4.5	5.0
25	12.5	11.5	12.0	8.0	6.0	7.0	7.0	6.0	6.5	4.5	4.0	4.0
26	12.5	11.5	12.0	8.5	7.5	8.0	6.0	5.0	5.5	5.0	3.5	4.0
27	12.0	10.5	11.0	8.0	7.0	7.5	5.0	4.0	4.5	6.0	4.5	5.0
28	11.0	9.5	10.5	9.5	8.0	9.0	4.5	4.0	4.0	6.5	5.0	6.0
29	11.5	9.5	10.5	11.0	9.5	10.0	4.0	3.5	4.0	6.0	5.5	6.0
30	12.0	10.0	11.5	11.5	10.5	11.0	3.5	3.0	3.5	5.5	5.0	5.5
31	13.0	11.5	12.0	---	---	---	3.5	2.5	3.0	6.0	5.0	5.0
MONTH	23.0	9.5	16.5	13.0	4.0	9.0	10.5	2.5	5.5	12.5	1.5	5.5

TEMPERATURE, WATER (DEG. C), 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	6.0	4.5	5.0	10.0	9.0	9.5	17.5	15.5	17.0	15.5	15.0	15.5
2	7.5	5.5	6.0	9.5	8.0	9.0	15.5	14.0	15.0	15.5	14.5	15.0
3	8.0	5.5	6.5	8.0	5.5	7.5	14.5	12.5	14.0	15.0	14.0	14.5
4	5.5	3.5	5.0	7.0	6.5	6.5	12.5	11.0	12.0	15.0	14.0	14.5
5	3.5	3.0	3.5	7.0	6.5	6.5	13.0	10.5	11.5	16.5	14.5	15.5
6	4.5	3.0	3.5	8.0	6.5	7.0	14.0	11.5	12.5	17.0	15.5	16.5
7	5.5	3.5	4.5	8.5	7.0	7.5	13.5	12.5	13.0	17.0	16.0	16.5
8	6.0	4.0	5.0	9.5	7.5	8.5	15.0	12.5	13.5	16.5	15.5	16.0
9	6.5	4.5	5.5	10.0	8.0	9.5	15.0	12.5	14.0	16.5	16.0	16.0
10	7.0	5.0	6.0	8.0	5.0	6.5	12.5	10.5	11.5	17.5	16.0	16.5
11	7.0	6.0	6.5	5.0	4.0	4.5	11.5	10.0	11.0	18.0	16.5	17.0
12	7.0	6.5	7.0	4.0	2.5	3.5	13.0	11.0	11.5	18.5	17.0	18.0
13	7.0	6.5	6.5	3.5	3.0	3.5	13.5	12.0	13.0	20.0	18.5	19.0
14	8.0	6.5	7.0	5.0	3.5	4.0	14.0	13.5	14.0	21.0	19.0	20.0
15	8.0	6.5	7.0	6.5	4.5	5.0	14.5	13.5	14.0	22.0	20.0	21.0
16	7.5	7.0	7.0	6.5	5.5	6.0	15.0	13.5	14.0	23.5	21.5	22.0
17	7.5	7.0	7.5	7.0	6.0	6.5	14.5	13.5	14.0	23.5	22.0	22.5
18	8.0	7.0	7.5	8.0	7.0	7.5	13.5	12.5	13.0	23.5	21.5	22.5
19	7.0	6.5	6.5	9.5	8.0	8.5	12.5	11.5	12.0	23.5	21.5	22.5
20	6.5	6.5	6.5	9.5	8.0	9.0	13.0	11.0	12.0	24.0	22.0	22.5
21	6.5	6.0	6.5	8.0	5.5	6.5	13.5	12.0	12.5	22.5	21.5	22.0
22	7.5	6.5	7.0	5.5	5.0	5.0	14.0	13.0	13.5	22.0	19.5	20.5
23	7.5	7.0	7.0	6.0	5.0	5.5	15.0	13.5	14.0	19.5	18.5	18.5
24	10.0	6.5	7.0	7.0	5.0	6.0	16.0	14.5	15.0	19.0	18.0	18.5
25	8.0	7.0	7.5	7.5	7.0	7.0	16.5	15.5	16.0	19.5	18.5	19.0
26	8.5	7.5	8.0	11.5	7.5	9.5	16.0	15.0	15.5	20.0	18.5	19.0
27	10.0	8.0	9.0	14.0	11.5	13.0	15.0	14.0	14.5	21.5	19.0	20.0
28	10.5	9.5	10.0	15.5	14.0	15.0	15.0	13.5	14.0	23.5	20.5	21.5
29	---	---	---	17.0	15.0	16.0	15.0	14.5	14.5	24.5	21.5	23.0
30	---	---	---	18.5	16.5	17.5	15.0	14.5	15.0	25.0	23.0	24.0
31	---	---	---	19.0	17.5	18.0	---	---	---	24.5	23.0	24.0
MONTH	10.5	3.0	6.5	19.0	2.5	8.0	17.5	10.0	13.5	25.0	14.0	19.0



**SURFACE-WATER RECORDS**  
Great Miami River Basin

**03271510 GREAT MIAMI RIVER NEAR LINDEN AVENUE AT MIAMISBURG, OHIO—Continued**

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

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	24.5	22.5	23.5	24.5	22.5	23.5	26.0	23.0	24.5	25.5	24.0	25.0
2	24.0	22.0	23.0	24.5	23.0	24.0	26.5	23.0	24.5	25.5	23.0	24.5
3	22.5	21.0	22.0	25.5	23.5	24.5	26.5	23.5	25.0	25.0	22.0	24.0
4	21.0	19.5	20.5	24.5	23.5	24.0	25.5	24.0	24.5	25.5	23.0	24.0
5	19.5	17.5	19.0	24.0	22.0	23.0	25.5	23.5	24.5	26.0	23.0	24.5
6	18.0	16.5	17.5	24.0	22.0	23.0	24.5	23.5	24.0	26.5	23.5	25.0
7	19.0	16.0	17.5	23.5	23.0	23.5	24.5	23.0	24.0	26.0	24.5	25.0
8	19.0	17.0	18.0	24.5	23.0	23.5	24.5	23.5	24.0	24.5	22.5	23.5
9	18.0	17.5	18.0	25.5	24.0	24.5	25.0	24.0	24.5	23.0	20.5	22.0
10	21.5	17.5	19.0	26.0	24.5	25.0	25.5	24.5	25.0	23.0	20.0	21.5
11	21.0	20.0	20.5	25.5	24.0	24.5	25.5	24.5	25.0	23.5	20.0	22.0
12	21.0	19.5	20.0	26.0	23.5	24.5	25.5	24.5	25.0	24.5	21.0	22.5
13	21.0	20.0	20.5	26.5	23.5	25.0	25.5	24.0	24.5	24.5	21.0	23.0
14	21.0	20.0	20.5	25.0	24.5	25.0	25.5	24.0	24.5	25.0	22.5	23.5
15	20.5	19.5	20.0	24.5	24.0	24.0	26.5	24.0	25.0	24.5	23.0	24.0
16	20.5	19.0	19.5	26.0	23.5	24.5	26.5	24.0	25.5	25.0	23.0	24.0
17	21.0	19.5	20.0	26.5	24.0	25.0	27.5	24.5	26.0	24.5	23.5	24.0
18	21.5	20.0	21.0	27.0	24.0	25.5	28.0	25.0	26.5	24.5	23.0	23.5
19	23.0	21.0	22.0	27.5	24.5	26.0	27.0	24.0	25.5	25.0	23.0	24.0
20	23.0	21.5	22.0	27.0	25.0	26.0	26.5	23.0	25.0	25.0	23.5	24.0
21	23.0	22.5	22.5	28.0	26.0	27.0	27.0	23.0	25.0	25.0	23.5	24.0
22	23.5	22.0	22.5	28.5	27.0	27.5	27.0	24.0	25.5	24.5	23.5	24.0
23	24.0	22.5	23.0	27.0	23.5	24.5	27.5	24.0	25.5	23.5	21.5	22.5
24	25.0	23.0	24.0	24.5	23.5	23.5	27.5	24.5	26.0	22.0	20.0	21.0
25	26.5	24.5	25.5	24.5	23.0	23.5	27.5	25.0	26.0	22.5	20.5	21.5
26	27.5	26.0	26.5	24.5	23.0	23.5	27.5	25.0	26.5	23.5	21.0	22.5
27	28.0	26.5	27.0	24.5	23.0	24.0	27.5	24.5	26.0	24.0	21.5	23.0
28	28.0	26.5	27.0	25.5	23.5	24.5	27.0	24.5	26.0	24.0	22.0	23.0
29	27.5	26.0	27.0	26.5	24.0	25.0	27.5	25.0	26.0	23.5	21.5	22.5
30	26.0	24.5	25.0	25.5	24.5	25.0	27.0	24.5	26.0	23.0	21.5	22.5
31	---	---	---	26.0	23.5	24.5	27.0	24.5	25.5	---	---	---
MONTH	28.0	16.0	22.0	28.5	22.0	24.5	28.0	23.0	25.0	26.5	20.0	23.5
YEAR	28.5	1.5	15.0									

OXYGEN DISSOLVED (MG/L), WATER YEAR OCTOBER 1997 TO SEPTEMBER 1998

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	14.5	6.8	10.6	10.6	7.6	9.0	9.4	8.4	8.9	15.4	12.0	13.5
2	15.0	6.9	10.9	10.5	7.6	9.0	11.5	8.9	10.1	14.9	12.4	13.5
3	14.6	7.0	10.8	11.1	7.8	9.2	11.3	9.5	10.3	14.5	12.1	13.1
4	14.7	6.8	10.6	10.8	8.4	9.5	11.1	9.8	10.2	16.0	11.7	13.3
5	16.2	6.5	11.1	13.1	8.6	10.5	12.6	9.6	10.8	14.8	10.9	12.6
6	18.1	6.7	12.3	12.9	8.5	10.4	12.6	10.3	11.3	14.7	10.7	12.0
7	17.8	6.6	12.2	12.2	8.3	10.0	13.5	10.9	12.0	11.0	10.3	10.5
8	18.1	6.8	12.4	12.1	8.1	9.8	15.0	11.3	12.8	11.0	10.1	10.5
9	14.9	6.8	11.1	12.5	8.1	10.1	14.7	11.1	12.4	11.5	11.0	11.3
10	15.6	6.3	10.9	11.1	8.0	9.5	12.3	10.9	11.4	11.8	11.4	11.5
11	14.3	6.9	10.7	12.1	8.2	9.9	11.9	10.6	11.1	11.5	11.3	11.4
12	13.4	7.0	10.4	12.9	8.3	10.3	13.1	10.6	11.6	11.6	11.4	11.5
13	11.6	7.0	9.7	12.5	8.4	10.2	14.6	11.4	12.5	12.0	11.4	11.7
14	12.5	7.1	9.6	10.0	8.9	9.4	15.5	11.3	12.8	11.8	11.4	11.6
15	12.1	7.2	9.5	10.7	8.7	9.5	16.0	11.3	13.2	11.7	11.5	11.6
16	12.2	6.9	9.6	11.8	9.0	10.1	16.4	11.0	13.4	11.6	11.3	11.5
17	11.7	7.7	9.7	12.9	9.2	11.0	16.8	10.6	13.2	11.7	11.3	11.5
18	12.1	8.1	9.9	13.2	9.3	11.3	16.8	10.4	13.1	11.6	11.3	11.5
19	12.1	8.2	10.0	13.4	9.2	11.3	17.8	10.6	13.8	11.9	11.1	11.4
20	12.7	7.7	10.2	14.3	9.0	11.4	15.8	10.7	13.0	12.1	11.3	11.6
21	13.0	7.7	10.1	11.6	8.7	9.9	18.9	10.7	13.8	11.9	11.4	11.6
22	13.2	7.8	10.2	9.9	8.8	9.2	14.0	10.8	12.0	12.0	11.4	11.7
23	14.2	7.9	10.7	11.1	8.4	9.5	12.9	11.0	11.7	11.6	11.3	11.5
24	11.4	7.9	9.8	13.0	8.7	10.5	13.0	10.5	11.4	11.8	11.2	11.4
25	12.8	8.0	10.0	13.0	8.9	10.8	11.6	11.2	11.4	11.9	11.4	11.6
26	10.4	7.7	8.6	11.9	9.0	10.3	12.1	11.2	11.7	12.4	11.4	11.8
27	10.7	7.8	9.0	14.0	8.7	11.0	12.7	11.8	12.1	12.4	11.4	11.8
28	12.1	8.1	9.9	13.5	8.7	10.8	13.0	11.6	12.2	12.4	11.2	11.6
29	13.2	8.1	10.4	13.8	8.7	10.8	12.4	11.5	11.8	11.5	10.9	11.2
30	13.8	8.1	10.6	11.1	8.4	9.0	12.7	11.5	12.0	11.5	10.8	11.0
31	13.6	7.9	10.4	---	---	---	14.8	11.6	12.9	12.4	10.8	11.4
MONTH	18.1	6.3	10.4	14.3	7.6	10.1	18.9	8.4	12.0	16.0	10.1	11.7



**SURFACE-WATER RECORDS**  
**Great Miami River Basin**

**03271601 GREAT MIAMI RIVER BELOW MIAMISBURG, OHIO**

LOCATION.--Lat 39°36'24", long 84°17'13", in sec. 23, R.5, T.2, Montgomery County, Hydrologic Unit 05080002, on right bank 50 ft below outflow and dam of Hutchings Power station, 0.3 mi upstream of Crains Run at south edge of Miamisburg corporate boundary, and at mile point 63.4.

DRAINAGE AREA.--2,715 mi<sup>2</sup>.

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

GAGE.--Water-stage recorder. Datum of gage is 670.00 ft above sea level.

REMARKS.--Records good. Diurnal fluctuation caused by powerplant at gage. Flood flow regulated by retarding dams on Mad River 22 mi upstream, on Stillwater River 26 mi upstream, on Great Miami River 26 mi upstream, and on Loramie Creek 55 mi upstream.

COOPERATION.--Six discharge measurements furnished by Miami Conservancy District.

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	472	534	1000	911	1350	1780	2590	3450	1900	4230	1060	553
2	453	542	863	795	1290	1670	2350	4690	1820	2660	964	571
3	482	588	941	799	1230	1630	2200	4710	1730	1960	871	562
4	468	580	1000	779	1200	1580	2010	4930	1460	3850	862	562
5	448	565	808	734	1280	1530	1880	4700	1340	6300	873	584
6	409	560	753	844	1480	1460	1770	3710	1280	4930	5170	519
7	420	555	725	4850	1390	1410	1530	5660	1270	2690	7060	501
8	418	554	679	18300	1300	1470	2040	15400	1260	2590	6360	498
9	397	539	620	20200	1260	2870	6750	11800	1410	3130	4360	514
10	426	543	1160	15700	1230	6880	16000	6840	1330	2390	3530	504
11	390	535	1100	9440	1360	5000	14400	5350	2600	1860	2550	497
12	418	536	1210	6020	2050	3560	10000	4230	12300	1580	2290	483
13	504	555	1240	4670	2020	2720	5670	3190	17900	1380	1880	497
14	455	772	1020	3650	1800	2360	4270	3210	14300	1270	1440	455
15	474	635	873	2980	1550	2070	3790	2640	16600	1270	1230	436
16	457	622	807	2510	1490	1890	15300	2330	17100	1320	1080	449
17	432	585	755	2200	1760	2000	18900	2130	15000	1150	985	438
18	445	574	716	1970	5690	3170	12500	1970	12200	1080	923	452
19	458	571	696	1720	10600	6430	7890	1860	9270	1030	852	458
20	456	568	692	1580	7650	6510	6330	2680	7140	1580	804	488
21	471	626	661	1470	5770	8820	5020	4350	4830	1710	774	584
22	474	874	787	1370	4570	9540	4160	3450	3870	1860	742	565
23	461	690	765	1750	3690	7080	3660	3120	3430	11000	715	623
24	475	634	805	2230	3040	5150	3220	3570	3000	9090	716	595
25	518	605	1600	2410	2620	4000	2840	2630	2460	5310	812	599
26	544	596	1980	2040	2300	3350	2690	2360	2150	3120	819	585
27	658	561	2100	1800	2140	2910	3260	1970	1920	2130	761	539
28	556	549	1610	1680	1940	2600	3350	1720	1760	1600	727	540
29	535	566	1330	1630	---	2380	2770	1570	1660	1650	647	534
30	534	1340	1150	1560	---	2250	3290	1790	3580	1450	624	492
31	534	---	1060	1440	---	2170	---	1750	---	1150	598	---
TOTAL	14642	18554	31506	120032	75050	108240	172430	123760	167870	88320	53079	15677
MEAN	472	618	1016	3872	2680	3492	5748	3992	5596	2849	1712	523
MAX	658	1340	2100	20200	10600	9540	18900	15400	17900	11000	7060	623
MIN	390	534	620	734	1200	1410	1530	1570	1260	1030	598	436
CFSM	.17	.23	.37	1.43	.99	1.29	2.12	1.47	2.06	1.05	.63	.19
IN.	.20	.25	.43	1.64	1.03	1.48	2.36	1.70	2.30	1.21	.73	.21

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

	1992	1993	1994	1995	1996	1997	1998
MEAN	843	2546	2414	3871	2741	4065	4725
MAX	1814	6603	7690	7884	4820	6894	7343
(WY)	1996	1994	1997	1996	1997	1993	1996
MIN	434	475	613	867	842	1143	2124
(WY)	1992	1992	1992	1992	1992	1992	1994

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1992 - 1998
ANNUAL TOTAL	954404	989160	
ANNUAL MEAN	2615	2710	2970
HIGHEST ANNUAL MEAN			4283
LOWEST ANNUAL MEAN			1795
HIGHEST DAILY MEAN	30100	20200	32000
LOWEST DAILY MEAN	390	390	369
ANNUAL SEVEN-DAY MINIMUM	411	411	394
INSTANTANEOUS PEAK FLOW		23300	33800
INSTANTANEOUS PEAK STAGE		14.92	17.27
INSTANTANEOUS LOW FLOW		390	369
ANNUAL RUNOFF (CFSM)	.96	1.00	1.09
ANNUAL RUNOFF (INCHES)	13.08	13.55	14.86
10 PERCENT EXCEEDS	5930	6340	6920
50 PERCENT EXCEEDS	1450	1530	1530
90 PERCENT EXCEEDS	538	503	554

## SURFACE-WATER RECORDS Great Miami River Basin

### 03271800 TWIN CREEK NEAR INGOMAR, OHIO

LOCATION.--Lat 39°42'28", long 84°31'30", in sec. 15, T.5 N., R.3 E., Preble County, Hydrologic Unit 05080002, on left bank at downstream side of bridge on Halderman Road, 0.5 mi downstream from Bantas Fork, 1.4 mi west of Ingomar, and 4.8 mi upstream from Aukerman Creek.

DRAINAGE AREA.--197 mi<sup>2</sup>.

PERIOD OF RECORD.--October 1962 to current year. Occasional low-flow measurements water years 1959, 1961-62.

GAGE.--Water-stage recorder. Datum of gage is 815.42 ft above sea level.

REMARKS.--Records fair except for periods of estimated record, which are poor. Sediment data collected at this site.

COOPERATION.--Gage-height record and 8 discharge measurements furnished by Miami Conservancy District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Jan. 21, 1959, reached a stage of 18.8 ft; discharge, 30,300 ft<sup>3</sup>/s, computed by Miami Conservancy District. Flood of Mar. 25, 1913, reached a stage of 28.0 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	e4.7	11	27	37	64	93	125	486	102	206	23	10
2	e4.6	13	21	26	63	86	106	419	88	121	23	8.4
3	e4.7	13	19	26	57	83	97	296	74	90	e20	8.0
4	e4.8	12	20	25	57	78	96	245	69	422	e18	8.0
5	e4.9	12	17	25	64	71	85	204	66	315	e300	7.9
6	e5.0	11	15	75	59	66	81	176	65	169	e100	7.5
7	e5.0	9.9	13	1590	60	65	92	1410	57	120	e74	7.0
8	e5.4	9.5	12	2520	68	91	189	1300	50	109	e60	6.6
9	e5.6	8.8	12	859	82	866	2320	590	61	90	e46	6.4
10	e5.4	9.0	27	432	103	396	1090	370	67	73	e38	6.5
11	e5.2	9.5	30	268	302	246	484	275	1330	63	e33	6.4
12	e5.2	9.5	26	193	519	185	308	216	1880	54	e26	6.3
13	e5.6	10	22	154	267	163	256	179	1560	50	e22	6.1
14	e5.8	12	19	116	186	148	216	153	1220	47	19	5.6
15	e6.0	14	16	112	144	113	417	129	3700	46	18	5.3
16	e6.2	13	15	96	139	103	3580	111	1680	45	17	5.4
17	e6.2	12	14	85	374	298	1300	97	730	41	16	5.7
18	6.3	11	13	75	999	816	559	88	435	41	17	5.6
19	6.4	11	12	67	594	514	421	86	1120	38	15	5.5
20	6.0	11	12	62	424	1480	337	544	465	39	14	5.5
21	5.7	14	11	57	324	1050	273	611	321	35	13	5.4
22	5.9	21	16	61	244	611	234	294	312	36	12	5.6
23	6.3	16	17	173	208	420	216	342	267	60	12	5.3
24	7.9	13	49	178	167	349	187	712	214	55	10	5.7
25	9.1	11	146	128	137	280	166	397	175	38	11	5.1
26	10	11	85	105	126	238	219	246	146	32	12	5.2
27	9.7	9.9	56	94	121	203	422	177	115	29	10	6.8
28	9.9	9.9	44	91	101	183	248	144	98	28	10	4.7
29	9.9	10	38	87	---	152	206	127	89	27	9.6	4.6
30	11	32	34	78	---	135	418	117	322	26	9.3	4.3
31	9.7	---	32	69	---	128	---	107	---	24	8.5	---
TOTAL	204.1	370.0	890	7964	6053	9710	14748	10648	16878	2569	1016.4	186.4
MEAN	6.58	12.3	28.7	257	216	313	492	343	563	82.9	32.8	6.21
MAX	11	32	146	2520	999	1480	3580	1410	3700	422	300	10
MIN	4.6	8.8	11	25	57	65	81	86	50	24	8.5	4.3
CFSM	.03	.06	.15	1.30	1.10	1.59	2.50	1.74	2.86	.42	.17	.03
IN.	.04	.07	.17	1.50	1.14	1.83	2.78	2.01	3.19	.49	.19	.04

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

MEAN	49.6	144	261	234	295	398	361	294	176	105	59.2	22.4
MAX	758	699	1170	685	886	990	837	938	563	499	531	137
(WY)	1987	1986	1991	1996	1975	1963	1996	1996	1998	1979	1979	1989
MIN	4.00	6.35	6.14	6.45	18.5	70.3	59.4	34.0	10.9	5.20	4.13	3.57
(WY)	1964	1964	1964	1977	1964	1992	1971	1976	1988	1988	1988	1964

#### SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1963 - 1998	
ANNUAL TOTAL	59927.7		71236.9			
ANNUAL MEAN	164		195		200	
HIGHEST ANNUAL MEAN					324	
LOWEST ANNUAL MEAN					78.4	
HIGHEST DAILY MEAN	6800		3700		11000	
LOWEST DAILY MEAN	4.6		4.3		2.5	
ANNUAL SEVEN-DAY MINIMUM	4.8		4.8		2.8	
INSTANTANEOUS PEAK FLOW			5920		19300	
INSTANTANEOUS PEAK STAGE			8.31		14.40	
INSTANTANEOUS LOW FLOW			4.3		2.5	
ANNUAL RUNOFF (CFSM)	.83		.99		1.01	
ANNUAL RUNOFF (INCHES)	11.32		13.45		13.76	
10 PERCENT EXCEEDS	342		427		441	
50 PERCENT EXCEEDS	67		62		63	
90 PERCENT EXCEEDS	6.0		6.2		9.6	

e Estimated.

**SURFACE-WATER RECORDS**  
**Great Miami River Basin**

**03272000 TWIN CREEK NEAR GERMANTOWN, OHIO**

LOCATION.--Lat 39°38'10", long 84°23'48", in NW 1/4 sec. 11, T.3 N., R.4 E., Montgomery County, Hydrologic Unit 05080002, on right bank 0.3 mi downstream from Germantown Dam, 1.5 mi northwest of Germantown, and 3 mi upstream from Little Twin Creek.

DRAINAGE AREA.--275 mi<sup>2</sup>.

PERIOD OF RECORD.--April 1914 to December 1923, December 1926 to current year.

REVISED RECORDS.--WSP 403: 1914(M). WSP 1385: 1915(M).

GAGE.--Water-stage recorder. Datum of gage is 700.24 ft above sea level. Prior to Dec. 18, 1926, nonrecording gage at site 1 mi downstream at datum 12.49 ft higher.

REMARKS.--Records fair except for periods of estimated record and Apr. 14-29, which are poor. Flood flow regulated by Germantown retarding basin, 0.3 mi upstream, beginning in 1920.

COOPERATION.--Gage-height record and 9 discharge measurements furnished by Miami Conservancy District.

EXTREMES FOR PERIOD OF RECORD.--Maximum discharge, 9,390 ft<sup>3</sup>/s July 8, 1915, gage height 11.7 ft, from graph based on gage readings, site and datum then in use.

EXTREMES OUTSIDE PERIOD OF RECORD.--Flood of Mar. 25, 1913, reached a stage of 18.3 ft, original site and datum; discharge, 66,000 ft<sup>3</sup>/s, computed by Miami Conservancy District.

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	18	59	73	103	149	205	896	148	287	24	9.7
2	7.2	19	41	44	99	137	171	868	122	172	24	10
3	7.3	21	35	44	92	131	153	508	108	130	21	9.6
4	7.0	22	35	42	90	125	153	389	100	383	20	9.4
5	7.0	21	33	41	100	115	136	311	97	456	20	8.9
6	7.2	20	28	49	95	106	125	263	92	222	533	8.9
7	7.4	19	26	1400	100	102	123	1940	82	159	162	8.4
8	7.3	19	24	4060	119	133	237	3010	74	137	96	7.7
9	8.1	18	23	1630	138	1020	2700	1120	92	124	69	7.4
10	9.1	17	45	757	162	650	2110	631	99	101	59	7.1
11	8.6	17	59	442	367	387	894	428	1280	86	46	7.0
12	8.9	17	50	310	758	283	519	319	2540	76	39	7.0
13	10	18	43	251	431	246	375	262	2830	68	34	7.6
14	e10	21	36	201	287	228	313	223	1280	64	30	7.0
15	e11	21	31	189	226	185	581	194	5070	61	26	6.9
16	e11	22	28	169	214	166	4910	174	4090	60	23	6.8
17	e15	21	27	148	429	266	3700	152	1380	55	22	6.9
18	e16	21	25	132	976	791	1090	135	769	51	20	7.1
19	e16	20	25	115	877	751	743	131	1790	54	21	7.0
20	16	19	23	108	651	2000	601	568	886	59	18	7.4
21	15	22	22	100	502	1790	468	738	508	47	17	8.9
22	15	28	28	100	364	1100	409	404	462	42	17	8.0
23	15	31	36	246	307	710	372	432	425	63	16	7.0
24	16	23	59	284	255	572	311	1380	325	72	16	7.0
25	17	21	314	213	215	438	271	816	253	50	16	7.0
26	18	19	173	175	193	361	283	444	210	39	16	7.2
27	20	18	113	156	185	304	608	306	179	35	16	6.9
28	18	17	84	147	164	270	374	242	154	32	15	7.0
29	17	18	70	139	---	236	293	201	137	30	16	7.0
30	17	45	63	127	---	205	680	182	303	30	13	6.6
31	17	---	55	112	---	195	---	157	---	27	10	---
TOTAL	382.0	633	1713	12004	8499	14152	23908	17824	25885	3272	1475	230.4
MEAN	12.3	21.1	55.3	387	304	457	797	575	863	106	47.6	7.68
MAX	20	45	314	4060	976	2000	4910	3010	5070	456	533	10
MIN	6.9	17	22	41	90	102	123	131	74	27	10	6.6
CFSM	.04	.08	.20	1.41	1.10	1.66	2.90	2.09	3.14	.38	.17	.03
IN.	.05	.09	.23	1.62	1.15	1.91	3.23	2.41	3.50	.44	.20	.03

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

MEAN	55.8	157	297	449	453	527	483	345	239	132	72.8	41.6
MAX	718	978	1398	2669	1214	1304	1421	1723	1237	882	636	509
(WY)	1987	1986	1991	1937	1950	1978	1922	1996	1958	1929	1979	1950
MIN	4.07	5.24	5.19	9.23	20.1	54.7	69.5	26.4	14.1	8.46	5.77	3.79
(WY)	1945	1945	1945	1945	1935	1954	1941	1934	1934	1930	1988	1953

SUMMARY STATISTICS FOR 1997 CALENDAR YEAR FOR 1998 WATER YEAR WATER YEARS 1921 - 1998

ANNUAL TOTAL	88609.7		109977.4			
ANNUAL MEAN	243		301		268	
HIGHEST ANNUAL MEAN					493	
LOWEST ANNUAL MEAN					43.3	
HIGHEST DAILY MEAN	6490		Jun 2		8450	
LOWEST DAILY MEAN	6.9		Sep 22		2.0	
ANNUAL SEVEN-DAY MINIMUM	7.0		Sep 18		2.7	
INSTANTANEOUS PEAK FLOW			5590		8790	
INSTANTANEOUS PEAK STAGE			26.06		29.19	
INSTANTANEOUS LOW FLOW			6.6		1.5	
ANNUAL RUNOFF (CFSM)	.88		1.10		.98	
ANNUAL RUNOFF (INCHES)	11.99		14.88		13.25	
10 PERCENT EXCEEDS	580		746		600	
50 PERCENT EXCEEDS	95		97		82	
90 PERCENT EXCEEDS	9.2		8.9		13	

e Estimated.

**SURFACE-WATER RECORDS**  
**Great Miami River Basin**

**03272100 GREAT MIAMI RIVER AT MIDDLETOWN, OHIO**

LOCATION.--Lat 39°31'12", long 84°24'51", Butler County, Hydrologic Unit 05080002, on downstream side of Central Avenue Bridge on State Route 122, 1.9 mi downstream from Browns Run, on northwest side of city of Middletown.  
DRAINAGE AREA.--3,134 mi<sup>2</sup>.  
PERIOD OF RECORD.--July 1994 to current year.  
GAGE.--Water-stage recorder. Datum of gage is 626 ft above sea level (levels by Miami Conservancy District).  
REMARKS.--Records good except for period of estimated records, which are fair. Some regulation and diversion at low flow by industrial plants upstream from station. Flood flow regulated by five retarding basins upstream from station (see REMARKS for station numbers 03271500 and 03272000). Water-temperature data collected at this site.  
COOPERATION.--Gage-height record and 8 discharge measurements furnished by Miami Conservancy District.

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	501	564	1130	1000	1550	2090	2980	4630	2240	4830	1190	592
2	479	585	909	884	1470	1970	2690	5840	2040	3280	1080	592
3	506	612	967	860	1390	1920	2520	5570	2030	2410	1000	595
4	504	616	1060	867	1310	1860	2300	5520	1710	3570	982	575
5	479	595	894	808	1400	1790	2170	5350	1580	6720	974	597
6	438	584	805	886	1640	1690	2070	4270	1490	5680	4310	545
7	429	576	781	5150	1600	1600	1820	6790	1460	3330	7040	494
8	424	574	749	22300	1510	1670	2350	19500	1460	2880	6280	506
9	412	564	691	22100	1500	3980	8310	14100	1620	3540	4460	488
10	430	563	1160	16900	1500	7660	19200	8140	1620	2880	3590	497
11	404	561	1200	10600	1780	5950	15800	6300	2450	2200	2820	485
12	417	554	1210	6780	3250	4230	11200	5060	14700	1870	2400	474
13	486	565	1300	5240	2820	3330	6760	3920	21700	1680	2060	485
14	485	783	1090	4180	2320	2840	5010	3770	16700	1570	1620	470
15	485	686	942	3470	1970	2490	4130	3220	22400	1510	1310	441
16	463	657	870	2970	1810	2260	22900	2860	24200	1630	1160	436
17	442	633	808	2580	2100	2280	23700	2590	18100	1440	1100	430
18	437	619	770	2330	6050	3780	14700	2370	14800	1270	1020	439
19	454	610	757	2030	11700	7170	9210	2220	12500	1220	932	437
20	476	602	730	1860	8680	8230	7340	3180	9450	e1500	859	476
21	479	618	707	1720	6600	10900	5890	4840	6370	1940	840	528
22	488	883	822	1600	5270	10900	4800	4290	5100	1860	803	610
23	468	751	871	2060	4270	8360	4200	3750	4510	9850	764	565
24	477	670	808	2590	3590	6170	3720	5300	3900	9370	771	569
25	518	659	1960	2870	3120	4810	3380	4030	3200	5700	828	575
26	546	650	2040	2440	2710	4050	3160	3160	2760	3500	854	580
27	700	601	2280	2120	2520	3490	3820	2560	2460	2500	809	545
28	597	586	1750	1960	2300	3100	3920	2220	2230	1900	765	519
29	562	592	1430	1890	---	2820	3340	1980	2090	1640	703	531
30	567	1260	1240	1820	---	2620	4280	2120	3460	1890	666	499
31	564	---	1110	1670	---	2550	---	2000	---	1340	642	---
TOTAL	15117	19373	33841	136535	87730	128560	207670	151450	210330	96500	54632	15575
MEAN	488	646	1092	4404	3133	4147	6922	4885	7011	3113	1762	519
MAX	700	1260	2280	22300	11700	10900	23700	19500	24200	9850	7040	610
MIN	404	554	691	808	1310	1600	1820	1980	1460	1220	642	430
CFSM	.16	.21	.35	1.41	1.00	1.32	2.21	1.56	2.24	.99	.56	.17
IN.	.18	.23	.40	1.62	1.04	1.53	2.47	1.80	2.50	1.15	.65	.18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 1998, BY WATER YEAR (WY)

	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	
MEAN	898	1401	2963	4610	3273	5113	5362	7357	6276	2553	2061	712
MAX	1759	2585	8508	8581	5234	7590	8320	13960	7424	3113	5726	1101
(WY)	1996	1996	1997	1996	1997	1997	1996	1997	1997	1998	1995	1996
MIN	458	583	932	1567	1370	3415	2306	2827	3825	1772	737	465
(WY)	1995	1995	1995	1995	1995	1995	1997	1997	1995	1997	1994	1994

SUMMARY STATISTICS	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	FOR 1999 WATER YEAR	FOR 2000 WATER YEAR	FOR 2001 WATER YEAR	FOR 2002 WATER YEAR
ANNUAL TOTAL	1057251	1157313	1157313	1157313	1157313	1157313
ANNUAL MEAN	2897	3171	3171	3171	3171	3171
HIGHEST ANNUAL MEAN						4724
LOWEST ANNUAL MEAN						2786
HIGHEST DAILY MEAN	33500	Jun 2	24200	Jun 16	36900	Apr 30 1996
LOWEST DAILY MEAN	404	Oct 11	404	Oct 11	392	Sep 21 1994
ANNUAL SEVEN-DAY MINIMUM	422	Oct 6	422	Oct 6	419	Sep 20 1994
INSTANTANEOUS PEAK FLOW			32300	Apr 16	38500	Apr 30 1996
INSTANTANEOUS PEAK STAGE			11.49	Apr 16	12.72	Apr 30 1996
INSTANTANEOUS LOW FLOW			404	Oct 11	392	Sep 21 1994
ANNUAL RUNOFF (CFSM)	.92		1.01		1.14	
ANNUAL RUNOFF (INCHES)	12.55		13.74		15.54	
10 PERCENT EXCEEDS	6620		6890		8680	
50 PERCENT EXCEEDS	1630		1790		1740	
90 PERCENT EXCEEDS	564		503		564	

e Estimated.

**SURFACE-WATER RECORDS**  
**Great Miami River Basin**

**03272700 SEVENMILE CREEK AT CAMDEN, OHIO**

LOCATION.--Lat 39°37'45", long 84°38'40", Preble County, Hydrologic Unit 05080002, on right bank at downstream side of bridge on State Highway 725 in Camden, 0.3 mi downstream from Beasley Run and at mile 16.2.

DRAINAGE AREA.--69.0 mi<sup>2</sup>.

PERIOD OF RECORD.--December 1970 to current year.

GAGE.--Water-stage recorder. Datum of gage is 818.57 ft above sea level. (Levels by Miami Conservancy District.) Prior to Oct. 1, 1975, at same site at datum 3.02 ft higher.

REMARKS.--Records fair except for periods of estimated record, which are poor. Water-quality data collected at this site.

COOPERATION.--Gage-height record and 8 discharge measurements furnished by Miami Conservancy District.

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	2.5	4.8	13	12	25	34	45	244	77	41	11	2.9
2	2.5	6.8	9.9	13	25	32	37	187	68	35	8.5	2.9
3	2.6	5.6	9.3	13	23	31	35	132	58	31	e6.4	2.8
4	2.6	5.3	12	13	23	30	37	111	55	42	e12	2.7
5	2.4	5.0	9.7	13	24	28	33	93	53	34	e20	2.7
6	2.4	4.4	9.4	60	24	27	32	81	50	30	e50	2.6
7	2.2	3.8	9.0	751	23	26	38	850	46	29	11	2.6
8	2.4	3.5	8.6	819	24	61	83	579	44	28	8.8	2.5
9	2.3	3.4	8.8	282	27	297	716	264	63	26	8.5	2.5
10	2.4	3.4	23	157	30	130	370	182	60	25	9.4	2.6
11	2.5	3.4	19	114	90	88	171	137	1040	24	7.6	2.6
12	2.6	3.3	14	79	138	72	117	105	799	23	6.3	2.5
13	3.0	3.6	12	54	81	69	e100	90	620	22	5.3	2.4
14	4.9	5.2	11	43	57	61	e110	78	875	22	5.0	2.4
15	4.2	5.1	10	42	47	50	e300	69	1400	22	4.9	2.3
16	3.3	4.3	10	36	47	48	e1200	63	576	23	4.7	2.2
17	3.2	3.6	9.7	33	107	95	e800	57	253	21	4.3	2.4
18	3.2	3.5	9.6	29	271	201	e500	53	161	21	4.1	2.4
19	3.1	3.5	9.1	27	169	148	e250	55	694	24	4.0	2.8
20	3.0	3.4	8.7	26	134	486	138	84	215	31	3.8	2.9
21	3.2	6.4	8.6	25	112	284	115	58	151	22	3.6	3.0
22	3.3	15	11	26	95	175	110	53	117	24	3.7	2.9
23	3.5	8.9	12	61	74	130	102	106	147	44	3.7	2.7
24	3.9	7.9	54	54	55	110	84	522	103	25	3.6	2.4
25	4.5	7.5	87	42	46	97	75	236	78	22	3.5	2.3
26	4.6	7.2	37	37	44	85	92	140	63	20	3.4	2.4
27	5.3	7.3	26	34	42	69	115	107	54	19	3.4	2.3
28	4.9	7.3	21	33	36	60	88	85	47	17	3.2	2.1
29	4.2	7.4	19	31	---	50	86	94	43	16	3.2	2.5
30	4.0	22	17	28	---	47	226	172	50	15	3.2	2.4
31	3.9	---	14	26	---	45	---	100	---	13	3.1	---
TOTAL	102.6	181.8	532.4	3013	1893	3166	6205	5187	8060	791	233.2	76.7
MEAN	3.31	6.06	17.2	97.2	67.6	102	207	167	269	25.5	7.52	2.56
MAX	5.3	22	87	819	271	486	1200	850	1400	44	50	3.0
MIN	2.2	3.3	8.6	12	23	26	32	53	43	13	3.1	2.1
CFSM	.05	.09	.25	1.41	.98	1.48	3.00	2.42	3.89	.37	.11	.04
IN.	.06	.10	.29	1.62	1.02	1.71	3.35	2.80	4.35	.43	.13	.04

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 1998, BY WATER YEAR (WY)

	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
MEAN	18.6	57.3	89.2	88.1	111	140	130	115	61.8	34.6	18.8	9.24																
MAX	126	266	281	265	276	344	323	421	269	138	91.6	40.9																
(WY)	1987	1986	1991	1982	1975	1978	1996	1989	1998	1992	1979	1979																
MIN	3.31	3.90	4.58	3.46	19.2	24.9	25.2	11.3	3.84	4.27	2.95	1.68																
(WY)	1998	1972	1977	1977	1978	1992	1976	1976	1988	1975	1975	1991																

SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR		FOR 1998 WATER YEAR		WATER YEARS 1971 - 1998	
ANNUAL TOTAL	23664.3		29441.7			
ANNUAL MEAN	64.8		80.7		73.3	
HIGHEST ANNUAL MEAN					117	
LOWEST ANNUAL MEAN					28.0	
HIGHEST DAILY MEAN	2110		Jun 1		1400	
LOWEST DAILY MEAN	2.2		Oct 7		2.1	
ANNUAL SEVEN-DAY MINIMUM	2.4		Oct 5		2.3	
INSTANTANEOUS PEAK FLOW					5100	
INSTANTANEOUS PEAK STAGE					11.60	
INSTANTANEOUS LOW FLOW					20200	
ANNUAL RUNOFF (CFSM)	.94		1.17		18.67	
ANNUAL RUNOFF (INCHES)	12.76		15.87		2.1	
10 PERCENT EXCEEDS	134		170		1.06	
50 PERCENT EXCEEDS	31		26		14.43	
90 PERCENT EXCEEDS	3.4		2.8		26	
					3.9	

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

## SURFACE-WATER RECORDS Great Miami River Basin

### 03274000 GREAT MIAMI RIVER AT HAMILTON, OHIO

LOCATION.--Lat 39°23'28", long 84°34'20", in NE 1/4 sec. 6, T.1 N., R.3 E., Butler County, Hydrologic Unit 05080002, on right bank 1,000 ft downstream from Columbia Bridge at Hamilton, 3 mi downstream from Four Mile Creek, 4.3 mi upstream from Pleasant Run, and at mile 34.8.

DRAINAGE AREA.--3,630 mi<sup>2</sup>.

PERIOD OF RECORD.--January 1907 to June 1909 (fragmentary), January 1910 to September 1918, April 1927 to current year. Monthly discharge only for some periods, published in WSP 1305. Gage-height records collected at site 0.7 mi upstream since 1911 are contained in reports of National Weather Service. Prior to October 1962, published as Miami River at Hamilton.

REVISED RECORDS.--WSP 803: 1936. WSP 1908: Drainage area.

GAGE.--Water-stage recorder. Datum of gage is 499.98 ft above sea level. Prior to Apr. 12, 1927, nonrecording gage at site 0.7 mi upstream at datum 64.65 ft higher.

REMARKS.--Records good except for periods of estimated record, which are fair. Some regulation and diversion at low flow by industrial plants upstream from station. Flood flow regulated by five retarding basins upstream from station beginning in 1920 (see REMARKS for station numbers 03271500 and 03272000). The Miami and Erie Canal diverted water from the basin 1.7 mi upstream from station until Nov. 1, 1930, when the canal was abandoned; amount of diversion not known. Water-quality and water-temperature data collected at this site.

COOPERATION.--Gage-height charts, record, and 10 discharge measurements furnished by Miami Conservancy District.

EXTREMES OUTSIDE PERIOD OF RECORD.--Maximum discharge, 352,000 ft<sup>3</sup>/s Mar. 26, 1913, gage height 38.5 ft, site and datum then in use, computed by Miami Conservancy District.

#### 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	516	579	1450	1270	1820	2330	3210	5960	2660	4720	1550	868
2	503	607	1110	1110	1740	2240	2850	7210	2320	3350	1420	813
3	521	629	1130	1050	1650	2180	2720	6050	2290	2560	1340	820
4	534	623	1270	1090	1580	2110	2540	5760	1950	3600	1300	803
5	525	614	1070	1020	1680	1910	2360	5470	1850	6410	1270	816
6	483	590	976	1200	1870	1820	2260	4410	1750	e5000	3270	797
7	461	567	940	10300	1890	1720	2050	12900	1650	3620	7330	725
8	459	560	909	24700	1810	1890	2750	22200	1650	2820	6470	732
9	465	560	875	22200	1800	5810	12900	14700	2170	3510	5010	731
10	456	563	1550	16800	1810	7890	21100	8540	2950	3040	3930	740
11	454	568	1540	10300	2560	5900	16300	6580	5900	2370	3410	745
12	443	511	1430	6840	3940	4300	11400	5300	17000	2030	2770	736
13	469	564	1540	5410	3150	3400	6980	4150	e17000	1850	2430	727
14	611	817	1330	4340	2630	2980	5380	3950	17500	1740	2000	731
15	514	733	1150	3630	2260	2650	5470	3410	28400	1630	1660	688
16	479	672	1060	3140	2130	2470	36500	3030	25700	1710	1480	656
17	462	656	1020	2800	2550	2550	25700	2770	17700	1620	1410	649
18	462	623	1010	2550	6560	4390	15500	2570	14700	1420	1350	662
19	438	661	1010	2250	e10000	7490	10000	2500	14800	1360	1240	667
20	492	619	999	2100	8690	10700	7840	3530	10400	2330	1150	742
21	521	675	982	1960	6760	12500	6250	4760	6710	2420	1130	846
22	517	1010	1170	1840	5470	11700	5210	4290	5290	2150	1100	923
23	508	917	1220	2420	4500	8720	4630	5130	5410	9440	1040	789
24	501	843	1420	2800	3810	6550	4010	7320	e4500	9840	1060	799
25	531	775	3010	2990	3430	5130	3530	5310	e3800	6350	1160	768
26	628	713	2600	2620	3050	4290	3520	3810	e3200	4110	1150	761
27	738	688	2830	2330	2850	3730	4270	3000	2750	3000	1130	762
28	641	688	2250	2230	2570	3280	4060	2590	2460	2290	1070	731
29	593	700	1900	2140	---	2990	3530	2270	2330	1960	980	731
30	591	1610	1670	2080	---	2820	6930	2510	3440	2240	932	720
31	564	---	1510	1940	---	2740	---	2460	---	1740	899	---
TOTAL	16080	20935	43931	149450	94560	141180	241750	174440	230230	102230	63441	22678
MEAN	519	698	1417	4821	3377	4554	8058	5627	7674	3298	2046	756
MAX	738	1610	3010	24700	10000	12500	36500	22200	28400	9840	7330	923
MIN	438	511	875	1020	1580	1720	2050	2270	1650	1360	899	649
CFSM	.14	.19	.39	1.33	.93	1.25	2.22	1.55	2.11	.91	.56	.21
IN.	.16	.21	.45	1.53	.97	1.45	2.48	1.79	2.36	1.05	.65	.23

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

MEAN	1029	1963	3287	4989	5200	6127	5885	4271	3240	2212	1408	950
MAX	6728	10060	13280	29460	14410	15590	13760	17390	14860	7995	7613	4382
(WY)	1987	1973	1991	1937	1950	1963	1964	1996	1958	1958	1979	1979
MIN	279	287	323	434	502	826	1219	602	445	335	391	319
(WY)	1964	1935	1935	1977	1964	1941	1941	1934	1934	1936	1936	1963

#### SUMMARY STATISTICS

	FOR 1997 CALENDAR YEAR	FOR 1998 WATER YEAR	WATER YEARS 1927 - 1998
ANNUAL TOTAL	1292987	1300905	
ANNUAL MEAN	3542	3564	3367
HIGHEST ANNUAL MEAN			5778
LOWEST ANNUAL MEAN			931
HIGHEST DAILY MEAN	37100	36500	73900
LOWEST DAILY MEAN	438	438	155
ANNUAL SEVEN-DAY MINIMUM	458	458	201
INSTANTANEOUS PEAK FLOW		47600	108000
INSTANTANEOUS PEAK STAGE		72.63	79.47
INSTANTANEOUS LOW FLOW		438	155
ANNUAL RUNOFF (CFSM)	.98	.98	.93
ANNUAL RUNOFF (INCHES)	13.25	13.33	12.60
10 PERCENT EXCEEDS	8340	7630	7760
50 PERCENT EXCEEDS	2010	2110	1620
90 PERCENT EXCEEDS	578	601	508

e Estimated.



**DISCHARGE AT PARTIAL-RECORD STATIONS  
AND MISCELLANEOUS SITES**

As the number of streams on which streamflow information is likely to be desired far exceeds the number of stream-gaging stations feasible to operate at one time, the Geological Survey collects limited streamflow data at sites other than stream-gaging stations. When limited streamflow data are collected on a systematic basis over a period of years for use in hydrologic analyses, the site at which the data are collected is called a partial-record station. Data collected at these partial-record stations are usable in low-flow or flood-flow analyses, depending on the type of data collected. In addition, discharge measurements are made at other sites not included in the partial-record program. These measurements are generally made in times 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.

Records collected at crest-stage partial-record stations are presented in the following table. Discharge measurements made at low-flow partial-record sites and at miscellaneous sites and for special studies are given in separate tables.

**CREST-STAGE PARTIAL-RECORD STATIONS**

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

[#, operated as a continuous-record gaging station; e, estimated]

MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS

LOCATION	DRAINAGE AREA (MI <sup>2</sup> )	PERIOD OF RECORD	WATER YEAR 1998 MAXIMUM			PERIOD OF RECORD MAXIMUM		
			DATE	GAGE HEIGHT (FT)	DISCHARGE (FT <sup>3</sup> /S)	DATE	GAGE HEIGHT (FT)	DISCHARGE (FT <sup>3</sup> /S)
<b>OHIO RIVER BASIN</b>								
<b>BEAVER RIVER BASIN</b>								
03086500 MAHONING RIVER AT ALLIANCE, OH								
Lat 40°55'58", long 81°05'41", in E 1/2 sec. 36, T.13 N., R.6 W., Stark County, Hydrologic Unit 05030103, on right bank 15 ft upstream from Webb Avenue bridge in Alliance, 0.2 mi upstream from water works dam, and 4 mi upstream from Beach Creek	89.2	1941-93 # 1994-98	4-16-98	5.60	3,280	1-21-59	9.11	9,740
03092090 WEST BRANCH MAHONING RIVER NR RAVENNA, OH								
Lat 41°09'41", long 81°11'50", in T.9 N., R.2 W., Portage County, Hydrologic Unit 05030103, on left bank at downstream side of bridge on Newton Falls Road, 2.5 mi east of Ravenna	21.8	1965-93 # 1994-98	4-16-98	5.76	932	9-14-79	8.63	2,810
03102950 PYMATUNING CREEK AT KINSMAN, OH								
Lat 41°26'34", long 80°35'18", Trumbull County, Hydrologic Unit 05030102, on left bank at downstream side of bridge on State Highway 7 at Kinsman, 0.8 mi downstream from Sugar Creek, and 1.2 mi upstream from Stratton Creek	96.7	1966-94 # 1995-98	1-9-98	11.61	1,830	11-6-85	12.40	2,740

**DISCHARGE AT PARTIAL-RECORD STATIONS  
AND MISCELLANEOUS SITES**

MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS—Continued

LOCATION	DRAINAGE AREA (MI <sup>2</sup> )	PERIOD OF RECORD	WATER YEAR 1998 MAXIMUM			PERIOD OF RECORD MAXIMUM		
			DATE	GAGE HEIGHT (FT)	DISCHARGE (FT <sup>3</sup> /S)	DATE	GAGE HEIGHT (FT)	DISCHARGE (FT <sup>3</sup> /S)
<b>MUSKINGUM RIVER BASIN</b>								
03120500 MCGUIRE CREEK BELOW LEESVILLE DAM, NEAR LEESVILLE, OH								
Lat 40°28'13", long 81°11'48", in E 1/2 sec. 36, T.13 N., R.6 W., Carroll County, Hydrologic Unit 05040001, on left bank at outlet of Leesville Dam, 1.3 mi upstream from mouth, and 1.4 mi northeast of Leesville	48.3	1938-91 ≠ 1992-98	1-13-98	4.50	265	3-4-40	7.88	740
03122500 TUSCARAWAS RIVER BELOW DOVER DAM, NEAR DOVER, OH								
Lat 40°31'47", long 81°25'48", in T.9 N., R.2 W., Tuscarawas County, Hydrologic Unit 05040001, on left bank at downstream side of bridge on State Highway 416, 2.2 mi downstream from Dover Dam, 1.5 mi east of Dover and 3.4 mi upstream from Sugar Creek	1,405	1923-91 ≠ 1992-98	5-10-98	7.12	5,590	1-26-37	15.51	26,400
03124000 SUGAR CREEK BELOW BEACH CITY DAM, NEAR BEACH CITY, OH								
Lat 40°38'08", long 81°33'11", in T.10, N., R.3 W., Tuscarawas County, Hydrologic Unit 05040001, on right bank 1,000 ft downstream from Beach City Dam, 0.4 mi downstream from South Fork, and 1.8 mi southeast of Beach City	300	1938-91 ≠ 1992-98	4-17-98	6.15	1,940	7-6-69	11.26	7,520
03126000 STILLWATER CREEK AT PIEDMONT, OH								
Lat 40°11'41", long 81°12'56", in sec. 35, T.10 N., R.6 W., Harrison County, Hydrologic Unit 05040001, on left bank 400 ft downstream from outlet of Piedmont Dam and Boggs Fork, and 0.7 mi northwest of Piedmont	122	1938-91 ≠ 1992-98	6-29-98	10.75	1,300	12-4-50	11.44	1,470
03127000 STILLWATER CREEK AT TIPPECANOE, OH								
Lat 40°16'13", long 81°17'26" in NW 1/4 sec, 22, T.12 N., R.7 W. Harrison County, Hydrologic Unit 05040001 on left bank downstream side of highway bridge at Tippecanoe, 0.4 mi downstream from Brushy Fork, 3.6 mi upstream from Weaver Run, 6 mi upstream from Laurel Creek, and 9 mi south of Dennison	282	1938-91 ≠ 1992-98	6-29-98	17.69	3,770	3-5-63	17.29	4,410
03127500 STILLWATER CREEK AT UHRICHSVILLE, OH								
Lat 40°23'10", long 81°20'50" Tuscarawas County, Hydrologic Unit 05040001, on left bank at concrete dam of Dennison Water Supply Co. at Uhrichsville, 2.2 mi upstream from Little Stillwater Creek	367	1922-91 ≠ 1992-98	6-30-98	11.10	6,410	8-8-35	12.80	7,650

**DISCHARGE AT PARTIAL-RECORD STATIONS  
AND MISCELLANEOUS SITES**

MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS--Continued

LOCATION	DRAINAGE AREA (MI <sup>2</sup> )	PERIOD OF RECORD	WATER YEAR 1998 MAXIMUM			PERIOD OF RECORD MAXIMUM		
			DATE	GAGE HEIGHT (FT)	DISCHARGE (FT <sup>3</sup> /S)	DATE	GAGE HEIGHT (FT)	DISCHARGE (FT <sup>3</sup> /S)
03128500 LITTLE STILLWATER CREEK BELOW TAPPAN DAM, AT TAPPAN, OH								
Lat 40°21'25", long 81°13'49", in NW 1/4 sec. 4, T.13 N., R.7 W., Harrison County, Hydrologic Unit 05040001, on right bank 150 ft downstream from outlet of lake at Tappan Dam, 1 mi west of Tappan, and 2 mi upstream from Plum Run	71.1	1938-91 ≠ 1992-98	1-14-98	6.63	437	3-13-39	10.00	1,050
03130000 BLACK FORK BELOW CHARLES MILL DAM, NEAR MIFFLIN, OH								
Lat 40°44'16", long 82°21'48", in NE 1/4 sec. 35, T.23 N., R.17 W., Ashland County, Hydrologic Unit 05040002, on left bank 700 ft downstream from Charles Mill Dam, 2.5 mi south of Mifflin, and 4 mi upstream from Rocky Fork	217	1938-91 ≠ 1992-98	1-14-98	5.72	1,270	3-13-64	8.45	2,800
03131500 BLACK FORK AT LOUDONVILLE, OH								
Lat 40°38'09", long 82°14'22", in NW 1/4 sec. 1, T.19 N., R.16 W., Ashland County, Hydrologic Unit 05040002, on right bank at downstream side of bridge on State Highway 39 at Loudonville, 1.5 mi downstream from Big Run	349	1931-91 ≠ 1992-98	6-30-98	9.07	2,380	7-5-69	14.11	8,460
03133500 CLEAR FORK BELOW PLEASANT HILL DAM, NEAR PERRYVILLE, OH								
Lat 40°37'13", long 82°19'28", in NE 1/4 sec. 7, T.19 N., R.16 W., Ashland County, Hydrologic Unit 05040002, on right bank 0.2 mi downstream from Pleasant Hill Dam, 2.8 mi south of Perrysville, and 4.7 mi upstream from the confluence of Clear Fork and Black Fork	198	1938-91 ≠ 1992-98	6-30-98	3.94	1,430	1-23-59	4.89	2,340
03135000 LAKE FORK BELOW MOHICANVILLE DAM, NEAR MOHICANVILLE, OH								
Lat 40°43'24", long 82°09'18", in NE 1/4 sec. 7, T.19 N., R.16 W., Ashland County, Hydrologic Unit 05040002, on right bank 800 ft downstream from Mohicanville Dam, 2 mi east of Mohicanville, and 2.4 mi downstream from the confluence of Jerome and Muddy Forks	271	1938-93 ≠ 1994-98	2-20-98	9.15	1,160	7-5-69	14.32	5,490
03138500 WALHONDING RIVER BELOW MOHAWK DAM, AT NELLIE, OH								
Lat 40°20'29", long 82°03'56", in T.6 N., R.8 W., Coshoccon County, Hydrologic Unit 05040003, on right bank at upstream side of bridge on U.S. Highway 36 at Nellie, 0.5 mi upstream from Mohawk Creek, and 1.7 mi downstream from Mohawk Dam	1,505	1910-13 1921-91 ≠ 1992-98	7-12-98	11.07	6,920	1-25-37	18.80	43,800

**DISCHARGE AT PARTIAL-RECORD STATIONS  
AND MISCELLANEOUS SITES**

MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS--Continued

LOCATION	DRAINAGE AREA (MI <sup>2</sup> )	PERIOD OF RECORD	WATER YEAR 1998 MAXIMUM			PERIOD OF RECORD MAXIMUM		
			DATE	GAGE HEIGHT (FT)	DISCHARGE (FT <sup>3</sup> /S)	DATE	GAGE HEIGHT (FT)	DISCHARGE (FT <sup>3</sup> /S)
03141500 SENECA FORK BELOW SENECAVILLE DAM, NEAR SENECAVILLE, OH								
Lat 39°55'28", long 81°26'17", Guernsey County, Hydrologic Unit 05040005, on left bank 650 ft downstream from Senecaville Dam and 1.5 mi southeast of Senecaville	118	1938-91 ≠ 1992-98	6-28-98	9.51	977	8-24-80	9.69	985
03143500 WILLS CREEK BELOW WILLS CREEK DAM AT WILLS CREEK, OH								
Lat 40°09'34", long 81°50'51", in sec. 22, T.4 N., R.6 W., Coshocton County, Hydrologic Unit 05040005, on left bank 1,200 ft downstream from Wills Creek Dam, 1.3 mi southeast of town of Wills Creek, 2.7 mi southeast of Conesville, and 6.2 mi upstream from mouth	842	1938-91 ≠ 1992-98	7-22-98	15.32	5,940	3-7-40	17.40	6,930
03147500 LICKING RIVER BELOW DILLON DAM, NEAR DILLON FALLS, OH								
Lat 39°59'18", long 82°04'50", in T.1 N., R.8 W., Muskingum County, Hydrologic Unit 05040006, on left bank 500 ft downstream from Dillon Dam, 2.0 mi northwest of Dillon Falls, and 5.8 mi upstream from mouth	742	1939-91 ≠ 1992-98	7-2-98	10.06	5,310	1-22-59	32.46	47,000
<b>SCIOTO RIVER BASIN</b>								
03230900 DEER CREEK NEAR PANCOASTBURG, OH								
Lat. 39°37'14", long 83°12'47", Pickaway County, Hydrologic Unit 05060002, on left bank 200 ft downstream from bridge on Crownover Mill Road, 1,200 ft downstream from Deer Creek Dam, and 2.8 mi east of Pancoastburg	277	1964-66 1966-97 ≠ 1998	4-23-98	5.54	1,900	3-10-64	12.93	19,500
03231000 DEER CREEK AT WILLIAMSPORT, OH								
Lat 39°35'09", long 83°07'22", Pickaway County, Hydrologic Unit 05060002, on left bank at downstream side of bridge on U.S. Highway 22 at west edge of Williamsport, 2.0 mi downstream from Dry Run, and 7.6 mi upstream from Hay Run	333	1926-35 ≠ 1938-56 ≠ 1959-61 1962-91 ≠ 1992-98	4-16-98	11.50	6,170	1-22-59	17.60	39,600
0323470 PAINT CREEK BELOW PAINT CREEK DAM, NEAR BAINBRIDGE, OH								
Lat 39°15'08", long 83°20'58", Highland County, Hydrologic Unit 05060003, on right bank, 400 ft downstream from Paint Creek dam, 700 ft upstream from Cliff Creek, and 4.5 mi northwest of Bainbridge	570	1962-63 1963-67 1967-91 ≠ 1992-98	6-18-98	8.03	6,260	3-10-64	27.30	45,000

**DISCHARGE AT PARTIAL-RECORD STATIONS  
AND MISCELLANEOUS SITES**

MAXIMUM DISCHARGE AT CREST-STAGE PARTIAL-RECORD STATIONS--Continued

LOCATION	DRAINAGE AREA (MI <sup>2</sup> )	PERIOD OF RECORD	WATER YEAR 1998 MAXIMUM			PERIOD OF RECORD MAXIMUM		
			DATE	GAGE HEIGHT (FT)	DISCHARGE (FT <sup>3</sup> /S)	DATE	GAGE HEIGHT (FT)	DISCHARGE (FT <sup>3</sup> /S)
<b>GREAT MIAMI RIVER BASIN</b>								
03260706 BOKENGAHALAS CREEK AT DEGRAFF, OH								
Lat 40°18'40", long 83°54'45", Logan County, Hydrologic Unit 05080001, at DeGraff on right bank 100 ft downstream from bridge on Co. Rd. 11 and 1.1 mi upstream from mouth	40.4	1993-96 ≠ 1998	1-8-98	5.27	659	6-2-97	5.68	753
03271000 WOLF CREEK AT DAYTON, OH								
Lat 39°46'00", long 84°14'10", Montgomery County, Hydrologic Unit 05080002, on right bank, at West Riverview Avenue Bridge, in Dayton, 1.8 mi upstream from mouth	68.7	1938-50 ≠ 1986-96 ≠ 1998	5-7-98	7.90	4,230	3-19-43	13.50	9,950
03271500 GREAT MIAMI RIVER AT MIAMISBURG, OH								
Lat 39°38'40", long 84°17'32", Montgomery County, Hydrologic Unit 05080002, on left bank 600 ft downstream from bridge on U.S. Highway 725, at Miamisburg, 0.3 mi downstream from Bear Creek, 3.2 mi upstream from Craine Run, and at mile 66.4	2,711	1916-20 ≠ 1924-35 ≠ 1952-95 ≠ 1996-98	6-16-98	12.35	23,000	1-21-59	21.30	61,800

**INDIRECT MEASUREMENTS OF DISCHARGE AT MISCELLANEOUS SITES**

The following table lists miscellaneous sites where indirect measurements of discharge were computed for a large flood that occurred on June 28, 1998, in southern Ohio. A U.S. Geological Survey report documenting the flood is planned for publication in cooperation with the Ohio Department of Natural Resources.

LOCATION	DRAINAGE AREA (MI <sup>2</sup> )	DATE	DISCHARGE (FT <sup>3</sup> /S)
<b>OHIO RIVER BASIN</b>			
<b>DUCK CREEK BASIN</b>			
DUCK CREEK AT WHIPPLE, OH			
The reach for the indirect measurement of the flow begins about 200 feet downstream from the confluence of Duck Creek and Whipple Run at Whipple, Ohio and ends about 1,900 feet downstream from the same confluence	258	6-28-98	41,600
<b>HOCKING RIVER BASIN</b>			
FEDERAL CREEK AT AMESVILLE, OH			
The reach for the indirect measurement of the flow begins about 1,500 feet downstream from the confluence of Federal Creek and McDougal Branch at Amesville, Ohio and ends about 11,300 feet downstream from the same confluence	69.6	6-28-98	31,800

**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 (\*).

[a, from highwater mark or crest-stage gage; e, estimated; i, indirect measurement]

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

DATE	TIME	DISCHARGE (FT <sup>3</sup> /S)	GAGE HEIGHT (FT)	DATE	TIME	DISCHARGE (FT <sup>3</sup> /S)	GAGE HEIGHT (FT)
<b>OHIO RIVER BASIN</b>							
<b>BEAVER RIVER BASIN</b>							
03093000 EAGLE CREEK AT PHALANX STATION, OH (Base discharge: 1,300 ft <sup>3</sup> /s)							
Jan. 8	2400	2,200	11.48	Apr. 27	1200	1,690	10.81
Apr. 17	0600	*2,610	*11.91				
<b>LITTLE BEAVER CREEK BASIN</b>							
03109500 LITTLE BEAVER CREEK NEAR EAST LIVERPOOL, OH (Base discharge: 5,000 ft <sup>3</sup> /s)							
Jan. 9	1000	*9,420	*11.31				
<b>YELLOW CREEK BASIN</b>							
03110000 YELLOW CREEK NEAR HAMMONDSVILLE, OH (Base discharge: 2,000 ft <sup>3</sup> /s)							
Jan. 9	1700	*2,460	*6.58				
<b>SHORT CREEK BASIN</b>							
03111500 SHORT CREEK NEAR DILLONVALE, OH (Base discharge: 1,200 ft <sup>3</sup> /s)							
Jan. 8	0800	*2,780	*8.07	June 29	0500	1,950	6.74
<b>WHEELING CREEK BASIN</b>							
03111548 WHEELING CREEK BELOW BLAINE, OH (Base discharge: 1,500 ft <sup>3</sup> /s)							
Jan. 9	0500	3,530	6.63	Aug. 24	2300	1,780	4.84
June 28	0400	*5,470	*8.21				
<b>CAPTINA CREEK BASIN</b>							
03114000 CAPTINA CREEK AT ARMSTRONGS MILLS, OH (Base discharge: 3,000 ft <sup>3</sup> /s)							
Jan. 9	0500	6,890	10.33	June 28	0345	*10,500	*12.50
Feb. 18	2115	3,080	7.33				
<b>LITTLE MUSKINGUM RIVER BASIN</b>							
03115400 LITTLE MUSKINGUM RIVER AT BLOOMFIELD, OH (Base discharge: 3,000 ft <sup>3</sup> /s)							
Jan. 7	1445	5,680	19.56	May 9	0015	4,920	18.46
May 2	2315	5,420	19.19	June 28	1300	*32,300	*30.78
<b>MUSKINGUM RIVER BASIN</b>							
03115969 MONTROSE RUN AT MONTROSE, OH (Base discharge: 30 ft <sup>3</sup> /s revised)							
June 12	0200	35	12.08	Aug. 25	1540	*59	*12.61
July 22	0010	35	12.08	Sept. 8	1040	37	12.13
Aug. 24	1605	31	11.99				

**PEAK DISCHARGES AND STAGES  
AT CONTINUOUS-RECORD SURFACE DISCHARGE STATIONS**

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

DATE	TIME	DISCHARGE (FT <sup>3</sup> /S)	GAGE HEIGHT (FT)	DATE	TIME	DISCHARGE (FT <sup>3</sup> /S)	GAGE HEIGHT (FT)
3115970 SCHOCALOG RUN AT MONTROSE, OH (Base discharge: 50 ft <sup>3</sup> /s revised)							
Aug. 25	1810	*78	*13.58				
03115971 SCHOCALOG RUN AT FAIRLAWN, OH (Base discharge: 70 ft <sup>3</sup> /s revised)							
Aug. 25	1625	*108	*12.53				
03115973 SCHOCALOG RUN AT COPLEY JUNCTION, OH (Base discharge: 90 ft <sup>3</sup> /s revised)							
Aug. 25	1925	*118	*12.53				
03117500 SANDY CREEK AT WAYNESBURG, OH (Base discharge: 1,800 ft <sup>3</sup> /s)							
Jan. 10	0500	3,350	6.82	May 2	2400	2,710	6.01
Apr. 17	0300	*3,490	*6.99	July 1	0900	1,900	4.83
03118000 MIDDLE BRANCH NIMISHILLEN CREEK AT CANTON, OH (Base discharge: 400 ft <sup>3</sup> /s)							
Jan. 9	1830	*518	*4.97	Aug. 26	0930	475	4.77
Apr. 17	0800	410	4.45				
03118500 NIMISHILLEN CREEK AT NORTH INDUSTRY, OH (Base discharge: 2,000 ft <sup>3</sup> /s)							
Jan. 8	2030	2,530	7.13	May 4	0600	2,130	6.47
Jan. 9	0730	2,800	7.50	June 30	1930	2,340	6.83
Apr. 16	1900	3,000	7.83	Aug. 25	1700	3,220	8.17
May 2	1430	*3,350	*8.35				
03121850 HUFF RUN AT MINERAL CITY, OH (Base discharge: 100 ft <sup>3</sup> /s)							
Jan. 8	0900	*504	*4.35	May 2	1845	205	3.37
Jan. 13	1000	131	3.03	Aug. 24	1945	158	3.15
apr. 16	1730	441	4.17				
03139000 KILLBUCK CREEK AT KILLBUCK, OH (Base discharge: 2,000 ft <sup>3</sup> /s)							
Apr. 17	1200	*2,200	*15.75	July 1	0300	2,140	15.64
03140000 MILL CREEK NEAR COSHOCTON, OH (Base discharge: 700 ft <sup>3</sup> /s)							
Jan. 8	0400	*372	*5.59				
03144000 WAKATOMIKA CREEK NEAR FRAZEYSBURG, OH (Base discharge: 1,600 ft <sup>3</sup> /s)							
Jan. 8	0700	2,560	6.07	May 3	0130	4,920	8.51
Feb. 18	2130	1,620	4.82	May 8	2400	1,750	5.00
Apr. 16	1830	3,050	6.63	June 27	2000	*10,500	*12.44
03146500 LICKING RIVER NEAR NEWARK, OH (Base discharge: 6,500 ft <sup>3</sup> /s)							
Jan. 8	0700	7,930	10.38	May 2	2130	7,990	10.81
Apr. 16	1730	*12,500	*12.40	June 29	1300	10,800	11.69
<b>HOCKING RIVER BASIN</b>							
03157000 CLEAR CREEK NEAR ROCKBRIDGE, OH (Base discharge: 1,900 ft <sup>3</sup> /s)							
Jan. 8	0330	*2,250	*7.43				
03157500 HOCKING RIVER AT ENTERPRISE, OH (Base discharge: 3,500 ft <sup>3</sup> /s)							
Jan. 8	1230	*7,310	13.52	Apr. 16	2100	5,690	11.80
Feb. 19	0330	4,670	10.50	May 3	0300	3,710	8.99
<b>SHADE RIVER BASIN</b>							
03159540 SHADE RIVER NEAR CHESTER, OH (Base discharge: 2,400 ft <sup>3</sup> /s)							
Jan. 8	unknown	e2,600	unknown	June 28	2000	*3,850	*20.56

**PEAK DISCHARGES AND STAGES  
AT CONTINUOUS-RECORD SURFACE DISCHARGE STATIONS**

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

DATE	TIME	DISCHARGE (FT <sup>3</sup> /S)	GAGE HEIGHT (FT)	DATE	TIME	DISCHARGE (FT <sup>3</sup> /S)	GAGE HEIGHT (FT)
<b>RACoon CREEK BASIN</b>							
03202000 RACoon CREEK NEAR ADAMSVILLE, OH (Base discharge: 3,000 ft <sup>3</sup> /s)							
Jan. 12	1700	*5,090	*17.17	May 3	1000	4,510	16.11
Feb. 19	unknown	3,800	unknown	June 16	2300	4,490	16.07
Mar. 21	unknown	4,500	unknown	June 29	1500	4,000	15.13
Apr. 20	0930	4,310	15.73				
<b>SCIOTO RIVER BASIN</b>							
03219500 SCIOTO RIVER NEAR PROSPECT, OH (Base discharge: 3,600 ft <sup>3</sup> /s)							
Jan. 10	1400	*6,360	*12.18	Feb. 20	1300	3,800	9.21
03220000 MILL CREEK NEAR BELLEPOINT, OH (Base discharge: 2,500 ft <sup>3</sup> /s)							
Apr. 17	0300	*3,990	*8.40				
03223000 OLENTANGY RIVER AT CLARIDON, OH (Base discharge: 1,500 ft <sup>3</sup> /s)							
Jan. 9	0100	2,190	9.83	June 30	0500	*5,000	*12.82
Apr. 17	2000	1,620	8.40				
03228300 BIG WALNUT CREEK AT SUNBURY, OH (Base discharge: 2,200 ft <sup>3</sup> /s)							
Jan. 7	1830	2,300	8.90	May 2	1000	2,810	9.31
Apr. 16	0730	2,530	9.09	June 29	0300	5,850	*11.05
03230310 LITTLE DARBY CREEK AT WEST JEFFERSON, OH (Base discharge: 1000 ft <sup>3</sup> /s)							
Jan. 9	0430	1,130	9.00	May 8	2200	1,950	10.76
Feb. 19	0400	1,150	9.04	June 16	1430	1,080	8.88
Apr. 17	2115	1,820	10.52	June 29	2100	*2,790	*11.93
03230450 HELLBRANCH RUN NEAR HARRISBURG, OH (Base discharge: 300 ft <sup>3</sup> /s)							
Jan. 8	0345	492	7.24	May 2	1630	441	7.03
Feb. 18	1930	401	6.88	June 21	1745	544	7.46
Apr. 9	1200	396	6.86	June 29	0430	*3,180i	*14.19a
Apr. 16	1000	1,050	9.33				
03230500 BIG DARBY CREEK AT DARBYVILLE, OH (Base discharge: 4,500 ft <sup>3</sup> /s)							
Jan. 9	1930	4,530	8.74	May 9	1245	4,970	9.14
Apr. 18	0815	6,290	10.12	June 29	1730	*17,100	*14.77a
03230800 DEER CREEK AT MOUNT STERLING, OH (Base discharge: 1,900 ft <sup>3</sup> /s)							
Jan. 8	0800	2,170	7.93	May 9	1100	1,940	7.69
Apr. 9	2400	2,500	8.24	June 16	1930	1,940	7.69
Apr. 16	2100	8,980	11.41	June 29	1300	*11,200	*11.95
03232000 PAINT CREEK NEAR GREENFIELD, OH (Base discharge: 2,000 ft <sup>3</sup> /s)							
Jan. 8	0230	3,140	7.67	May 1	2000	2,940	7.45
Apr. 10	0300	2,120	6.44	June 12	2300	3,170	7.70
Apr. 17	1230	*7,460	*10.93	June 15	0100	3,660	8.21
<b>UPPER TWIN CREEK BASIN</b>							
03237280 UPPER TWIN CREEK AT MCGAW, OH (Base discharge: 450 ft <sup>3</sup> /s)							
Jan. 7	1900	*1,760	*7.57	June 15	0115	829	6.13
June 11	1715	712	5.93	June 16	1500	509	5.51



**PEAK DISCHARGES AND STAGES  
AT CONTINUOUS-RECORD SURFACE DISCHARGE STATIONS**

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

DATE	TIME	DISCHARGE (FT <sup>3</sup> /S)	GAGE HEIGHT (FT)	DATE	TIME	DISCHARGE (FT <sup>3</sup> /S)	GAGE HEIGHT (FT)
<b>OHIO BRUSH CREEK BASIN</b>							
03237500 OHIO BRUSH CREEK NEAR WEST UNION, OH (Base discharge: 11,000 ft <sup>3</sup> /s)							
Jan. 7	2230	*25,700	*17.57	Apr. 30	1045	19,900	15.43
Feb. 12	0215	13,000	12.46	June 11	2400	19,600	15.33
Apr. 16	1415	11,900	11.93	June 16	0045	13,000	12.48
<b>WHITEOAK CREEK BASIN</b>							
03238500 WHITEOAK CREEK NEAR GEORGETOWN, OH (Base discharge: 5,500 ft <sup>3</sup> /s)							
Jan. 8	0200	7,260	6.71	Apr. 30	1600	9,620	7.40
Feb. 11	2330	8,440	7.07	May 7	2230	6,720	6.53
Apr. 9	1000	6,340	6.40	June 11	2330	7,970	6.93
Apr. 16	1730	*9,880	*7.47	July 19	2400	6,750	6.54
<b>LITTLE MIAMI RIVER BASIN</b>							
03240000 LITTLE MIAMI RIVER NEAR OLDTOWN, OH (Base discharge: 800 ft <sup>3</sup> /s)							
Apr. 9	1045	817	4.50	May 21	0345	886	4.68
Apr. 17	0115	2,910	8.15	June 13	0245	1,610	6.20
May 8	0115	*2,910	*8.16				
03241500 MASSIES CREEK AT WILBERFORCE, OH (Base discharge: 600 ft <sup>3</sup> /s)							
Apr. 9	0430	729	5.82	May 7	1900	1,150	6.91
Apr. 16	0430	1,640	*7.95	June 13	0115	903	6.29
03245500 LITTLE MIAMI RIVER AT MILFORD, OH (Base discharge: 15,000 ft <sup>3</sup> /s)							
Apr. 10	0015	16,300	13.33	June 13	0630	15,800	13.41
Apr. 16	1100	*49,400	*21.69a				
<b>GREAT MIAMI RIVER BASIN</b>							
03261500 GREAT MIAMI RIVER AT SIDNEY, OH (Base discharge: 4,000 ft <sup>3</sup> /s)							
Jan. 8	unknown	*5,910	*9.47				
03261950 LORAMIE CREEK NEAR NEWPORT, OH (Base discharge: 1,500 ft <sup>3</sup> /s)							
Jan. 8	1900	2,320	11.06	June 12	1300	*2,890	*11.96
Apr. 9	2300	2,400	11.19	July 23	0930	2,560	11.45
03264000 GREENVILLE CREEK NEAR BRADFORD, OH (Base discharge: 1,500 ft <sup>3</sup> /s)							
Jan. 8	1700	1,900	5.59	June 16	1800	2,170	5.98
Apr. 10	1030	*2,360	*6.24	July 5	0330	1,700	5.29
03265000 STILLWATER RIVER AT PLEASANT HILL, OH (Base discharge: 5,000 ft <sup>3</sup> /s)							
Jan. 8	1430	5,610	9.16	June 12	1330	5,910	9.45
Apr. 10	0200	*6,090	*9.62				
03267000 MAD RIVER NEAR URBANA, OH (Base discharge: 1,400 ft <sup>3</sup> /s)							
Jan. 8	0900	*1,610	*5.84	May 8	0700	1,490	5.65
03271800 TWIN CREEK NEAR INGOMAR, OH (Base discharge: 4,700 ft <sup>3</sup> /s)							
June 14	2245	*5,920	*8.31				
03272700 SEVENMILE CREEK AT CAMDEN, OH (Base discharge: 1,500 ft <sup>3</sup> /s)							

**PEAK DISCHARGES AND STAGES  
AT CONTINUOUS-RECORD SURFACE DISCHARGE STATIONS**

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

DATE	TIME	DISCHARGE (FT <sup>3</sup> /S)	GAGE HEIGHT (FT)	DATE	TIME	DISCHARGE (FT <sup>3</sup> /S)	GAGE HEIGHT (FT)
Jan. 7	2030	1,920	7.95	May 7	1500	2,490	8.84
Apr. 16	unknown	e2,500	unknown	June 14	2145	*5,100	*11.60

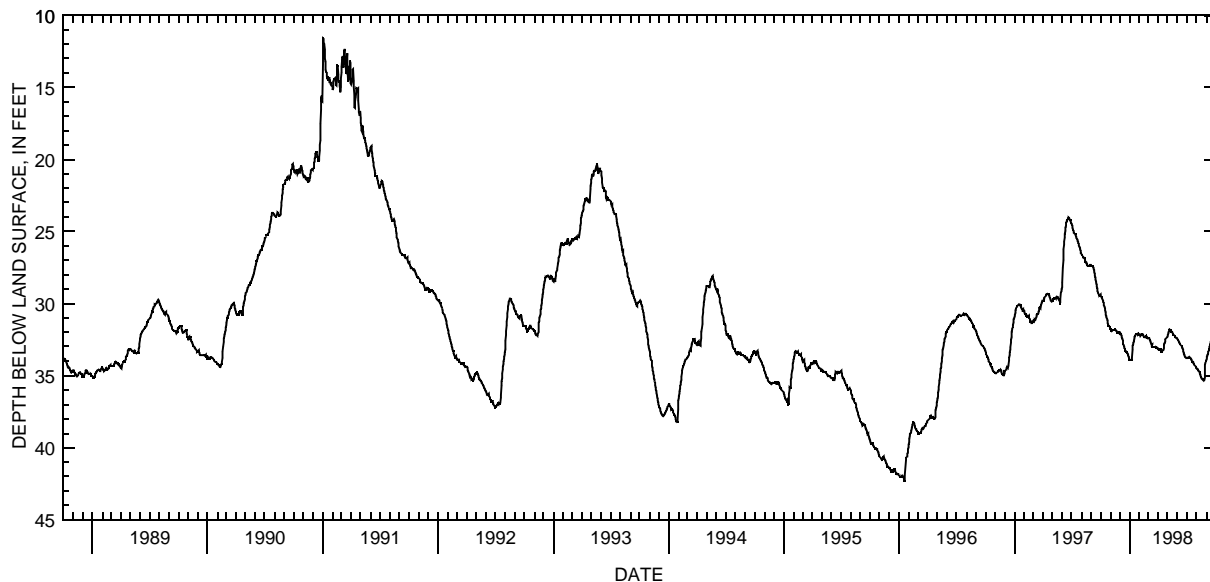
**GROUND-WATER RECORDS**  
**Ashland County**

**405303082170700. LOCAL NUMBER, AS-2**

LOCATION.--Lat 40°53'03", long 82°17'07", Hydrologic Unit 05040002, Jerome Fork well field 2 mi northeast of Ashland.  
 Owner: Ashland Water Department.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled test water table well, diameter 6 in., depth 64 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60 minute punch.  
 DATUM.--Elevation of land-surface datum is 980 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.--March 1964 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 42.25 ft below land-surface datum, Jan. 17-18, 1996;  
 minimum daily low, 11.56 ft below land-surface datum, Jan. 1, 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	29.53	31.74	32.05	33.90	32.15	32.36	33.13	32.12	32.46	33.74	34.48	33.84
2	29.53	31.79	32.08	33.90	32.22	32.36	33.17	32.05	32.51	33.73	34.48	33.70
3	29.53	31.86	32.10	33.92	32.21	32.42	33.19	32.02	32.54	33.73	34.52	33.65
4	29.58	31.89	32.14	33.93	32.13	32.48	33.19	31.95	32.57	33.78	34.56	33.58
5	29.60	31.90	32.24	33.93	32.12	32.52	33.18	31.88	32.60	33.79	34.60	33.49
6	29.71	31.90	32.31	33.93	32.16	32.55	33.17	31.84	32.65	33.76	34.64	33.35
7	29.79	31.87	32.41	33.92	32.16	32.59	33.15	31.80	32.71	33.73	34.67	33.22
8	29.87	31.84	32.47	33.75	32.16	32.61	33.17	31.81	32.76	33.70	34.69	33.13
9	29.94	31.81	32.55	33.21	32.14	32.77	33.24	31.84	32.80	33.71	34.70	33.09
10	30.03	31.82	32.66	32.88	32.12	32.83	33.30	31.84	32.83	33.73	34.77	33.00
11	30.11	31.82	32.78	32.78	32.09	32.87	33.32	31.88	32.85	33.73	34.84	32.88
12	30.20	31.82	32.86	32.72	32.21	32.88	33.34	31.92	32.90	33.76	34.91	32.78
13	30.33	31.81	32.97	32.64	32.24	32.87	33.27	31.91	32.90	33.80	34.98	32.69
14	30.47	31.76	33.05	32.58	32.29	32.96	33.29	31.97	32.91	33.85	35.05	32.61
15	30.57	31.76	33.11	32.38	32.32	32.98	33.28	32.00	32.97	33.90	35.12	32.54
16	30.66	31.81	33.15	32.32	32.31	33.00	33.23	32.06	33.08	33.96	35.16	32.49
17	30.76	31.83	33.22	32.26	32.30	33.02	33.24	32.09	33.14	33.99	35.22	32.44
18	30.84	31.83	33.25	32.24	32.30	33.02	33.08	32.12	33.18	34.00	35.25	32.40
19	30.93	31.90	33.28	32.17	32.30	33.03	32.86	32.13	33.29	34.02	35.25	32.42
20	31.03	31.94	33.33	32.16	32.27	33.03	32.80	32.15	33.37	34.04	35.26	32.48
21	31.14	31.96	33.34	32.15	32.31	33.03	32.70	32.19	33.46	34.13	35.25	32.54
22	31.25	31.99	33.38	32.11	32.31	33.01	32.62	32.24	33.52	34.18	35.24	32.61
23	31.33	32.01	33.44	32.10	32.28	33.02	32.51	32.26	33.59	34.19	35.24	32.67
24	31.41	32.04	33.44	32.07	32.36	33.06	32.46	32.30	33.64	34.23	35.28	32.75
25	31.50	32.03	33.52	32.12	32.42	33.06	32.45	32.32	33.68	34.28	35.29	32.83
26	31.52	32.02	33.59	32.13	32.42	33.03	32.39	32.34	33.73	34.30	35.12	32.91
27	31.61	32.03	33.65	32.07	32.41	33.08	32.39	32.35	33.74	34.32	34.23	32.99
28	31.64	31.97	33.69	32.06	32.41	33.08	32.36	32.35	33.76	34.35	34.03	33.07
29	31.69	31.96	33.71	32.10	---	33.10	32.30	32.37	33.76	34.43	33.97	33.09
30	31.71	31.96	33.81	32.12	---	33.08	32.23	32.38	33.73	34.46	33.94	33.14
31	31.73	---	33.90	32.15	---	33.09	---	32.45	---	34.48	33.90	---
MAX	31.73	32.04	33.90	33.93	32.42	33.10	33.34	32.45	33.76	34.48	35.29	33.84
CAL YR 1997	LOW	33.90										
WTR YR 1998	LOW	35.29										



**GROUND-WATER RECORDS**  
**Ashland County**

**405425082173000. LOCAL NUMBER, AS-3**

LOCATION.--Lat 40°54'25", long 82°17'30", Hydrologic Unit 05040002, Ashland Bates well field along Jerome Fork near Ashland.

Owner: Ashland Water Department.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 78 ft, cased.

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

DATUM.--Elevation of land-surface datum is 990 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.

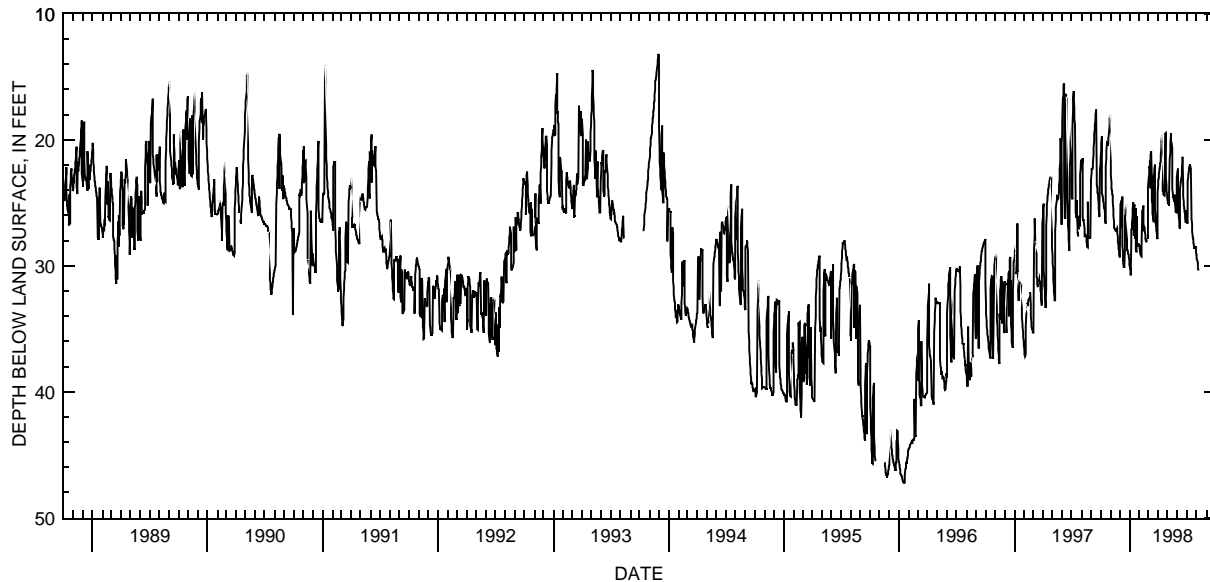
PERIOD OF RECORD.--August 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 47.29 ft below land-surface datum, Jan. 17, 1996;  
 minimum daily low, 3.10 ft, above land-surface, Feb. 23, 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	20.90	21.76	25.75	30.11	28.60	23.16	23.21	25.00	22.55	26.53	29.39	---
2	20.34	22.80	25.13	30.33	28.84	22.68	22.97	25.05	22.27	26.64	29.57	---
3	19.73	23.38	24.93	30.57	29.05	22.07	22.76	25.15	25.62	23.29	29.75	---
4	23.69	23.84	24.98	30.75	29.14	22.24	22.41	25.04	25.70	22.95	29.92	---
5	24.18	24.07	24.76	28.10	29.17	21.78	22.28	25.23	26.06	22.74	30.15	---
6	24.43	24.26	26.97	27.10	29.21	21.67	22.03	24.17	26.50	22.49	30.36	---
7	24.64	24.41	24.52	26.99	28.30	23.87	21.86	21.52	26.92	22.28	---	---
8	24.80	24.97	28.37	26.60	25.99	21.23	21.66	21.00	27.05	22.03	---	---
9	25.02	25.55	28.93	26.14	25.70	20.89	21.21	20.34	23.93	21.96	---	---
10	25.20	26.04	29.44	25.59	25.62	22.90	20.64	19.50	23.52	21.96	---	---
11	25.29	26.47	29.76	24.99	25.54	24.01	20.15	19.47	23.36	22.09	---	---
12	25.40	26.93	30.04	24.96	25.22	24.83	19.61	20.04	23.13	22.29	---	---
13	25.91	27.04	30.07	27.62	27.27	25.16	19.15	20.32	23.03	22.46	---	---
14	26.41	27.04	30.13	25.38	26.76	25.85	23.64	20.63	22.83	25.81	---	---
15	26.67	27.09	28.80	25.11	23.96	26.21	24.06	23.91	22.23	26.26	---	---
16	23.07	27.18	26.00	27.35	26.97	26.53	24.13	24.32	21.78	26.68	---	---
17	22.12	27.24	28.02	25.47	27.20	23.77	24.31	24.44	21.37	27.06	---	---
18	21.49	27.28	25.59	27.89	27.62	22.89	24.34	24.51	23.42	27.33	---	---
19	20.83	23.79	25.20	25.42	27.83	22.55	24.33	24.58	24.51	27.65	---	---
20	20.20	26.73	24.76	28.67	28.04	22.34	24.39	24.68	24.92	27.90	---	---
21	20.23	27.01	27.82	28.84	28.10	22.00	24.36	24.84	25.20	28.20	---	---
22	20.33	27.39	28.39	28.92	28.11	25.49	20.03	24.92	25.42	28.38	---	---
23	20.35	27.74	28.71	26.09	28.00	26.08	19.56	24.39	25.64	28.54	---	---
24	20.34	28.05	28.74	28.18	24.36	26.59	19.51	25.00	25.86	28.55	---	---
25	19.95	28.29	28.93	28.32	27.59	26.87	22.99	25.45	26.17	28.53	---	---
26	19.46	28.60	29.02	28.36	27.86	27.14	23.57	25.66	26.53	28.52	---	---
27	18.87	28.77	29.10	28.34	24.49	27.40	24.05	25.76	26.61	28.49	---	---
28	18.69	29.06	29.15	28.24	23.77	27.73	24.36	25.79	25.59	28.49	---	---
29	18.33	29.23	29.27	28.39	---	27.85	24.61	25.82	25.95	28.63	---	---
30	18.05	29.32	29.61	28.41	---	24.22	24.81	22.97	26.25	28.86	---	---
31	17.60	---	29.90	28.44	---	23.62	---	22.58	---	29.14	---	---
MAX	26.67	29.32	30.13	30.75	29.21	27.85	24.81	25.82	27.05	29.14	30.36	---

CAL YR 1997 LOW 37.16  
 WTR YR 1998 LOW 30.75



**GROUND-WATER RECORDS**  
**Athens County**

**32004082071600. LOCAL NUMBER, AT-2A**

LOCATION.--Lat 39°20'04", long 82°07'16", Hydrologic Unit 05030204, 1.1 mi west of city hall in Athens.  
 Owner: City of Athens.  
 AQUIFER.--Sand and gravel of Quaternary Age.  
 WELL CHARACTERISTICS.--Drilled unused water table well, diameter 12 in., depth 48 ft, cased.  
 INSTRUMENTATION.--Periodic measurement with chalked tape by Ohio Department of Natural Resources personnel.  
 DATUM.--Elevation of land-surface datum is 641.81 ft above sea level.  
 Measuring point: Floor of instrument shelter, 5.80 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water. Prior to water year 1978, well depth reported as 43 ft.  
 PERIOD OF RECORD.--March 1954 to September 1982 continuous, periodic thereafter.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum measured low, 21.52 ft below land-surface datum, Oct. 15, 1993;  
 minimum daily low, 1.05 ft below land-surface datum, May 25, 28, 1968.

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

DATE	WATER LEVEL
Oct. 21, 1997	19.51
Apr. 2, 1998	15.75

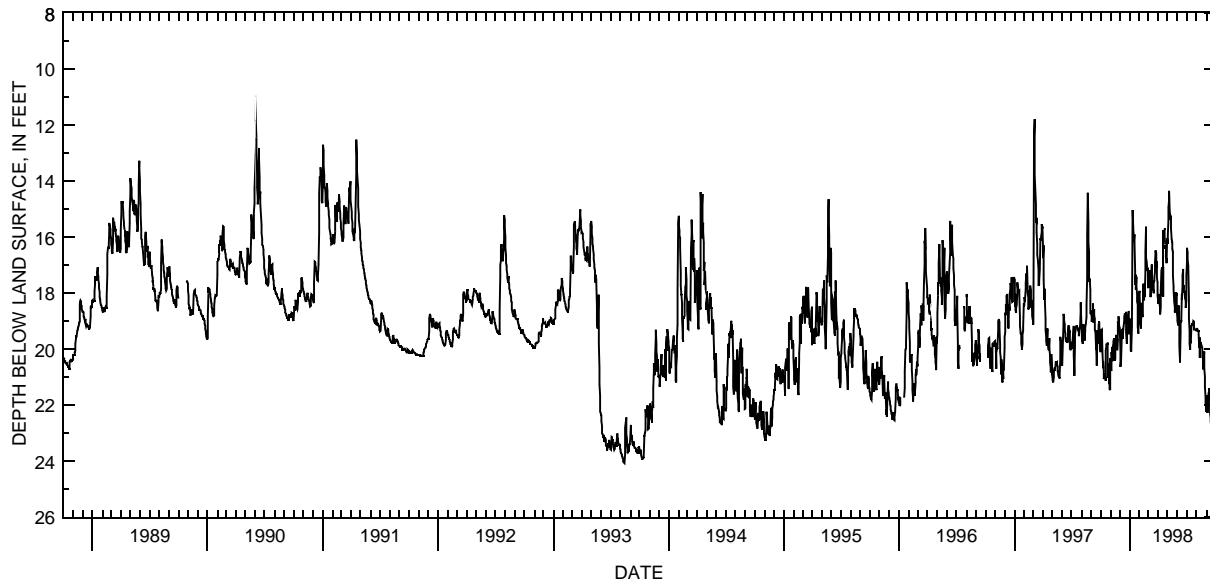
**GROUND-WATER RECORDS**  
**Athens County**

**392009082072200. LOCAL NUMBER, AT-5**

LOCATION.--Lat 39°20'09", long 82°07'22", Hydrologic Unit 05030204, in Athens well field along Hocking River.  
 Owner: Athens Water Department.  
 AQUIFER.--Sand and gravel of Quaternary Age.  
 WELL CHARACTERISTICS.--Drilled unused water table well, diameter 12 in., depth 48 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land surface datum is 640 ft above sea level, from topographic map.  
 Measuring point: Floor of instrument shelter, 4.75 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--July 1982 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 24.06 ft below land-surface datum, Aug. 12, 13, 1993;  
 minimum daily low 8.87 ft below land-surface datum, May 31, 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	19.37	20.51	20.06	18.93	18.10	17.63	18.36	15.94	18.99	16.37	19.27	21.64
2	19.33	20.72	20.63	19.36	18.74	17.50	18.26	15.40	19.13	16.55	19.26	21.65
3	19.30	20.78	20.41	19.80	19.06	17.79	18.38	14.95	19.15	16.80	19.31	22.13
4	19.31	20.10	20.40	20.01	19.23	17.18	18.02	14.67	18.74	17.02	19.33	22.29
5	19.32	20.41	19.66	20.08	19.25	17.65	18.34	14.69	18.43	17.06	19.33	21.88
6	20.17	19.93	19.34	19.95	18.34	17.25	18.56	14.35	19.12	18.15	19.34	21.70
7	20.67	20.42	19.30	19.17	18.54	17.96	18.75	15.08	19.88	18.90	19.36	21.52
8	20.43	19.91	19.40	18.93	18.64	18.15	18.49	15.24	20.41	19.34	19.95	21.44
9	20.76	19.80	19.56	17.06	18.75	17.65	17.91	15.38	20.47	19.81	19.58	21.44
10	21.04	19.72	19.63	15.04	18.86	16.97	17.20	15.24	19.40	20.03	20.32	21.42
11	21.07	19.61	19.44	15.62	18.35	17.07	17.21	15.54	19.04	19.69	19.90	21.83
12	20.88	19.91	19.18	15.68	17.67	17.45	17.06	15.69	18.96	19.79	19.79	22.28
13	20.89	19.93	19.00	16.04	18.00	17.58	17.06	16.07	19.03	19.73	19.74	22.47
14	20.92	20.36	18.86	16.15	18.25	17.62	17.77	16.19	18.04	19.15	19.83	22.59
15	21.14	20.35	18.71	15.90	17.77	17.84	18.07	16.40	18.24	19.17	19.82	22.76
16	20.39	19.79	19.09	16.22	18.13	17.97	18.12	16.51	17.74	19.15	19.88	22.50
17	20.05	19.57	19.04	17.24	18.15	18.01	17.05	16.66	17.36	19.15	19.92	22.28
18	19.90	19.50	18.89	17.71	17.23	17.60	15.65	17.36	17.13	19.08	19.96	22.25
19	19.84	19.75	18.66	17.33	16.51	17.56	15.71	17.75	17.87	19.09	20.27	22.03
20	19.82	19.95	19.40	17.86	15.62	17.43	15.71	17.86	17.71	19.13	20.32	21.67
21	19.80	19.62	19.76	17.42	16.42	17.25	15.98	18.29	17.91	18.98	20.62	22.20
22	19.77	20.04	19.80	17.76	16.75	16.91	16.26	18.52	17.95	19.01	20.72	22.34
23	20.89	19.44	19.10	18.02	16.87	16.47	16.35	18.62	17.92	19.10	20.30	21.49
24	21.02	19.02	18.97	18.27	17.16	16.53	16.36	18.69	18.22	19.29	20.09	21.52
25	20.50	19.14	18.88	18.36	17.21	16.57	16.71	17.95	18.14	19.26	20.67	21.07
26	20.80	18.83	18.79	19.19	17.09	17.09	16.77	18.32	18.29	19.30	20.99	21.06
27	21.26	19.15	18.65	19.44	17.55	16.85	16.92	17.97	18.53	19.29	21.34	20.72
28	20.82	19.18	19.18	19.39	17.82	17.45	16.05	18.08	18.26	19.33	21.74	20.53
29	21.42	19.24	19.46	18.22	---	17.62	16.10	18.01	17.37	19.34	21.99	20.57
30	21.45	19.32	18.90	17.99	---	18.09	16.24	18.66	16.88	19.35	22.05	21.12
31	20.31	---	19.04	17.92	---	18.27	---	18.88	---	19.31	22.23	---
MAX	21.45	20.78	20.63	20.08	19.25	18.27	18.75	18.88	20.47	20.03	22.23	22.76
CAL YR 1997	LOW	21.45										
WTR YR 1998	LOW	22.76										



**GROUND-WATER RECORDS**  
**Auglaize County**

**403233083574500. LOCAL NUMBER, AU-3**

LOCATION.--Lat 40°32'33", long 83°57'45", Hydrologic Unit 05080001, 1.0 mi Southwest of New Hampshire.  
Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in., depth 380 ft, cased to 52 ft.

INSTRUMENTATION.--Periodic measurements with chalked tape by Ohio Department of Natural Resources personnel.

DATUM.--Elevation of land-surface datum is 1,020 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.--December 1974 to September 1982 continuous, periodic thereafter.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 11.87 ft below land-surface datum, Feb. 7-8, 1977;  
minimum measured low, 4.08 ft below land-surface datum, June 12, 1996.

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

DATE	WATER LEVEL
Oct. 31, 1997	7.35
Apr. 30, 1998	5.36

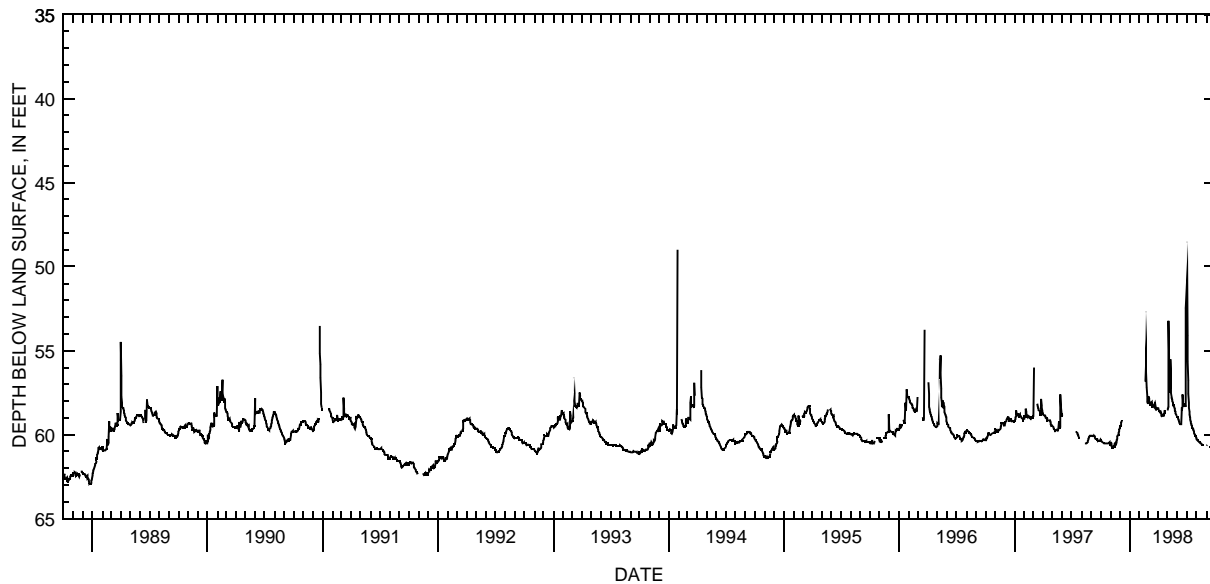
**GROUND-WATER RECORDS**  
**Belmont County**

**400118081082200. LOCAL NUMBER, B-3**

LOCATION.--Lat 40°01'18", long 81°08'22", Hydrologic Unit 05040001, Mt. Olivett Public Square, Mt. Olivett, Oh.  
 Owner: Village of Mt. Olivett.  
 AQUIFER.--Shale of Pennsylvanian Age.  
 WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 119 ft.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 1,265 ft above sea level, from topographic map.  
 Measuring point: Floor of instrument shelter, 1.5 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--July 19, 1984, to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 62.94 ft below land-surface datum, Dec. 26, 1988;  
 minimum daily low, 38.81 ft below land-surface datum, June 28, 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	60.34	60.58	59.45	---	---	57.71	58.42	58.44	58.93	51.90	60.27	---
2	60.39	60.44	59.48	---	---	57.84	58.51	58.32	58.93	54.09	60.32	60.66
3	60.39	60.52	59.46	---	---	57.98	58.54	53.22	59.03	55.64	60.33	60.63
4	60.39	60.65	59.28	---	---	58.07	58.55	55.32	59.09	56.76	60.35	60.63
5	60.40	60.75	59.18	---	---	58.17	58.61	56.55	59.13	57.56	60.36	---
6	60.44	60.77	59.14	---	---	58.20	58.67	57.26	59.21	58.10	60.38	60.68
7	60.45	60.77	---	---	---	58.22	58.69	57.49	59.27	58.41	60.39	---
8	60.46	60.75	---	---	---	58.22	58.65	57.09	59.33	58.62	60.42	---
9	60.47	60.66	---	---	---	58.08	58.65	55.53	59.34	58.80	60.43	---
10	60.49	60.65	---	---	---	58.06	58.75	56.51	59.34	58.98	60.44	60.71
11	60.50	60.68	---	---	---	58.22	58.86	57.12	59.34	59.10	60.45	60.72
12	60.50	60.69	---	---	---	58.28	58.91	57.51	59.36	59.19	60.48	60.72
13	60.49	60.69	---	---	---	58.28	58.91	57.77	59.34	59.27	60.51	60.72
14	60.48	60.54	---	---	---	58.22	58.86	57.92	58.37	59.36	60.51	60.72
15	60.51	60.49	---	---	---	58.28	58.81	57.99	58.54	59.42	60.51	60.72
16	60.52	60.56	---	---	---	58.33	58.79	58.07	58.32	59.48	60.53	60.72
17	60.52	60.59	---	---	---	58.33	58.80	58.16	57.62	59.51	60.54	60.72
18	60.51	60.56	---	---	56.84	58.30	58.91	58.23	58.07	59.57	60.57	60.72
19	60.50	60.43	---	---	48.74	58.24	58.91	58.24	58.18	59.61	60.62	60.72
20	60.50	60.30	---	---	52.70	58.19	58.56	58.29	58.17	59.68	60.64	60.71
21	60.50	60.23	---	---	54.92	58.11	58.67	58.35	58.20	59.73	60.66	60.71
22	60.51	60.08	---	---	56.28	58.11	58.68	58.43	58.24	59.78	---	60.71
23	60.52	60.02	---	---	57.17	58.31	58.67	58.50	58.26	59.81	---	60.75
24	60.51	60.02	---	---	57.72	58.45	---	58.54	58.26	59.89	---	60.75
25	60.50	60.02	---	---	58.04	58.51	---	58.59	58.26	59.97	---	60.75
26	60.50	59.88	---	---	58.14	58.51	---	58.70	58.31	60.00	---	60.75
27	60.46	59.76	---	---	58.16	58.47	---	58.79	52.47	60.04	---	60.75
28	60.52	59.72	---	---	58.17	58.43	---	58.85	38.81	60.04	---	60.77
29	60.56	59.66	---	---	---	58.42	---	58.89	43.50	60.08	---	60.77
30	60.59	59.57	---	---	---	58.42	58.58	58.92	48.56	60.11	---	60.77
31	60.59	---	---	---	---	58.42	---	58.92	---	60.20	---	---
MAX	60.59	60.77	59.48	---	58.17	58.51	58.91	58.92	59.36	60.20	60.66	60.77
CAL YR 1997	LOW	60.77										
WTR YR 1998	LOW	60.77										





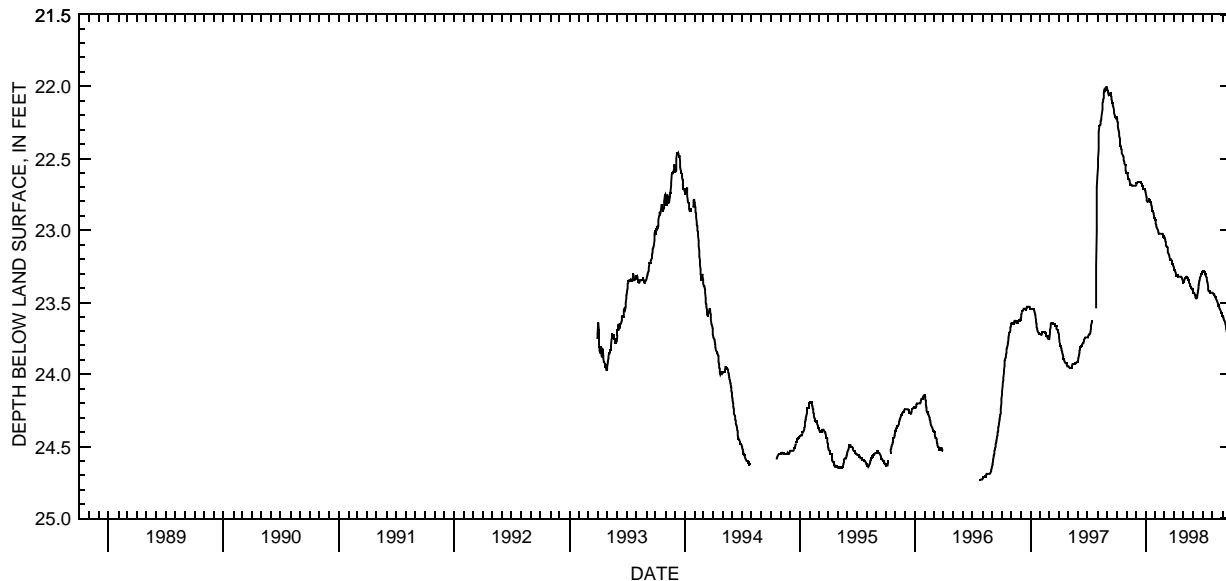
**GROUND-WATER RECORDS**  
**Brown County**

**385932083412400. LOCAL NUMBER, BR-20**

LOCATION.--Lat 38°59'32", long 83°41'24", Hydrologic Unit 05090201, near Fincastle.  
 Owner: Davon Inc.  
 AQUIFER.--Limestone of Silurian Age.  
 WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 40 ft, cased to 25 ft.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land-surface datum is 1,026.27 ft above sea level.  
 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.--March 1993 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 24.73 ft below land-surface datum, July 24-31, 1996;  
 minimum daily low, 22.00 ft below land-surface datum, Aug. 29, 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	22.22	22.60	22.68	22.75	22.95	23.05	23.27	23.35	23.43	23.28	23.43	23.59
2	22.24	22.60	22.67	22.77	22.96	23.06	23.27	23.34	23.43	23.28	23.44	23.60
3	22.25	22.60	22.67	22.78	22.97	23.07	23.28	23.34	23.43	23.28	23.44	23.60
4	22.26	22.61	22.67	22.79	22.98	23.08	23.29	23.33	23.44	23.28	23.44	23.61
5	22.28	22.63	22.66	22.80	22.98	23.09	23.29	23.33	23.44	23.29	23.45	23.62
6	22.30	22.64	22.66	22.80	22.99	23.10	23.30	23.33	23.45	23.29	23.45	23.62
7	22.32	22.64	22.66	22.80	22.99	23.11	23.31	23.33	23.46	23.30	23.45	23.63
8	22.34	22.64	22.66	22.80	23.00	23.11	23.31	23.33	23.47	23.30	23.46	23.63
9	22.36	22.65	22.66	22.79	23.01	23.11	23.31	23.32	23.47	23.31	23.46	23.64
10	22.39	22.65	22.66	22.78	23.02	23.12	23.31	23.32	23.47	23.32	23.47	23.65
11	22.41	22.67	22.66	22.78	23.02	23.14	23.31	23.32	23.47	23.32	23.47	23.66
12	22.41	22.68	22.66	22.79	23.02	23.15	23.31	23.32	23.46	23.33	23.48	23.68
13	22.42	22.68	22.66	22.79	23.02	23.16	23.32	23.33	23.45	23.34	23.48	23.69
14	22.43	22.68	22.66	22.80	23.02	23.16	23.32	23.33	23.43	23.36	23.49	23.70
15	22.44	22.68	22.66	22.80	23.02	23.17	23.32	23.34	23.42	23.36	23.49	23.72
16	22.45	22.68	22.67	22.81	23.02	23.19	23.32	23.34	23.40	23.39	23.50	23.73
17	22.46	22.69	22.67	22.81	23.02	23.19	23.32	23.35	23.38	23.39	23.50	23.75
18	22.47	22.69	22.67	22.82	23.02	23.20	23.32	23.36	23.36	23.41	23.51	23.76
19	22.47	22.69	22.68	22.83	23.02	23.20	23.32	23.37	23.35	23.42	23.52	23.77
20	22.48	22.69	22.69	22.84	23.02	23.20	23.32	23.38	23.34	23.42	23.52	23.78
21	22.49	22.69	22.69	22.85	23.02	23.20	23.32	23.38	23.33	23.42	23.53	23.79
22	22.50	22.69	22.70	22.86	23.02	23.20	23.32	23.39	23.32	23.42	23.54	23.79
23	22.51	22.69	22.71	22.86	23.02	23.21	23.32	23.40	23.32	23.43	23.54	23.77
24	22.52	22.69	22.71	22.87	23.03	23.22	23.33	23.40	23.31	23.43	23.55	23.76
25	22.53	22.69	22.71	22.88	23.04	23.22	23.33	23.40	23.30	23.43	23.55	23.75
26	22.54	22.69	22.71	22.89	23.04	23.23	23.34	23.40	23.30	23.43	23.56	23.73
27	22.54	22.69	22.71	22.90	23.04	23.23	23.34	23.41	23.29	23.43	23.57	23.71
28	22.56	22.69	22.72	22.91	23.05	23.24	23.35	23.41	23.29	23.43	23.57	23.69
29	22.58	22.69	22.72	22.91	---	23.25	23.36	23.41	23.29	23.43	23.58	23.68
30	22.59	22.69	22.72	22.93	---	23.25	23.36	23.42	23.28	23.43	23.58	23.66
31	22.60	---	22.73	22.93	---	23.26	---	23.42	---	23.43	23.59	---
MAX	22.60	22.69	22.73	22.93	23.05	23.26	23.36	23.42	23.47	23.43	23.59	23.79
CAL YR 1997	LOW	23.95										
WTR YR 1998	LOW	23.79										



**GROUND-WATER RECORDS**  
**Butler County**

217

**391805084261800. LOCAL NUMBER, BU-9**

LOCATION.--Lat 39°18'05", long 84°26'18", Hydrologic Unit 05090203, 2.5 mi northwest of Sharonville.

Owner: Olinkraft, Inc.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 85 ft.

INSTRUMENTATION.--Biyearly measurement with chalked tape by Ohio Department of Natural Resources personnel.

DATUM.--Elevation of land-surface datum is 586.89 ft above sea level.

Measuring point: Floor of instrument shelter, 4.66 ft above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water. Prior to water year 1978, well diameter reported as 26 in.

PERIOD OF RECORD.--July 1938 to September 1982 continuous, periodic thereafter.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 24.40 ft below land-surface datum, Mar. 16, 1954;  
minimum daily low, 4.40 ft below land-surface datum, Aug. 3, 1958.

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

DATE	WATER LEVEL
Oct. 28, 1997	8.09
Apr. 24, 1998	8.20

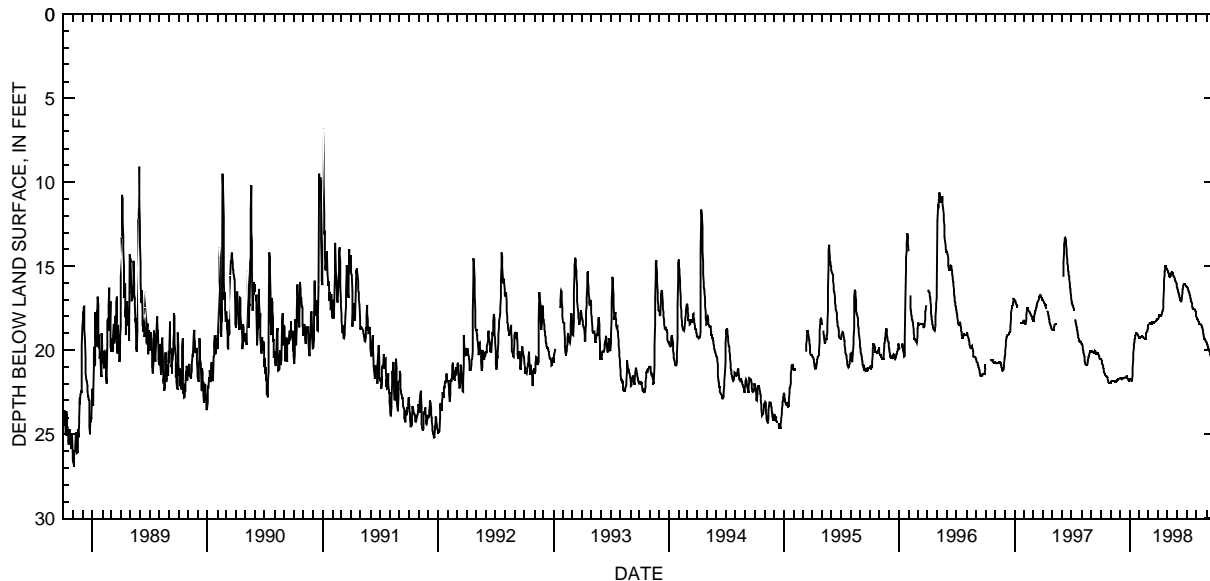
**GROUND-WATER RECORDS**  
**Butler County**

**391904084371800. LOCAL NUMBER, BU-12**

LOCATION.--Lat 39°19'04", long 84°37'18", Hydrologic Unit 05080002, Cincinnati well field 1.5 mi east of Ross.  
 Owner: City of Cincinnati.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled test water table well, diameter 6 in., depth 157 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 547.73 ft above sea level.  
 Measuring point: Floor of instrument shelter 7.80 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--April 1968 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 28.40 ft below land-surface datum, July 11, 1988;  
 minimum daily low, 2.00 ft above land surface, May 24, 25, 1968.

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	20.50	21.95	21.65	21.70	19.20	18.50	18.10	15.35	16.35	16.20	18.10	19.55
2	20.55	21.90	21.65	21.70	19.20	18.45	18.05	15.35	16.40	16.25	18.10	19.60
3	20.60	21.85	21.65	21.70	19.20	18.45	18.00	15.40	16.50	16.30	18.15	19.65
4	20.65	21.85	21.70	21.75	19.20	18.40	17.95	15.45	16.55	16.40	18.15	19.70
5	20.75	21.85	21.75	21.80	19.20	18.40	17.90	15.50	16.65	16.45	18.20	19.80
6	20.85	21.80	21.75	21.80	19.20	18.35	17.90	15.60	16.70	16.50	18.30	19.85
7	20.90	21.80	21.75	21.80	19.15	18.35	17.90	15.65	16.80	16.55	18.40	19.90
8	21.05	21.85	21.75	21.80	19.15	18.40	17.90	15.65	16.90	16.60	18.40	19.95
9	21.10	21.85	21.70	21.50	19.15	18.40	17.95	15.60	17.00	16.70	18.40	20.00
10	21.20	21.85	21.65	21.05	19.20	18.40	17.95	15.50	17.05	16.75	18.40	20.05
11	21.30	21.85	21.65	20.55	19.20	18.35	17.90	15.40	17.10	16.85	18.40	20.15
12	21.35	21.85	21.65	20.20	19.25	18.35	17.80	15.40	17.10	16.95	18.45	20.25
13	21.40	21.85	21.65	19.85	19.25	18.30	17.75	15.35	17.10	17.05	18.45	20.30
14	21.45	21.90	21.65	19.65	19.30	18.30	17.65	15.35	16.95	17.10	18.45	20.35
15	21.50	21.90	21.60	19.50	19.30	18.30	17.60	15.40	16.80	17.15	18.45	20.40
16	21.55	21.90	21.60	19.35	19.30	18.30	17.50	15.40	16.60	17.20	18.50	20.40
17	21.55	21.90	21.60	19.25	19.30	18.35	17.10	15.40	16.35	17.30	18.60	20.50
18	21.55	21.85	21.60	19.15	19.30	18.35	16.35	15.50	16.25	17.40	18.65	20.60
19	21.55	21.80	21.60	19.10	19.25	18.35	15.85	15.55	16.15	17.50	18.70	20.65
20	21.55	21.80	21.60	19.00	19.15	18.35	15.55	15.60	16.05	17.50	18.80	20.75
21	21.60	21.80	21.55	19.00	19.10	18.35	15.30	15.65	16.05	17.55	18.90	20.80
22	21.65	21.75	21.50	19.00	19.00	18.35	15.10	15.70	16.05	17.55	19.05	20.90
23	21.75	21.75	21.60	19.00	18.95	18.30	15.00	15.75	16.05	17.55	19.15	20.95
24	21.80	21.70	21.65	19.00	18.90	18.25	15.00	15.80	16.05	17.55	19.20	21.00
25	21.90	21.70	21.75	19.05	18.80	18.20	15.05	15.85	16.10	17.55	19.30	21.10
26	21.95	21.70	21.75	19.10	18.70	18.20	15.10	15.90	16.15	17.60	19.30	21.10
27	21.95	21.70	21.80	19.15	18.60	18.20	15.15	15.95	16.15	17.65	19.35	21.10
28	21.95	21.70	21.80	19.15	18.55	18.15	15.15	16.05	16.20	17.70	19.40	21.10
29	21.95	21.70	21.80	19.20	---	18.15	15.20	16.15	16.20	17.85	19.45	21.10
30	21.95	21.70	21.80	19.25	---	18.15	15.25	16.20	16.20	17.95	19.50	21.15
31	21.95	---	21.75	19.25	---	18.15	---	16.30	---	18.05	19.50	---
MAX	21.95	21.95	21.80	21.80	19.30	18.50	18.10	16.30	17.10	18.05	19.50	21.15
CAL YR 1997	LOW	21.95										
WTR YR 1998	LOW	21.95										



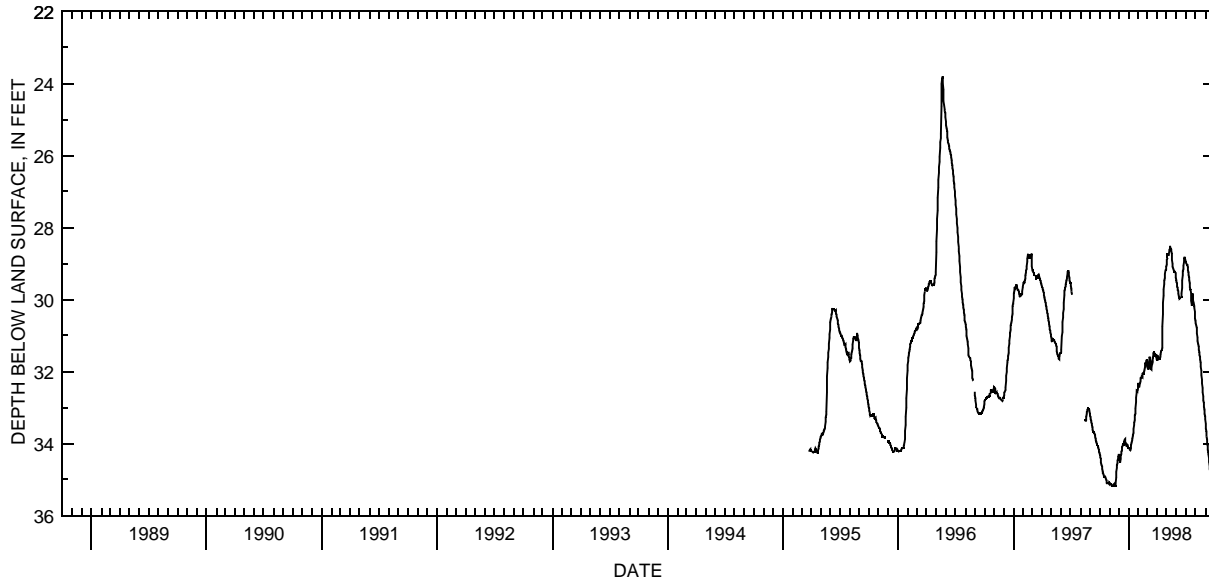
**GROUND-WATER RECORDS**  
**Butler County**

**391942084345700. LOCAL NUMBER, BU-18**

LOCATION.--Lat 39°19'42", long 84°34'57", Hydrologic Unit 05080002, in Fairfield. Owner: City of Hamilton.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 210 ft, cased.  
 INSTRUMENTATION.--Electronic data logger.  
 DATUM.--Elevation of land-surface datum is 570 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.--March 24, 1995, to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 35.59 ft below land-surface datum, Sept. 30, 1998;  
 minimum daily low, 23.79 ft below land surface, May 20, 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	34.32	35.08	34.35	34.13	32.38	31.89	31.67	28.88	29.50	28.96	30.64	33.44
2	34.37	35.09	34.43	34.13	32.44	31.92	31.61	28.85	29.54	29.00	30.71	33.57
3	34.41	35.10	34.50	34.11	32.44	31.93	31.57	28.74	29.62	29.01	30.78	33.67
4	34.45	35.10	34.53	34.16	32.32	31.89	31.59	28.74	29.66	29.04	30.86	33.78
5	34.51	35.11	34.43	34.18	32.32	31.82	31.59	28.77	29.73	29.03	30.95	33.87
6	34.59	35.13	34.32	34.18	32.26	31.74	31.65	28.76	29.75	29.10	31.04	33.98
7	34.63	35.15	34.31	34.13	32.19	31.65	31.65	28.75	29.83	29.18	31.14	34.06
8	34.70	35.17	34.21	34.04	32.17	31.59	31.66	28.65	29.91	29.24	31.22	34.16
9	34.76	35.17	34.17	33.96	32.18	31.65	31.64	28.62	29.93	29.31	31.29	34.24
10	34.81	35.16	34.14	33.96	32.16	31.70	31.58	28.58	29.96	29.37	31.34	34.31
11	34.81	35.17	34.08	33.89	32.14	31.83	31.52	28.58	29.98	29.45	31.39	34.40
12	34.84	35.18	34.06	33.86	32.15	31.92	31.44	28.51	29.97	29.54	31.46	34.49
13	34.91	35.18	34.04	33.78	32.07	31.93	31.44	28.57	29.94	29.64	31.52	34.59
14	34.93	35.13	34.02	33.75	32.05	31.90	31.43	28.59	29.92	29.73	31.59	34.69
15	34.92	35.12	34.02	33.69	32.06	31.79	31.40	28.64	29.93	29.72	31.66	34.79
16	34.90	35.15	34.00	33.59	32.07	31.73	31.33	28.72	29.92	29.83	31.75	34.87
17	34.88	35.17	33.94	33.49	32.04	31.70	30.74	28.82	29.82	29.93	31.87	34.96
18	34.92	35.18	33.90	33.42	31.95	31.61	30.40	28.90	29.68	30.03	31.98	35.05
19	34.92	35.18	33.87	33.34	31.95	31.55	30.08	29.00	29.47	30.15	32.10	35.13
20	34.97	35.10	33.95	33.20	31.87	31.49	29.90	29.07	29.32	30.14	32.22	35.21
21	35.01	34.94	33.98	33.16	31.85	31.48	29.71	29.12	29.20	29.83	32.32	35.26
22	35.05	34.79	33.99	33.02	31.78	31.44	29.57	29.19	29.14	29.90	32.45	35.30
23	35.08	34.68	34.02	32.85	31.76	31.54	29.47	29.20	29.05	29.95	32.57	35.33
24	35.10	34.59	34.05	32.72	31.70	31.57	29.39	29.22	28.95	30.02	32.69	35.33
25	35.10	34.54	34.05	32.57	31.69	31.56	29.28	29.22	28.86	30.09	32.79	35.37
26	35.09	34.47	34.02	32.53	31.66	31.51	29.19	29.20	28.80	30.17	32.87	35.41
27	35.09	34.41	34.04	32.55	31.79	31.52	29.19	29.24	28.83	30.23	32.97	35.45
28	35.11	34.36	34.06	32.53	31.83	31.56	29.19	29.25	28.89	30.33	33.06	35.49
29	35.11	34.30	34.09	32.47	---	31.60	29.08	29.32	28.92	30.43	33.16	35.54
30	35.12	34.29	34.11	32.35	---	31.64	29.03	29.37	28.94	30.52	33.23	35.59
31	35.06	---	34.13	32.31	---	31.68	---	29.46	---	30.58	33.33	---
MAX	35.12	35.18	34.53	34.18	32.44	31.93	31.67	29.46	29.98	30.58	33.33	35.59
CAL YR 1997	LOW	35.18										
WTR YR 1998	LOW	35.59										



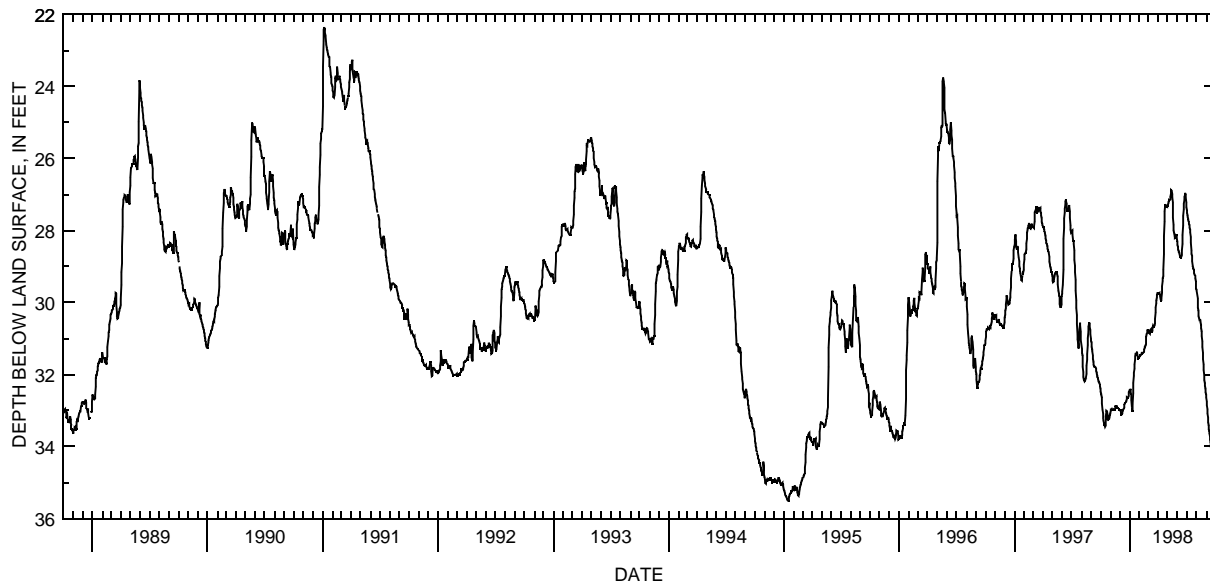
GROUND-WATER RECORDS  
Butler County

392017084345200. LOCAL NUMBER, BU-7

LOCATION.--Lat 39°20'17", long 84°34'52", Hydrologic Unit 05080002, 5584 East River Road in Fairfield.  
 Owner: C. E. Schiering.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled unused water table well, diameter 6 in., depth 176 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 572.54 ft above sea level.  
 Measuring point: Floor of instrument shelter 1.93 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--August 1943 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 35.51 ft below land-surface datum, Jan. 13-14, 1995;  
 minimum daily low, 11.45 ft below land-surface datum, June 6, 1947.

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	32.53	32.99	32.98	32.43	31.45	30.77	29.75	27.28	28.39	27.50	29.68	32.74
2	32.56	32.94	32.99	32.40	31.45	30.81	29.76	27.24	28.44	27.57	29.77	32.86
3	32.62	32.98	33.04	32.41	31.47	30.85	29.76	27.20	28.51	27.61	29.88	32.96
4	32.66	32.98	33.10	32.50	31.47	30.86	29.75	27.17	28.56	27.68	30.01	33.09
5	32.80	32.98	33.10	32.56	31.47	30.84	29.76	27.14	28.59	27.72	30.13	33.20
6	32.97	32.96	33.10	32.72	31.45	30.81	29.78	27.15	28.60	27.75	30.23	33.32
7	33.09	32.98	33.06	32.93	31.41	30.80	29.83	27.17	28.63	27.80	30.36	33.41
8	33.22	32.98	33.03	32.99	31.40	30.75	29.93	27.14	28.70	27.84	30.44	33.51
9	33.32	32.97	33.01	32.99	31.40	30.73	29.96	27.06	28.73	27.91	30.50	33.57
10	33.37	32.96	33.00	32.81	31.41	30.82	29.96	26.97	28.74	27.97	30.51	33.62
11	33.38	32.97	32.98	32.51	31.41	30.83	29.89	26.89	28.75	28.05	30.48	33.70
12	33.39	32.97	32.96	32.23	31.39	30.82	29.73	26.86	28.74	28.17	30.48	33.79
13	33.44	32.98	32.91	32.04	31.38	30.78	29.55	26.88	28.72	28.34	30.53	33.89
14	33.44	32.96	32.84	31.95	31.35	30.71	29.40	26.98	28.67	28.55	30.61	34.00
15	33.40	32.93	32.81	31.84	31.29	30.64	29.32	27.08	28.56	28.64	30.70	34.11
16	33.31	32.85	32.79	31.71	31.25	30.66	29.26	27.22	28.38	28.70	30.80	34.20
17	33.16	32.89	32.80	31.58	31.24	30.67	29.09	27.44	28.13	28.73	30.93	34.28
18	33.05	32.89	32.79	31.48	31.21	30.67	28.66	27.65	27.86	28.85	31.08	34.34
19	33.00	32.85	32.76	31.39	31.18	30.66	28.16	27.84	27.59	28.98	31.24	34.41
20	33.02	32.88	32.73	31.42	31.14	30.64	27.75	27.98	27.41	29.05	31.40	34.49
21	33.12	32.89	32.68	31.43	31.06	30.58	27.46	28.08	27.26	29.07	31.57	34.53
22	33.20	32.90	32.65	31.41	30.96	30.45	27.28	28.16	27.15	29.09	31.72	34.54
23	33.24	32.90	32.63	31.36	30.87	30.28	27.29	28.20	27.06	29.14	31.88	34.54
24	33.26	32.92	32.64	31.40	30.82	30.14	27.32	28.21	27.01	29.18	32.01	34.51
25	33.26	32.95	32.64	31.48	30.78	30.03	27.32	28.20	26.96	29.22	32.14	34.42
26	33.24	32.97	32.62	31.53	30.76	29.93	27.32	28.13	26.99	29.25	32.23	34.36
27	33.18	32.98	32.59	31.54	30.73	29.85	27.31	28.10	27.08	29.31	32.31	34.34
28	33.18	32.98	32.54	31.54	30.74	29.78	27.32	28.10	27.21	29.40	32.40	34.38
29	33.13	32.98	32.48	31.54	---	29.73	27.31	28.13	27.35	29.49	32.48	34.41
30	33.08	32.98	32.45	31.52	---	29.72	27.30	28.21	27.44	29.60	32.55	34.46
31	33.06	---	32.44	31.48	---	29.73	---	28.31	---	29.64	32.64	---
MAX	33.44	32.99	33.10	32.99	31.47	30.86	29.96	28.31	28.75	29.64	32.64	34.54
CAL YR 1997	LOW 33.44											
WTR YR 1998	LOW 34.54											



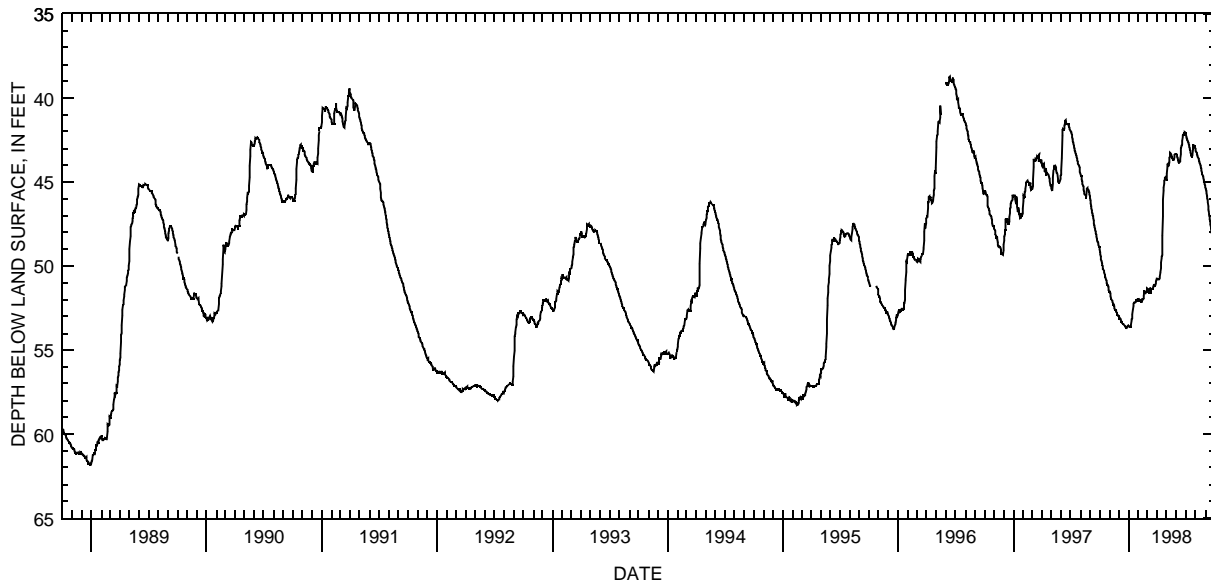
**GROUND-WATER RECORDS  
Butler County**

**392048084311400. LOCAL NUMBER, BU-8**

LOCATION.--Lat 39°20'48", long 84°31'14", Hydrologic Unit 05080002, Symmes and Gilmore Road, east of Hamilton.  
 Owner: Hamilton Water Department.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled test artesian well, diameter 6 in., depth 200 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 630 ft above sea level, from topographic map.  
 Measuring point: Floor of instrument shelter 4.13 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--April 1944 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 71.70 ft below land-surface datum, Oct. 24, 1944;  
 minimum daily low, 38.24 ft below land-surface datum, June 8, 1947.

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	49.16	51.49	53.05	53.57	51.98	51.33	50.73	44.47	43.30	42.19	43.13	45.35
2	49.27	51.50	53.12	53.59	51.99	51.34	50.78	44.12	43.33	42.31	43.18	45.42
3	49.39	51.61	53.13	53.59	52.03	51.36	50.80	43.97	43.45	42.40	43.22	45.51
4	49.48	51.77	53.10	53.60	52.03	51.42	50.76	43.91	43.52	42.44	43.28	45.65
5	49.58	51.90	53.14	53.61	51.98	51.50	50.79	43.96	43.58	42.51	43.34	45.83
6	49.69	51.95	53.18	53.60	52.02	51.54	50.78	43.99	43.68	42.57	43.39	45.93
7	49.81	51.98	53.24	53.60	52.05	51.55	50.76	43.99	43.76	42.60	43.47	46.04
8	49.92	52.00	53.27	53.48	52.07	51.54	50.70	43.81	43.84	42.64	43.54	46.22
9	50.00	52.04	53.27	53.26	52.10	51.27	50.63	43.55	43.86	42.71	43.58	46.43
10	50.11	52.10	53.27	53.19	52.11	51.45	50.38	43.44	43.85	42.78	43.61	46.64
11	50.18	52.19	53.35	53.14	52.11	51.56	50.36	43.24	43.85	42.89	43.66	46.81
12	50.20	52.26	53.41	52.88	51.90	51.60	50.14	43.23	43.81	42.96	43.76	46.93
13	50.24	52.28	53.41	52.60	51.95	51.60	49.79	43.28	43.60	43.03	43.83	47.04
14	50.36	52.28	53.44	52.61	51.98	51.36	49.52	43.35	43.35	43.14	43.87	47.18
15	50.48	52.36	53.47	52.38	51.99	51.35	49.40	43.40	42.96	43.24	43.92	47.35
16	50.56	52.47	53.48	52.22	51.96	51.37	49.33	43.45	42.86	43.31	44.00	47.51
17	50.61	52.56	53.49	52.17	51.78	51.37	48.20	43.52	42.82	43.37	44.08	47.65
18	50.64	52.59	53.53	52.16	51.48	51.30	47.04	43.59	42.74	43.42	44.19	47.78
19	50.68	52.61	53.57	52.15	51.58	51.23	46.06	43.63	42.54	43.47	44.31	47.89
20	50.77	52.64	53.61	52.15	51.60	51.19	45.50	43.66	42.34	43.48	44.42	48.00
21	50.86	52.65	53.65	52.15	51.64	51.09	45.33	43.66	42.20	43.38	44.52	48.10
22	50.96	52.70	53.65	52.14	51.64	51.11	45.09	43.66	42.14	43.06	44.56	48.20
23	51.02	52.76	53.67	52.08	51.60	51.12	44.92	43.66	42.15	42.89	44.58	48.30
24	51.04	52.86	53.67	52.03	51.47	51.15	44.82	43.64	42.15	42.79	44.64	48.36
25	51.12	52.89	53.57	52.04	51.50	51.15	44.77	43.49	42.10	42.79	44.73	48.42
26	51.14	52.89	53.61	52.04	51.50	51.10	44.74	43.40	42.07	42.81	44.87	48.49
27	51.22	52.94	53.61	52.04	51.37	51.01	44.78	43.34	42.03	42.81	44.98	48.53
28	51.34	52.95	53.60	52.00	51.32	50.91	44.84	43.32	42.05	42.81	45.04	48.63
29	51.41	52.97	53.59	51.96	---	50.77	44.84	43.32	42.08	42.85	45.11	48.72
30	51.48	52.97	53.51	51.94	---	50.76	44.83	43.32	42.09	42.93	45.19	48.80
31	51.49	---	53.51	51.98	---	50.73	---	43.31	---	43.02	45.28	---
MAX	51.49	52.97	53.67	53.61	52.11	51.60	50.80	44.47	43.86	43.48	45.28	48.80
CAL YR 1997	LOW	53.67										
WTR YR 1998	LOW	53.67										



**GROUND-WATER RECORDS**  
**Butler County**

**393202084241500. LOCAL NUMBER, BU-15**

LOCATION.--Lat 39°32'02", long 84°24'15", Hydrologic Unit 05080002, at Hook Field (municipal airport) at Middletown.  
 Owner: City of Middletown.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 INSTRUMENTATION.--Periodic measurement with chalked tape by Ohio Department of Natural Resources personnel.  
 WELL CHARACTERISTICS.--Drilled observation water table well, diameter 6 in., depth 23 ft, cased.  
 DATUM.--Elevation of land-surface datum is 641 ft, from topographic map.  
 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. Water level affected by pumping wells nearby in Middletown well field.  
 PERIOD OF RECORD.--June 1972 to September 1982 continuous, periodic thereafter.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum measured low, 15.72 ft below land-surface datum, Oct. 24, 1994;  
 minimum daily low, 0.06 ft below land-surface datum, Feb. 25, 1975.

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

DATE	WATER LEVEL
Oct. 28, 1997	14.18
Apr. 24, 1998	10.38
Sept. 14, 1998	14.96

**GROUND-WATER RECORDS**  
**Butler County**

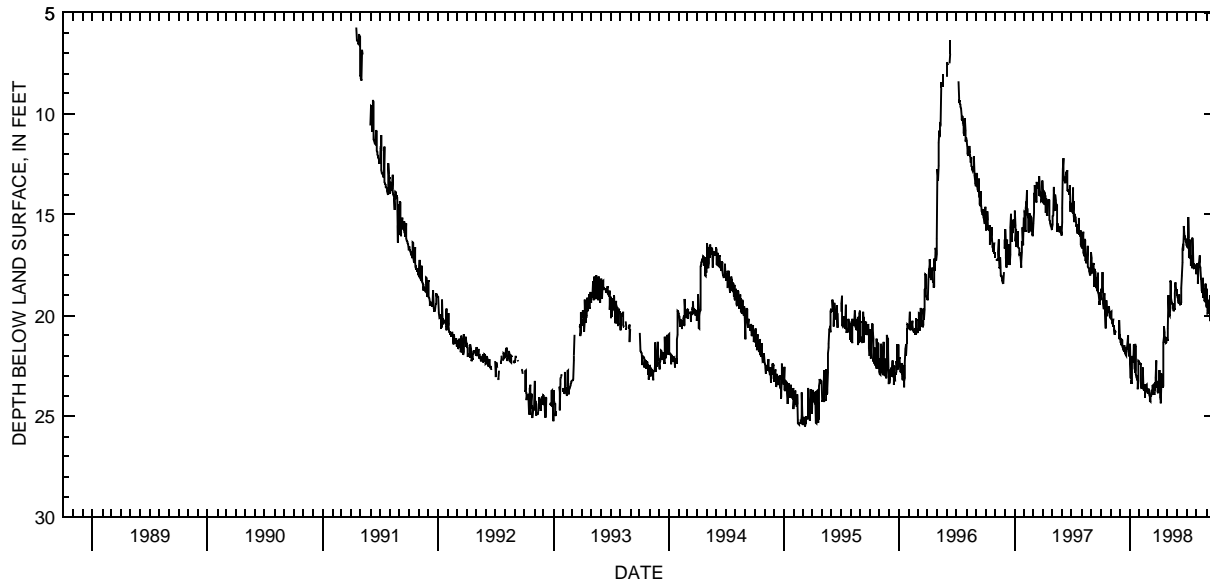
**392737084291300. LOCAL NUMBER, BU-16**

LOCATION.--Lat 39°27'37", long 84°29'13", Hydrologic Unit 05080002, Wayne - Madison Rd. 2 mi southwest of Trenton.  
 Owner: Miller Brewing Co.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled test water table well, diameter 4 in., depth 218 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 640 ft above sea level, from topographic map.  
 Measuring point: Floor of instrument shelter, 4.5 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water. Prior to 1992 published as 392733084293000.  
 PERIOD OF RECORD.--May 1982 to July 1987. Reactivated April 17, 1991.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 25.51 ft below land-surface datum, Mar. 7-8, 1995;  
 minimum daily low, 5.71 ft below land-surface datum, April. 17, 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	18.70	20.13	21.25	21.42	22.32	23.65	23.75	20.65	19.07	16.57	17.54	19.59
2	18.76	19.86	21.30	23.11	22.35	23.83	23.68	18.99	19.15	16.62	17.42	18.70
3	18.80	19.83	21.36	22.00	22.38	23.93	23.75	19.17	19.27	16.21	18.03	19.77
4	18.86	20.15	21.40	22.25	22.40	24.00	22.72	19.90	19.35	16.18	18.12	19.92
5	18.82	20.33	21.47	23.21	23.55	24.01	22.72	20.08	19.42	15.13	18.42	19.89
6	17.87	20.35	21.20	23.32	23.62	24.25	23.80	19.94	18.98	16.80	17.43	19.50
7	18.92	20.41	21.23	23.32	23.37	24.26	24.05	20.00	18.99	17.09	17.46	19.50
8	19.40	20.45	21.53	22.00	23.37	23.92	24.17	19.62	19.50	17.11	17.42	19.28
9	19.70	20.18	21.60	22.11	23.37	24.00	24.37	18.27	19.44	16.24	17.04	19.26
10	19.28	20.50	21.63	22.13	22.59	23.70	23.34	18.35	19.43	16.33	17.43	19.28
11	19.17	20.50	21.67	22.03	22.58	23.83	22.89	18.96	19.42	17.08	17.58	20.28
12	18.91	20.60	21.73	22.36	23.66	23.93	23.02	19.11	19.35	17.07	17.60	18.99
13	19.50	20.95	21.72	21.43	23.63	23.90	23.15	19.30	18.64	17.54	17.70	20.31
14	19.76	20.73	21.48	21.51	23.74	23.50	23.48	19.44	18.05	17.40	18.24	20.28
15	20.65	20.78	21.77	22.68	23.44	23.49	23.53	19.42	18.00	17.45	18.18	19.71
16	19.53	20.78	21.82	22.78	23.44	23.95	23.52	19.42	17.39	17.59	18.75	20.43
17	19.95	20.83	21.87	22.78	24.00	23.82	21.35	19.45	16.72	17.67	18.75	20.58
18	19.53	---	21.92	21.40	24.00	23.88	21.05	19.62	16.47	16.14	18.87	20.91
19	19.27	---	21.98	21.52	23.74	23.90	20.56	19.69	16.76	16.20	18.86	21.02
20	20.05	---	21.98	22.90	23.72	23.95	20.85	19.80	15.95	17.58	18.15	19.62
21	19.67	---	21.56	23.00	23.80	23.77	21.28	19.67	15.56	17.55	19.08	19.62
22	19.72	---	21.66	23.05	23.47	23.37	21.35	19.73	16.05	17.70	19.08	20.27
23	19.75	---	21.69	23.12	23.46	23.37	21.20	19.71	16.11	17.67	18.66	20.70
24	19.80	---	21.37	23.22	23.81	23.09	21.30	18.90	16.04	17.49	19.17	20.75
25	19.80	---	21.00	22.95	23.82	22.25	21.37	18.37	16.15	17.49	19.25	20.19
26	19.55	---	21.60	23.68	23.87	23.37	21.35	18.53	16.25	17.50	19.29	20.28
27	19.85	21.20	21.68	23.27	23.88	23.47	21.13	18.72	16.30	17.63	19.35	20.39
28	19.96	20.25	21.75	22.23	23.90	23.57	21.17	18.72	16.38	17.58	18.42	20.52
29	20.00	21.15	21.80	22.27	---	23.27	21.20	18.91	16.49	17.65	18.51	20.58
30	20.05	20.93	22.00	22.30	---	23.77	21.20	18.97	16.55	17.88	19.31	20.49
31	20.10	---	22.04	22.33	---	23.86	---	18.97	---	17.95	19.50	---
MAX	20.65	21.20	22.04	23.68	24.00	24.26	24.37	20.65	19.50	17.95	19.50	21.02

CAL YR 1997    LOW 22.04  
 WTR YR 1998    LOW 24.37





## GROUND-WATER RECORDS

### Butler County

**392743084295500. LOCAL NUMBER, BU-17**

LOCATION.--Lat 39°27'43", long 84°29'55", Hydrologic Unit 05080002, southwest of Trenton.

Owner: Southwest Regional Water District.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water table well, diameter 8 in., depth 212 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 635.28 ft above sea level.

Measuring point: Floor of instrument shelter, 2.2 ft above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water. Prior to 1992 published as 392733084293000.

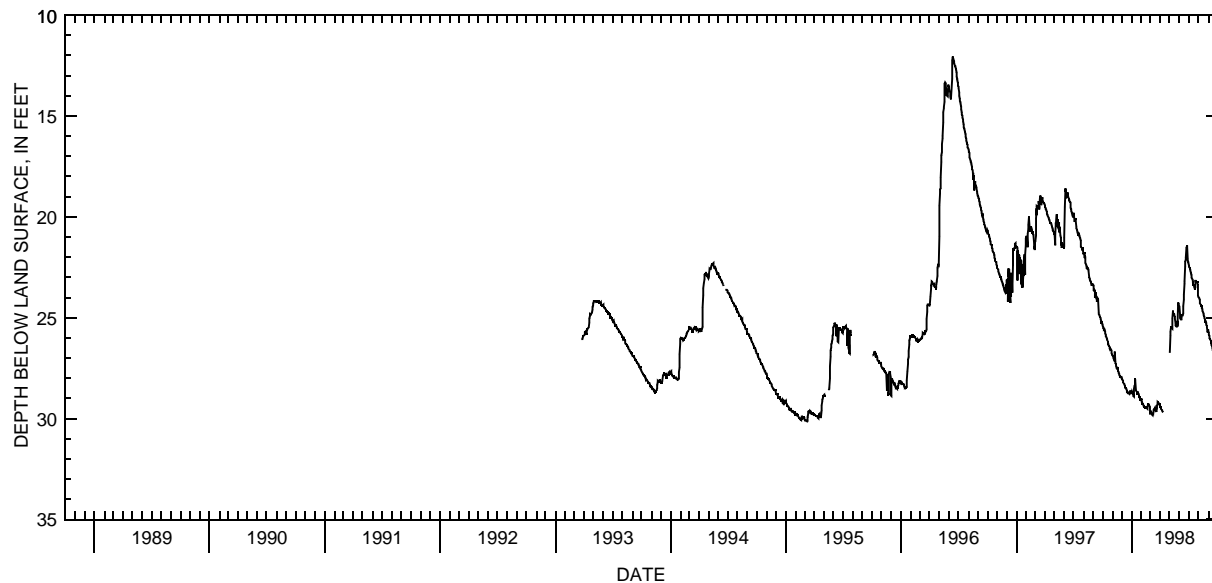
PERIOD OF RECORD.--March 1993 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 30.16 ft below land-surface datum, Mar. 8, 1995;  
minimum daily low, 12.06 ft below land-surface datum, June 12, 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	25.45	26.88	28.06	28.66	29.15	29.60	29.40	26.74	24.43	22.47	23.99	25.74
2	25.50	26.90	28.08	28.73	29.20	29.73	29.41	25.90	24.85	22.53	24.00	25.83
3	25.55	26.93	28.11	28.74	29.25	29.68	29.51	25.69	25.00	22.57	24.11	25.89
4	25.57	27.00	28.19	28.76	29.26	29.71	29.54	25.46	25.05	22.60	24.15	26.00
5	25.60	27.05	28.23	28.80	29.27	29.74	29.55	25.46	25.07	22.64	24.26	26.04
6	25.56	27.08	28.25	28.88	29.33	29.79	29.57	25.50	25.10	22.74	24.33	26.08
7	25.68	27.15	28.26	28.91	29.35	29.81	29.60	25.50	25.13	22.78	24.38	26.12
8	25.76	26.69	28.31	28.52	29.36	29.80	29.63	25.52	24.85	22.86	24.39	26.24
9	25.83	27.20	28.35	28.32	29.40	29.78	29.68	25.04	24.86	22.99	24.39	26.25
10	25.89	27.27	28.38	28.06	29.42	29.60	29.70	24.65	24.88	23.06	24.41	26.33
11	25.93	27.30	28.45	28.05	29.43	29.52	---	24.67	24.88	23.07	24.51	26.38
12	25.95	27.38	28.48	28.11	29.44	29.56	---	24.73	24.76	23.11	24.56	26.38
13	26.05	27.45	28.50	28.55	29.40	29.52	---	24.76	24.44	23.22	24.66	26.51
14	26.09	27.50	28.51	28.60	29.41	29.51	---	24.82	24.10	23.26	24.71	26.58
15	26.15	27.53	28.57	28.65	29.42	29.46	---	24.88	23.86	23.33	24.71	26.67
16	26.20	27.55	28.60	28.73	29.44	29.52	---	24.92	23.32	23.34	24.81	26.68
17	26.26	27.45	28.67	28.75	29.47	29.57	---	24.98	23.20	23.45	24.87	26.78
18	26.28	27.65	28.71	28.75	29.51	29.60	---	25.05	22.45	23.46	24.93	26.85
19	26.32	27.68	28.74	28.66	29.50	29.66	---	25.28	22.20	23.52	24.99	26.91
20	26.38	27.73	28.75	28.70	29.27	29.65	---	25.37	22.10	23.55	25.08	26.97
21	26.42	27.77	28.72	28.73	29.31	29.47	---	25.42	22.03	23.13	25.16	26.97
22	26.48	27.81	28.75	28.75	29.30	29.35	---	25.44	21.53	23.21	25.17	27.02
23	26.53	27.85	28.75	28.85	29.30	29.25	---	25.49	21.50	23.16	25.16	27.08
24	26.55	27.91	28.76	28.90	29.35	29.16	---	25.45	21.46	23.21	25.26	27.12
25	26.57	27.95	28.72	28.90	29.38	29.20	---	25.17	21.42	23.21	25.33	27.17
26	26.55	27.98	28.75	28.97	29.40	29.20	---	25.43	22.07	23.22	25.38	27.24
27	26.62	27.93	28.62	29.01	29.60	29.22	---	24.24	22.15	23.30	25.47	27.18
28	26.67	27.90	28.65	29.05	29.80	29.24	---	24.29	22.23	23.33	25.71	27.27
29	26.73	27.98	28.61	29.08	---	29.27	---	24.33	22.28	23.76	25.74	27.33
30	26.80	28.00	28.70	29.10	---	29.32	---	24.37	22.40	23.90	25.56	27.58
31	26.85	---	28.73	29.00	---	29.35	---	24.44	---	23.97	25.65	---
MAX	26.85	28.00	28.76	29.10	29.80	29.81	29.70	26.74	25.13	23.97	25.74	27.58

CAL YR 1997 LOW 28.76  
WTR YR 1998 LOW 29.81



**GROUND-WATER RECORDS**  
**Butler County**

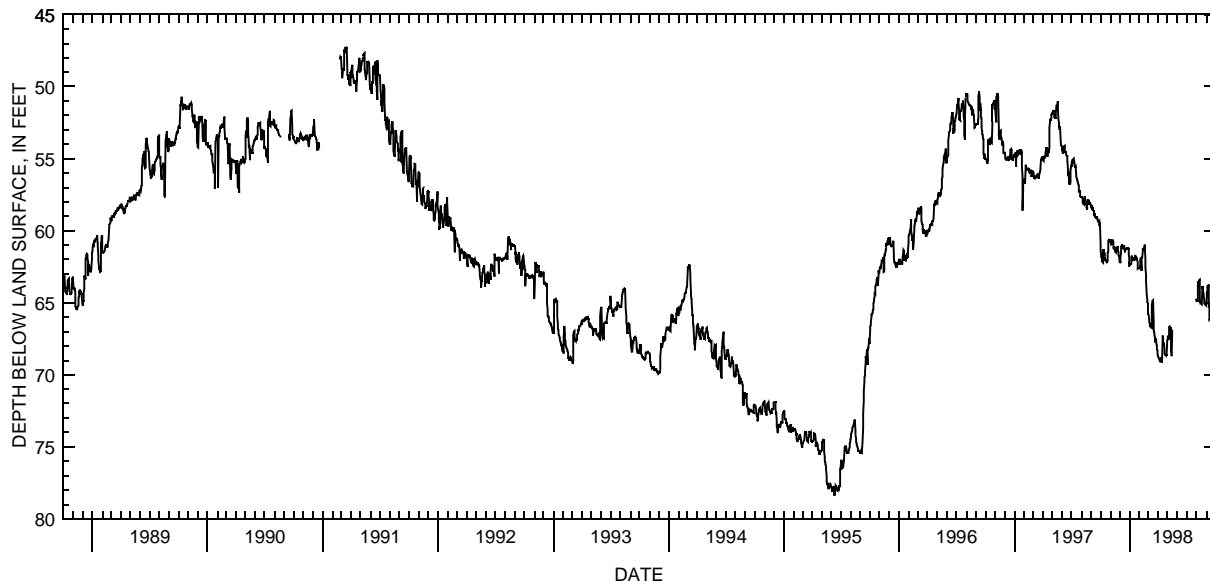
**392939084231700. LOCAL NUMBER, BU-3**

LOCATION.--Lat 39°29'39", long 84°23'17", Hydrologic Unit 05080002, Armco Steel Corp., Rt. 122 in Middletown.  
 Owner: Armco Steel Corp.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 24 in., depth 250 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land-surface datum is 668 ft above sea level, from topographic map.  
 Measuring point: Floor of instrument shelter 1.08 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--July 1938 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 147.27 ft below land-surface datum, Apr. 4, 1955;  
 minimum daily low, 45.27 ft below land-surface datum, July 21, 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	61.71	60.60	62.27	62.39	62.54	65.84	68.78	67.37	---	---	64.87	64.58
2	61.76	60.86	61.82	62.37	62.47	66.16	68.86	67.35	---	---	64.86	64.31
3	61.74	60.92	61.56	62.31	62.00	66.31	68.84	67.34	---	---	64.87	64.25
4	61.86	60.98	61.11	62.37	61.88	66.44	68.92	67.56	---	---	63.72	63.92
5	62.10	60.95	61.05	62.30	61.90	66.54	68.95	66.71	---	---	63.49	63.93
6	62.17	60.80	61.03	61.84	62.79	66.61	69.11	66.71	---	---	63.99	63.80
7	62.20	60.67	61.04	61.72	61.89	66.66	68.92	66.66	---	---	63.48	63.75
8	61.35	60.63	60.99	61.89	61.84	66.57	68.81	66.73	---	---	63.46	65.11
9	61.34	60.76	61.07	62.04	61.87	66.67	68.85	67.50	---	---	63.41	65.33
10	61.45	61.19	61.26	62.03	61.44	66.70	69.12	66.70	---	---	64.51	66.21
11	61.63	61.24	61.05	61.99	61.18	65.41	69.10	67.99	---	---	64.82	66.17
12	61.55	61.22	61.13	61.87	61.29	65.19	69.11	68.30	---	---	64.98	65.96
13	61.83	61.12	61.03	62.07	61.26	64.89	69.01	68.69	---	---	65.00	65.94
14	62.02	61.31	61.09	61.99	61.27	64.91	67.47	66.91	---	---	64.98	65.73
15	61.99	61.48	61.41	61.95	61.23	64.84	67.30	---	---	---	65.06	65.50
16	62.13	61.48	61.50	61.99	60.97	66.35	67.60	---	---	---	65.11	65.03
17	62.06	61.49	61.41	61.82	61.06	66.70	67.82	---	---	---	65.09	64.48
18	62.02	61.34	61.29	61.71	61.98	66.91	67.83	---	---	---	64.03	64.61
19	62.10	61.33	61.27	61.83	62.59	67.08	67.76	---	---	---	63.92	64.36
20	62.23	61.33	61.29	61.93	63.08	67.20	68.36	---	---	---	63.89	64.32
21	62.19	61.09	61.27	61.95	63.43	67.44	68.51	---	---	---	64.18	65.57
22	62.04	61.11	61.16	62.02	63.56	67.69	68.60	---	---	---	64.40	65.87
23	61.54	61.11	61.27	61.98	64.38	67.66	68.63	---	---	---	64.51	66.09
24	61.49	61.41	61.20	61.95	64.78	67.48	68.65	---	---	---	64.85	66.24
25	60.69	61.48	61.19	62.23	64.97	67.62	68.61	---	---	---	65.01	66.45
26	60.64	61.68	61.26	62.67	65.02	67.77	68.64	---	---	---	65.10	67.62
27	60.68	61.76	61.19	62.64	65.62	68.01	68.68	---	---	---	65.12	67.52
28	60.76	61.74	61.21	62.56	65.77	68.22	67.86	---	---	---	65.16	67.06
29	60.73	62.20	61.60	62.56	---	68.31	67.63	---	---	---	65.16	66.02
30	60.74	61.95	62.12	62.66	---	68.58	67.51	---	---	64.71	65.19	65.79
31	60.62	---	62.41	62.55	---	68.72	---	---	---	64.86	65.20	---
MAX	62.23	62.20	62.41	62.67	65.77	68.72	69.12	68.69	---	64.86	65.20	67.62

CAL YR 1997    LOW 62.41  
 WTR YR 1998    LOW 69.12



**GROUND-WATER RECORDS**  
**Butler County**

**393103084240900. LOCAL NUMBER, BU-2**

LOCATION.--Lat 39°31'03", long 84°24'09", Hydrologic Unit 05080002, in basement of YMCA in Middletown.

Owner: Middletown YMCA.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in., depth 88 ft, cased.

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

DATUM.--Elevation of land-surface datum is 636.27 ft above sea level.

Measuring point: Top of platform 14.77 ft below land-surface datum.

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

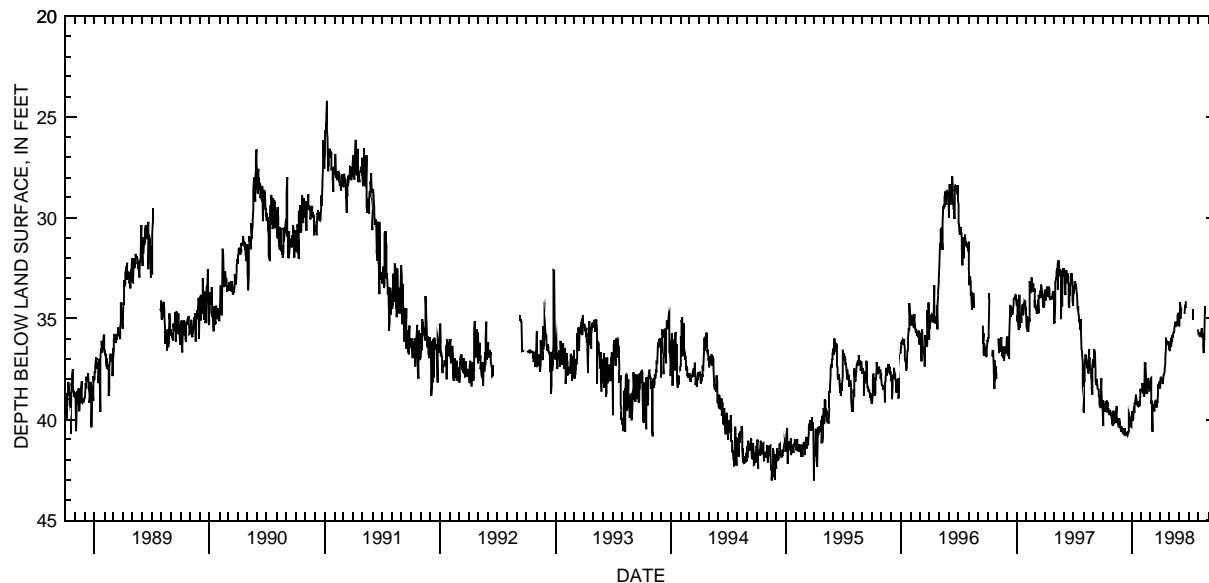
PERIOD OF RECORD.--October 1942 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 52.15 ft below land-surface datum, Sept. 28, Nov. 5, 1953, and Jan. 22, 1954; minimum daily low, 24.21 ft below land-surface datum, Jan. 6, 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	40.34	40.33	40.47	39.61	38.58	37.99	38.17	36.61	35.17	---	35.72	---
2	39.06	40.03	40.53	40.09	38.53	37.94	37.88	36.29	34.46	---	35.72	---
3	39.35	39.95	40.60	40.07	38.20	39.21	37.96	36.33	34.22	---	35.82	---
4	39.36	39.57	40.67	39.88	38.38	39.06	38.07	35.95	34.46	34.62	35.93	---
5	39.18	40.09	40.70	39.99	38.48	39.28	37.99	36.31	34.99	---	35.84	---
6	39.48	40.23	40.43	39.81	38.73	39.39	38.05	36.39	34.46	---	35.79	---
7	39.59	39.90	40.52	39.33	38.70	40.63	38.14	36.12	---	---	35.70	---
8	39.55	39.76	40.58	39.59	38.50	39.42	38.24	36.03	---	---	35.75	---
9	39.44	39.75	40.43	39.67	38.89	39.61	38.25	35.89	---	---	35.47	---
10	39.64	40.10	40.42	39.15	37.15	39.33	37.88	35.90	---	---	35.87	---
11	39.12	40.10	40.50	39.27	37.30	39.25	37.84	35.85	---	---	35.84	---
12	39.12	39.73	40.79	39.10	37.19	39.38	37.71	35.79	---	---	35.91	---
13	39.07	39.33	40.78	38.84	37.25	39.60	37.78	35.68	---	---	35.87	---
14	39.17	39.86	40.61	38.78	38.06	39.28	37.61	35.68	34.88	34.52	35.83	---
15	39.36	40.00	40.75	39.02	38.46	39.10	37.48	35.51	---	35.05	35.90	---
16	39.16	40.08	40.67	39.16	38.73	39.32	37.26	35.31	---	---	36.71	---
17	39.68	40.21	40.77	39.28	38.30	39.03	36.96	35.26	34.79	---	36.30	---
18	39.61	40.26	40.82	39.24	38.14	39.37	36.47	35.34	34.30	---	36.00	---
19	39.46	39.96	40.59	39.10	38.07	39.30	35.94	35.15	---	---	35.81	---
20	39.72	40.38	40.68	39.32	38.04	39.40	36.20	35.30	34.13	---	34.38	---
21	39.73	40.18	40.51	39.34	38.12	39.30	36.30	35.33	34.38	---	34.75	---
22	39.73	39.95	40.50	39.36	37.99	39.21	36.11	35.24	34.46	---	---	---
23	39.59	40.19	39.33	39.14	38.48	39.18	36.20	35.35	---	---	---	---
24	39.54	40.38	38.30	39.14	38.21	39.13	36.30	35.16	---	---	---	---
25	39.75	40.29	36.19	39.19	38.58	38.26	36.22	35.31	---	---	---	---
26	39.78	40.45	39.98	39.34	38.56	38.47	36.23	34.86	---	---	---	---
27	39.77	40.48	40.09	38.78	38.28	38.34	36.13	34.71	---	---	---	---
28	39.64	40.62	40.23	38.50	38.23	38.20	36.54	35.13	---	---	---	---
29	39.81	40.50	40.33	38.65	---	38.18	36.24	35.04	---	---	---	---
30	40.24	40.36	40.36	38.65	---	38.41	36.52	35.30	---	35.55	---	---
31	40.09	---	40.34	38.46	---	38.46	---	35.37	---	35.83	---	---
MAX	40.34	40.62	40.82	40.09	38.89	40.63	38.25	36.61	35.17	35.83	36.71	---

CAL YR 1997 LOW 40.82  
WTR YR 1998 LOW 40.82



**GROUND-WATER RECORDS**  
**Carroll County**

**403709081052800. LOCAL NUMBER, C-1**

LOCATION.--Lat 40°37'09", long 81°05'28", Hydrologic Unit 05040001, Carrollton well field, State Route 171, 3 mi north of Carrollton.

Owner: Carrollton Water Department.

AQUIFER.--Sandstone of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 10 in., depth 70 ft, cased.

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

DATUM.--Elevation of land-surface datum is 1050 ft above sea level, from topographic map.

Measuring point: Top of platform 3.0 ft above land-surface datum.

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

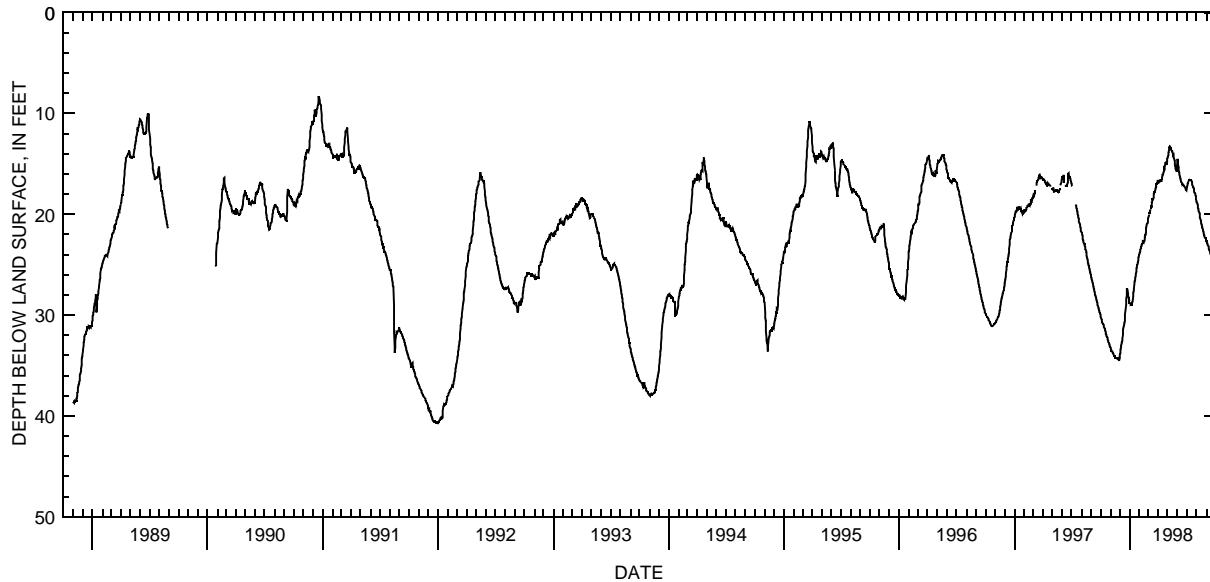
PERIOD OF RECORD.--August 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 40.76 ft below land-surface datum, Dec. 30, 1991;  
minimum daily low, 7.20 ft below land-surface datum, Jan. 10, 1971.

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	30.30	33.23	33.72	28.80	23.79	20.24	16.63	14.27	14.54	17.26	18.80	22.63
2	30.32	33.36	33.45	28.83	23.62	20.05	16.71	14.13	14.71	17.05	18.92	22.79
3	30.43	33.47	33.16	28.89	23.54	19.93	16.63	13.88	15.07	16.92	19.06	22.86
4	30.58	33.53	33.00	28.95	23.45	19.91	16.72	13.62	15.32	16.82	19.19	23.02
5	30.68	33.55	32.78	28.93	23.25	19.82	16.70	13.38	15.62	16.82	19.32	23.07
6	30.78	33.57	32.65	29.00	23.21	19.62	16.63	13.38	15.81	16.71	19.49	23.10
7	30.86	33.65	32.52	28.96	23.07	19.52	16.63	13.21	16.01	16.63	19.67	23.22
8	30.91	33.73	32.37	28.81	23.01	19.21	16.63	13.30	16.20	16.63	19.78	23.37
9	30.97	33.83	31.98	28.72	22.93	19.21	16.60	13.38	16.28	16.58	19.90	23.50
10	31.08	33.87	31.54	28.65	22.89	19.33	16.77	13.33	16.46	16.55	19.96	23.56
11	31.15	33.91	31.41	28.15	22.71	19.03	16.69	13.38	16.52	16.55	20.31	23.63
12	31.24	33.98	31.15	27.80	22.79	18.81	16.57	13.55	16.76	16.56	20.45	23.77
13	31.33	33.98	30.87	27.54	22.73	18.58	16.35	13.66	16.82	16.61	20.49	23.90
14	31.54	34.14	30.76	27.39	22.72	18.53	16.03	13.69	16.83	16.69	20.67	23.96
15	31.60	34.14	30.55	26.84	22.69	18.47	16.11	13.83	16.88	16.69	20.85	24.12
16	31.70	34.19	30.35	26.65	22.50	18.33	15.89	13.96	17.03	16.80	20.95	24.21
17	31.81	34.19	29.92	26.48	22.26	18.13	15.89	14.13	17.11	16.96	21.07	24.34
18	31.92	34.17	29.48	26.29	22.01	18.01	15.74	14.17	17.06	17.06	21.29	24.42
19	32.03	34.20	28.95	26.05	22.03	17.90	15.37	14.11	17.02	17.14	21.38	24.58
20	32.14	34.23	28.43	25.84	21.73	17.78	15.44	14.30	17.10	17.27	21.49	24.70
21	32.24	34.24	28.04	25.67	21.59	17.76	15.22	14.52	17.16	17.35	21.63	24.81
22	32.32	34.33	27.49	25.38	21.38	17.66	15.05	14.73	17.21	17.41	21.74	24.98
23	32.42	34.36	27.32	25.12	21.03	17.45	14.95	14.92	17.23	17.61	21.85	25.12
24	32.52	34.39	27.44	25.04	20.97	17.36	14.92	15.01	17.31	17.74	22.03	25.24
25	32.69	34.33	27.88	24.95	20.94	17.23	14.99	15.24	17.31	17.84	22.13	25.40
26	32.70	34.46	28.07	24.77	20.70	17.00	14.99	15.43	17.41	17.93	22.28	25.50
27	32.90	34.46	28.21	24.52	20.45	16.98	14.96	15.58	17.55	18.05	22.30	25.68
28	32.93	34.44	28.32	24.30	20.40	16.84	14.75	15.72	17.61	18.17	22.32	25.84
29	33.04	34.27	28.30	24.12	---	16.85	14.53	15.79	17.55	18.35	22.47	25.86
30	33.10	33.87	28.60	24.06	---	16.72	14.41	15.52	17.32	18.51	22.51	26.00
31	33.15	---	28.82	23.95	---	16.66	---	14.70	---	18.71	22.61	---
MAX	33.15	34.46	33.72	29.00	23.79	20.24	16.77	15.79	17.61	18.71	22.61	26.00

CAL YR 1997    LOW 34.46  
WTR YR 1998    LOW 34.46



**GROUND-WATER RECORDS**  
**Champaign County**

**400638083453900. LOCAL NUMBER, CH-3**

LOCATION.--Lat 40°06'38", long 83°45'39", Hydrologic Unit 05080001, in Urbana.

Owner: Howard Paper Company.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water table well, diameter 8 in., depth 40 ft, cased.

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

DATUM.--Elevation of land-surface datum is 1030 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 4.50 ft above land-surface datum.

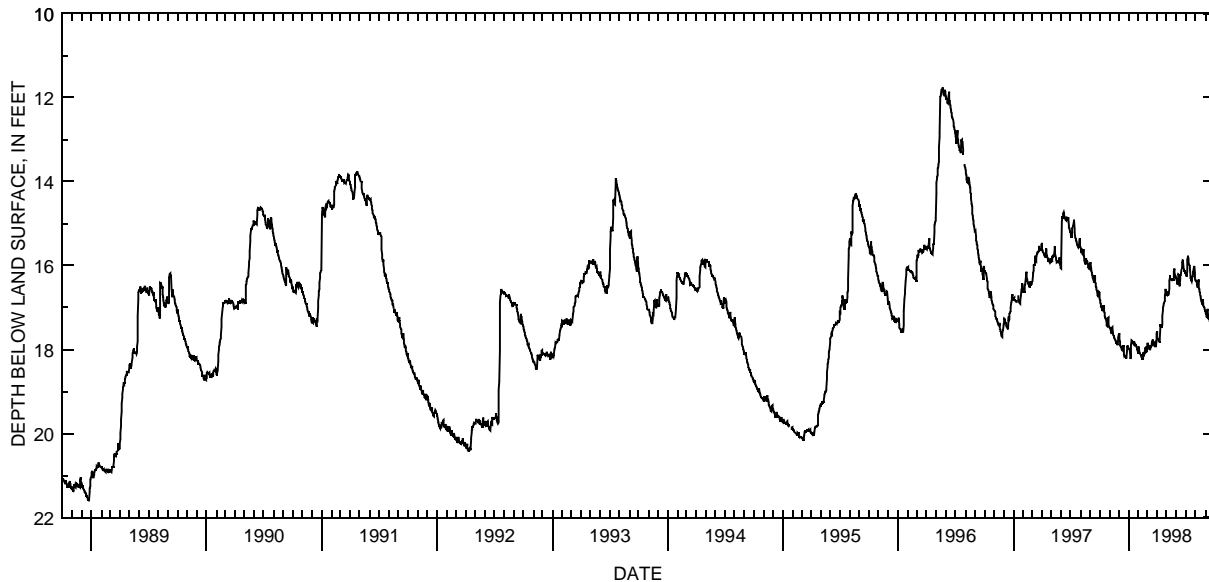
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--May 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 24.80 ft below land-surface datum, Feb. 26-29, Mar. 13, 1964;  
minimum daily low, 11.76 ft below land-surface datum, May 20, 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	16.82	17.47	17.60	17.98	17.92	17.83	17.70	16.65	16.31	16.20	16.35	17.10
2	16.87	17.48	17.76	17.99	18.03	17.91	17.74	16.64	16.37	16.23	16.37	17.14
3	16.90	17.49	17.81	18.00	18.05	17.95	17.75	16.63	16.40	16.27	16.34	17.17
4	16.93	17.51	17.89	18.01	18.08	17.94	17.75	16.64	16.44	16.12	16.39	17.21
5	16.96	17.56	17.91	18.16	18.10	17.95	17.77	16.66	16.45	15.86	16.45	17.22
6	16.99	17.58	17.92	18.21	18.11	17.97	17.81	16.68	16.28	15.79	16.47	17.06
7	17.01	17.62	17.94	18.19	18.12	17.98	17.81	16.68	16.21	15.76	16.53	17.02
8	17.04	17.49	17.96	17.88	18.13	17.98	17.80	16.55	16.22	15.84	16.39	17.14
9	17.05	17.47	18.00	17.79	18.16	17.98	17.74	16.35	16.40	15.93	16.33	17.20
10	17.08	17.48	18.00	17.77	18.18	17.93	17.45	16.28	16.45	15.97	16.34	17.23
11	16.96	17.61	18.00	17.79	18.18	17.95	17.40	16.24	16.49	15.98	16.53	17.25
12	16.96	17.63	18.02	17.81	18.20	17.93	17.41	16.30	16.33	15.99	16.56	17.28
13	16.97	17.67	17.92	17.82	18.21	17.91	17.46	16.31	16.25	16.04	16.62	17.29
14	17.08	17.70	17.90	17.83	18.22	17.92	17.45	16.33	16.23	16.25	16.64	17.31
15	17.12	17.70	17.90	17.85	18.07	17.79	17.44	16.32	16.20	16.30	16.69	17.36
16	17.15	17.73	18.06	17.87	18.13	17.86	17.43	16.31	16.09	16.32	16.73	17.38
17	17.20	17.74	18.11	17.88	18.15	17.84	17.19	16.34	16.05	16.35	16.77	17.44
18	17.22	17.75	18.17	17.80	18.10	17.76	17.07	16.35	16.05	16.34	16.82	17.45
19	17.26	17.78	18.15	17.88	18.07	17.86	16.99	16.33	15.91	16.37	16.84	17.31
20	17.28	17.79	18.13	17.88	18.02	17.88	16.93	16.34	15.86	16.25	16.87	17.28
21	17.33	17.81	18.15	17.87	17.99	17.89	16.91	16.34	15.86	16.27	16.90	17.32
22	17.39	17.84	18.17	17.87	17.97	17.85	16.87	16.34	16.02	16.20	16.92	17.49
23	17.43	17.84	18.18	17.88	17.96	17.83	16.87	16.20	16.05	16.14	16.80	17.57
24	17.44	17.85	18.19	17.90	18.00	17.86	16.86	16.13	16.08	16.18	16.90	17.63
25	17.27	17.87	18.01	17.92	18.06	17.89	16.70	16.06	16.11	16.06	16.95	17.67
26	17.26	17.89	17.93	17.94	18.05	17.91	16.63	16.17	16.11	16.01	16.96	17.72
27	17.24	17.77	17.90	17.98	17.98	17.93	16.56	16.22	16.12	16.01	16.98	17.73
28	17.37	17.71	17.91	18.00	17.96	17.94	16.71	16.25	16.13	16.18	17.00	17.77
29	17.40	17.64	17.93	18.04	---	17.77	16.68	16.27	16.16	16.27	17.02	17.77
30	17.46	17.63	17.94	18.06	---	17.60	16.69	16.28	16.16	16.32	17.06	17.79
31	17.46	---	17.96	18.07	---	17.56	---	16.29	---	16.34	17.08	---
MAX	17.46	17.89	18.19	18.21	18.22	17.98	17.81	16.68	16.49	16.37	17.08	17.79
CAL YR 1997	LOW	18.19										
WTR YR 1998	LOW	18.22										



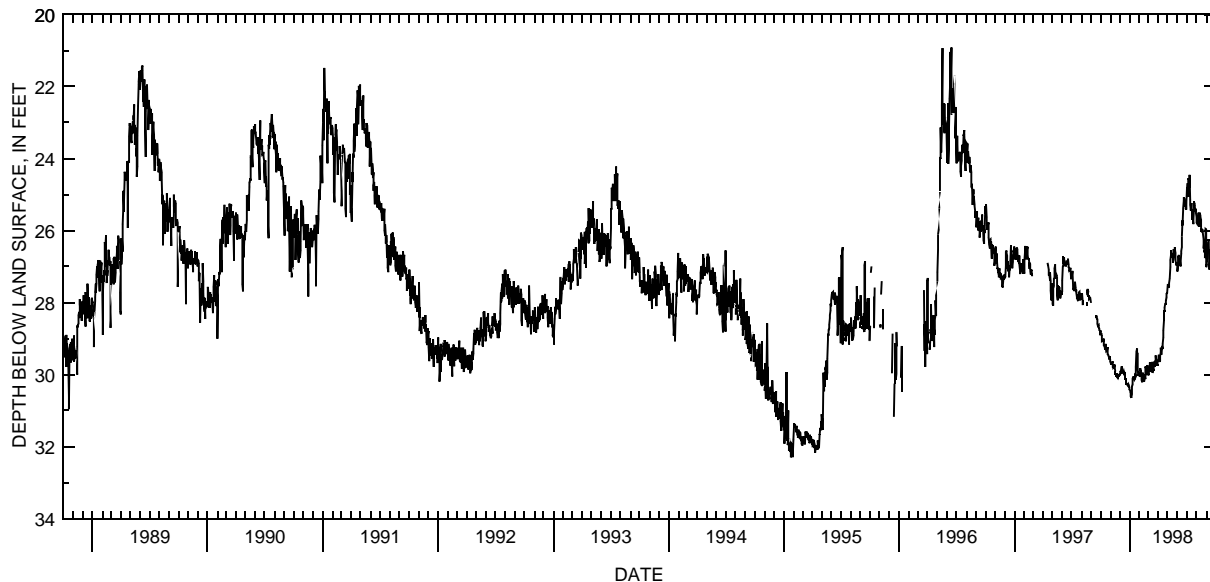
## GROUND-WATER RECORDS Clark County

### 395639084012200. LOCAL NUMBER, CL-9

LOCATION.--Lat 39°56'39", long 84°01'22", Hydrologic Unit 05080001, at north edge of New Carlisle.  
 Owner: New Carlisle Water Department.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in., depth 113 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land-surface datum is 900 ft above sea level, from topographic map.  
 Measuring point: Top of platform 2.50 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--September 1974 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 32.29 ft below land-surface datum, Jan. 23, 28, 1995;  
 minimum daily low, 18.20 ft below land-surface datum, July 4, 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	28.87	29.67	29.96	30.42	30.02	30.02	29.59	27.54	27.13	25.06	25.76	26.92
2	28.85	29.68	29.90	30.49	30.06	29.84	29.44	27.55	26.96	24.69	25.81	26.85
3	28.92	29.72	29.95	30.54	29.82	29.91	29.49	27.59	26.75	24.99	25.71	26.77
4	29.01	29.67	29.92	30.58	29.93	29.82	29.65	27.55	26.73	25.06	25.66	26.66
5	29.07	29.67	29.76	30.64	29.89	29.67	29.62	27.55	26.67	24.55	25.62	26.31
6	29.05	29.66	29.88	30.63	30.03	29.80	29.62	27.46	26.91	24.58	25.61	26.27
7	29.05	29.62	29.96	30.54	30.15	29.93	29.48	27.33	26.92	24.65	25.50	26.27
8	29.00	29.79	29.88	30.32	30.19	29.93	29.38	27.02	26.96	24.81	25.90	26.38
9	29.09	29.81	29.93	30.26	30.21	29.83	29.26	26.82	26.82	24.46	25.67	27.09
10	29.01	29.82	29.92	30.10	30.10	29.80	29.44	26.68	26.99	25.15	25.53	27.04
11	29.19	29.81	29.95	30.06	29.95	29.67	29.42	26.65	26.88	25.28	25.51	26.78
12	29.20	29.81	29.90	30.10	30.13	29.68	29.28	26.55	26.64	25.44	25.59	26.92
13	29.31	29.71	29.97	30.08	29.98	29.64	29.20	26.68	26.56	25.42	25.62	26.52
14	29.23	29.80	30.01	30.06	30.07	29.94	29.28	26.64	26.47	25.23	25.69	26.91
15	29.18	29.91	29.93	30.12	30.20	29.86	29.15	26.66	26.16	25.26	26.04	27.27
16	29.15	29.98	29.98	30.13	30.08	29.86	28.97	26.72	25.71	25.58	25.98	27.35
17	29.21	29.99	30.10	30.09	30.01	29.73	28.77	26.75	25.86	25.41	25.95	27.15
18	29.26	30.05	30.11	30.00	30.12	29.65	28.50	26.89	25.42	25.66	26.03	27.08
19	29.36	30.02	30.10	30.01	29.76	29.70	28.23	26.74	25.38	25.67	25.97	27.35
20	29.34	30.02	30.25	29.79	29.82	29.66	28.23	26.51	25.17	25.83	26.11	27.37
21	29.23	29.97	30.24	29.36	29.99	29.65	28.13	26.59	25.08	25.68	26.11	27.17
22	29.38	30.07	30.28	29.36	29.90	29.78	28.03	26.56	25.11	25.37	26.24	27.30
23	29.43	30.09	30.25	29.27	29.94	29.60	28.03	26.47	25.13	25.18	26.49	27.39
24	29.45	30.08	30.29	29.38	29.91	29.47	28.02	26.50	25.23	25.31	26.24	27.44
25	29.45	30.00	30.25	29.42	29.74	29.64	27.94	26.63	25.32	25.29	26.60	27.39
26	29.50	30.03	30.25	29.88	29.84	29.57	27.85	26.81	25.29	25.47	26.53	27.60
27	29.57	30.01	30.29	30.04	29.90	29.59	27.76	26.93	25.37	25.41	26.77	27.64
28	29.49	30.04	30.29	30.04	29.93	29.72	27.74	26.96	25.42	25.45	26.35	27.56
29	29.56	30.01	30.29	29.96	---	29.71	27.73	26.88	25.23	25.40	25.95	27.53
30	29.57	30.00	30.35	29.94	---	29.60	27.49	26.98	24.80	25.52	25.97	27.64
31	29.63	---	30.40	29.96	---	29.65	---	26.90	---	25.63	27.01	---
MAX	29.63	30.09	30.40	30.64	30.21	30.02	29.65	27.59	27.13	25.83	27.01	27.64
CAL YR 1997	LOW	30.40										
WTR YR 1998	LOW	30.64										



**GROUND-WATER RECORDS**  
**Clark County**

**395840083495200. LOCAL NUMBER, CL-7**

LOCATION.--Lat 39°58'40", long 83°49'52", Hydrologic Unit 05080001. Eagle City Road northwest of Springfield.

Owner: State of Ohio.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water table well, diameter 6 in., depth 50 ft, cased.

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

DATUM.--Elevation of land-surface datum is 928.02 ft.

Measuring point: Floor of instrument shelter 2.00 ft above land-surface datum.

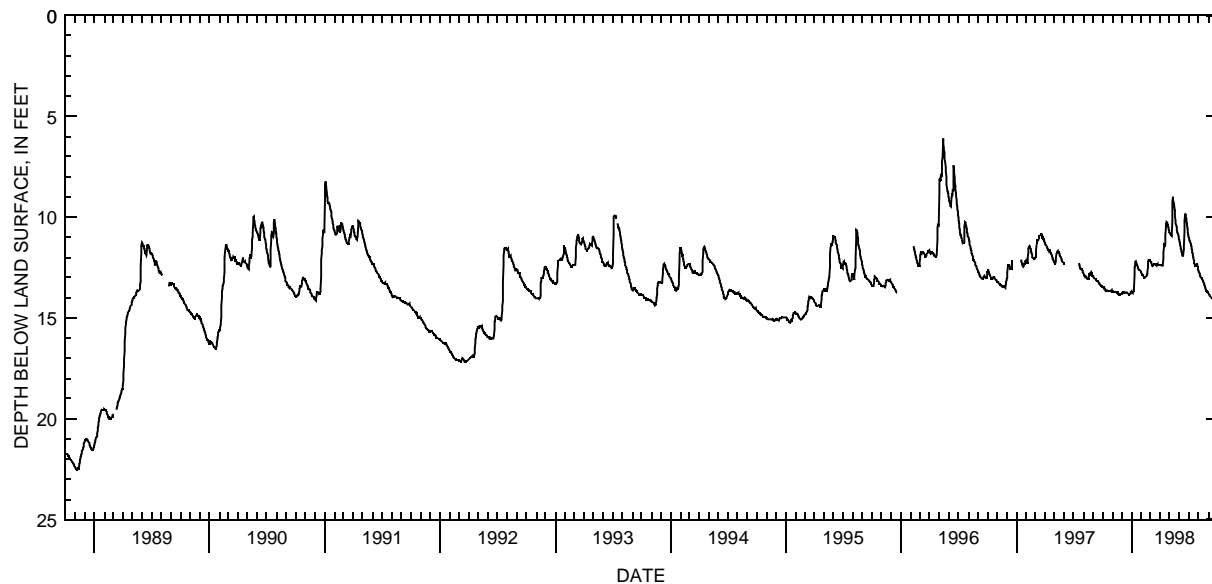
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--September 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 30.17 ft below land-surface datum, Feb. 18, 19, 1961;  
minimum daily low, 6.10 ft below land-surface datum, May 12, 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	13.46	13.68	13.73	13.73	12.76	12.18	12.36	10.77	11.18	11.07	12.71	13.78
2	13.46	13.66	13.74	13.74	12.84	12.19	12.36	10.82	11.29	11.14	12.74	13.79
3	13.48	13.68	13.74	13.74	12.86	12.26	12.35	10.84	11.36	11.19	12.79	13.82
4	13.51	13.69	13.73	13.73	12.87	12.31	12.38	10.86	11.44	11.21	12.85	13.88
5	13.51	13.71	13.73	13.73	12.89	12.34	12.38	10.89	11.53	11.24	12.88	13.91
6	13.50	13.71	13.74	13.71	12.93	12.39	12.38	10.90	11.59	11.31	12.92	13.92
7	13.54	13.71	13.75	13.70	12.95	12.41	12.38	10.92	11.69	11.38	12.94	13.95
8	13.58	13.71	13.76	13.51	12.96	12.41	12.39	10.16	11.75	11.45	12.99	13.95
9	13.62	13.71	13.76	12.87	12.98	12.41	12.37	9.20	11.80	11.51	13.00	13.96
10	13.65	13.71	13.76	12.50	12.98	12.40	12.03	8.98	11.89	11.64	13.03	13.96
11	13.65	13.73	13.76	12.31	12.98	12.36	11.74	8.99	11.94	11.74	13.05	13.97
12	13.63	13.73	13.75	12.22	13.00	12.31	11.47	9.13	11.86	11.79	13.08	14.00
13	13.63	13.73	13.71	12.21	13.00	12.31	11.35	9.25	11.76	11.89	13.09	14.03
14	13.64	13.73	13.71	12.21	12.97	12.31	11.38	9.39	11.60	12.00	13.13	14.04
15	13.66	13.73	13.71	12.26	12.96	12.31	11.40	9.49	11.45	12.07	13.17	14.10
16	13.66	13.75	13.71	12.29	12.93	12.32	11.41	9.67	10.67	12.12	13.22	14.15
17	13.66	13.75	13.72	12.36	12.88	12.36	10.90	9.80	10.15	12.23	13.26	14.19
18	13.61	13.77	13.75	12.38	12.83	12.36	10.52	9.98	9.89	12.29	13.30	14.23
19	13.61	13.77	13.78	12.42	12.71	12.37	10.32	10.17	9.82	12.33	13.37	14.27
20	13.62	13.77	13.79	12.49	12.49	12.36	10.26	10.28	9.89	12.35	13.41	14.29
21	13.64	13.79	13.83	12.55	12.31	12.35	10.23	10.39	9.97	12.39	13.45	14.30
22	13.65	13.84	13.83	12.58	12.20	12.35	10.26	10.49	10.07	12.39	13.51	14.30
23	13.65	13.84	13.84	12.60	12.10	12.33	10.28	10.59	10.18	12.39	13.57	14.29
24	13.65	13.82	13.84	12.60	12.09	12.36	10.35	10.65	10.31	12.34	13.61	14.27
25	13.65	13.81	13.82	12.60	12.09	12.36	10.43	10.72	10.42	12.33	13.65	14.25
26	13.65	13.81	13.80	12.60	12.09	12.35	10.49	10.76	10.59	12.33	13.66	14.24
27	13.62	13.82	13.75	12.64	12.16	12.35	10.57	10.84	10.73	12.39	13.68	14.23
28	13.64	13.82	13.73	12.65	12.17	12.36	10.64	10.94	10.85	12.46	13.69	14.20
29	13.66	13.82	13.71	12.68	---	12.36	10.73	11.00	10.94	12.52	13.71	14.21
30	13.67	13.77	13.69	12.72	---	12.35	10.75	11.07	10.98	12.59	13.73	14.21
31	13.68	---	13.73	12.75	---	12.36	---	11.11	---	12.65	13.76	---
MAX	13.68	13.84	13.84	13.74	13.00	12.41	12.39	11.11	11.94	12.65	13.76	14.30
CAL YR 1997	LOW	13.84										
WTR YR 1998	LOW	14.30										



**GROUND-WATER RECORDS**  
**Coshocton County**

**401256081525100. LOCAL NUMBER, CS-3**

LOCATION.--Lat 40°12'56", long 81°52'51", Hydrologic Unit 05040004, 1.5 mi north of Conesville.

Owner: Universal Cyclops Corp.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled test water table well, diameter 8 in., depth 110 ft, cased.

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

DATUM.--Elevation of land-surface datum is 745 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 2.80 ft above land-surface datum.

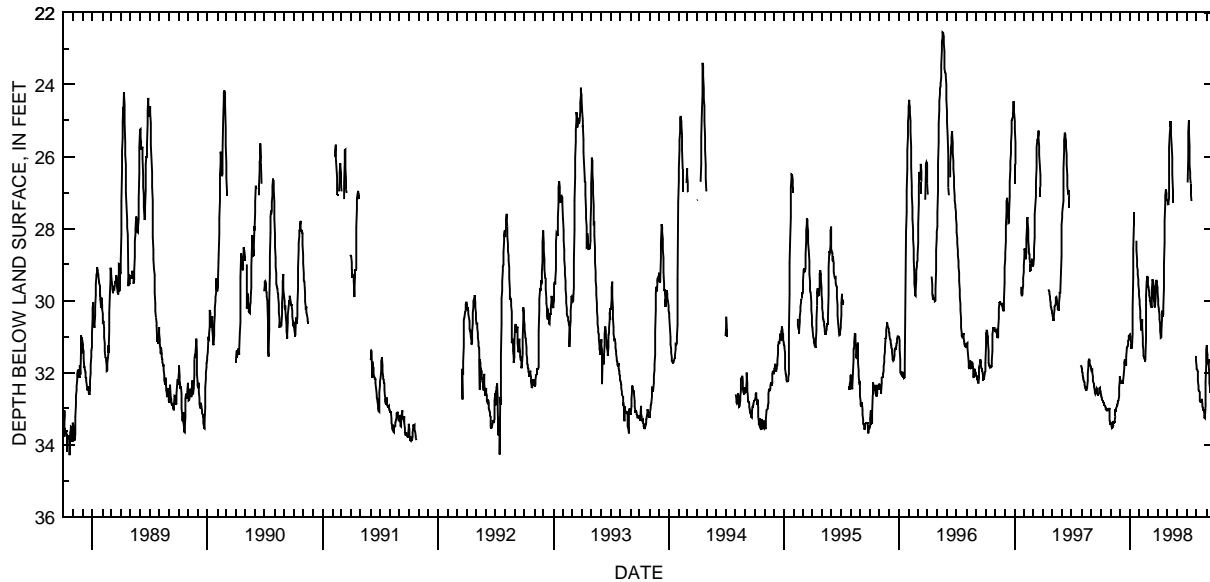
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--April 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 36.98 ft below land-surface datum, Oct. 16, 1973;  
 minimum daily low, 21.40 ft below land-surface datum, July 10, 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	32.62	33.40	32.22	30.95	30.10	29.64	30.11	27.30	---	---	31.90	31.24
2	32.66	33.39	32.27	31.00	30.28	29.77	30.22	27.34	---	---	31.91	31.34
3	32.69	33.41	32.29	31.03	30.47	29.84	30.25	27.28	---	26.72	31.97	31.50
4	32.72	33.48	32.29	31.10	30.64	29.92	30.39	27.15	---	26.00	32.11	31.63
5	32.74	33.53	32.28	31.22	30.78	29.95	30.52	26.19	---	25.33	32.23	31.76
6	32.77	33.54	32.30	31.30	30.83	29.99	30.65	25.75	---	25.00	32.37	31.75
7	32.78	33.52	32.22	31.31	30.72	30.02	30.84	25.41	---	25.28	32.46	31.63
8	32.81	33.50	32.25	31.31	30.52	30.08	31.00	25.16	---	25.72	32.52	31.81
9	32.84	33.45	32.30	30.94	30.72	30.16	31.04	25.03	---	26.24	32.53	32.08
10	32.87	33.39	32.30	30.22	31.04	30.16	31.02	25.03	---	26.43	32.63	32.29
11	32.88	33.38	32.25	29.35	31.24	29.99	30.84	25.15	---	26.60	32.77	32.45
12	32.89	33.37	32.09	28.55	31.40	29.70	30.51	25.38	---	26.75	32.81	32.54
13	32.90	33.37	31.87	27.92	31.53	29.46	30.27	25.67	---	27.03	32.80	32.53
14	32.93	33.34	31.71	27.56	31.55	29.40	30.35	26.03	---	27.23	32.76	32.46
15	32.96	33.20	31.62	---	31.59	29.46	30.40	26.48	---	---	32.80	32.66
16	33.00	33.04	31.63	---	31.63	29.60	30.40	26.91	---	---	32.80	32.83
17	33.02	33.04	31.71	---	31.67	29.75	30.18	27.29	---	---	32.73	32.94
18	33.03	33.00	31.75	---	31.67	29.93	29.66	---	---	---	32.85	33.02
19	33.02	32.94	31.80	---	31.55	30.02	29.00	---	---	---	32.93	33.08
20	32.99	32.89	31.55	---	31.06	30.14	28.39	---	---	---	32.98	33.13
21	32.99	32.89	31.35	28.34	30.42	30.19	27.79	---	---	---	33.02	33.11
22	33.01	32.89	31.31	28.60	29.87	30.16	27.32	---	---	---	33.04	33.15
23	33.03	32.84	31.31	28.85	29.48	29.93	27.10	---	---	---	33.03	33.24
24	33.04	32.80	31.29	29.04	29.31	29.64	26.91	---	---	---	33.09	33.28
25	33.04	32.79	31.21	29.16	29.33	29.46	26.91	---	---	---	33.24	33.29
26	33.03	32.77	31.11	29.28	29.36	29.43	27.02	---	---	---	33.27	33.29
27	32.98	32.65	31.08	29.42	29.43	29.48	27.17	---	---	---	33.26	33.28
28	33.11	32.40	31.02	29.57	29.54	29.52	27.21	---	---	---	32.93	33.07
29	33.32	32.21	30.98	29.72	---	29.64	27.20	---	---	31.54	32.25	33.21
30	33.37	32.10	30.97	29.87	---	29.77	27.23	---	---	31.66	31.80	33.30
31	33.40	---	30.98	29.99	---	29.95	---	---	---	31.83	31.40	---
MAX	33.40	33.54	32.30	31.31	31.67	30.19	31.04	27.34	---	31.83	33.27	33.30
CAL YR 1997	LOW	33.54										
WTR YR 1998	LOW	33.54										





## GROUND-WATER RECORDS

### Coshocton County

#### 401735081523800. LOCAL NUMBER, CS-2

LOCATION.--Lat 40°17'35", long 81°52'38", Hydrologic Unit 05040003, 1.7 mi northwest of courthouse in Coshocton.

Owner: City of Coshocton.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled test well, diameter 6 in., depth 40 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 8.50 ft above land-surface datum.

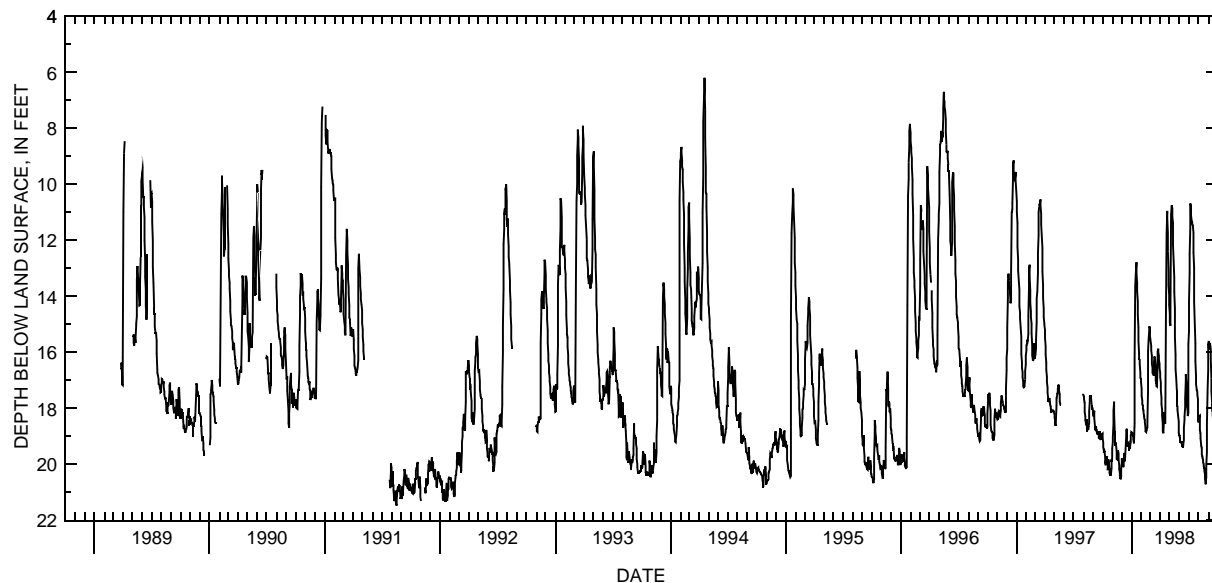
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--May 1949 to September 1982. Reactivated March 24, 1989.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 21.47 ft below land-surface datum, Aug. 15, 1991;  
minimum measured low, 0.43 ft below land-surface datum, Feb. 21, 1951.

#### 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	19.24	19.21	19.88	18.86	17.56	15.61	16.89	14.93	18.97	14.22	18.51	15.59
2	19.40	19.04	19.98	18.89	17.73	15.79	17.08	15.06	19.06	13.18	18.29	15.83
3	19.54	18.57	20.05	18.92	17.83	15.94	17.35	14.41	19.21	12.49	18.26	15.84
4	19.59	18.10	20.10	18.96	17.91	16.12	17.63	12.15	19.21	11.57	18.61	15.74
5	19.57	17.77	20.06	19.00	18.00	16.27	17.86	11.68	19.21	10.69	18.78	15.68
6	19.54	18.19	19.83	19.11	18.09	16.43	18.07	11.10	19.20	10.75	18.88	15.69
7	19.76	18.85	19.61	19.25	18.17	16.57	18.28	10.76	19.23	11.08	19.08	15.89
8	19.95	19.30	19.73	19.25	18.26	16.71	18.57	10.88	19.28	11.27	19.32	16.21
9	20.04	19.30	19.86	18.54	18.34	16.78	18.79	11.16	19.34	11.31	19.42	16.95
10	20.03	19.21	19.89	16.24	18.42	16.78	18.90	11.40	19.38	11.36	19.54	17.41
11	19.89	19.31	19.84	14.60	18.50	16.62	18.90	11.62	19.38	11.42	19.65	17.76
12	19.78	19.31	19.43	13.61	18.70	16.38	18.34	12.16	19.37	11.47	19.70	18.02
13	19.72	19.55	19.00	13.15	18.83	16.22	18.13	12.74	19.31	11.48	19.76	18.12
14	19.90	19.80	18.77	13.14	18.84	16.15	18.32	13.33	19.14	11.74	19.83	18.25
15	20.05	19.83	18.72	12.78	18.82	16.25	18.51	13.87	18.71	12.45	19.91	18.58
16	20.16	19.83	18.95	13.21	18.77	16.49	18.56	14.44	18.40	12.98	19.98	18.93
17	20.21	19.83	19.18	13.52	18.73	16.76	18.33	14.97	18.29	13.59	20.06	19.22
18	20.03	19.50	19.32	13.84	18.70	16.99	16.71	15.47	17.97	14.21	20.14	19.32
19	19.82	19.62	19.32	14.18	18.47	17.12	14.61	16.10	17.65	15.06	20.24	19.38
20	20.01	19.85	19.26	14.66	17.40	17.19	12.95	16.61	17.02	15.70	20.38	19.45
21	20.17	20.03	19.23	15.11	16.47	17.23	11.78	16.92	16.78	16.33	20.54	19.60
22	20.29	20.17	19.38	15.60	15.97	17.19	10.95	17.35	17.10	16.86	20.68	19.91
23	20.33	20.29	19.47	16.05	15.50	16.44	11.16	17.77	17.42	17.03	20.72	20.05
24	20.14	20.41	19.47	16.24	15.18	15.96	11.75	17.91	17.71	17.15	20.48	20.05
25	20.38	20.50	19.43	16.27	15.07	15.88	12.40	17.91	17.94	17.30	20.03	20.03
26	20.38	20.53	19.34	16.41	15.15	15.99	13.08	18.06	18.14	17.41	19.57	20.01
27	20.14	20.43	19.20	16.75	15.26	16.13	13.60	18.28	18.27	17.53	18.54	20.01
28	19.82	20.17	19.05	16.91	15.42	16.26	13.96	18.49	18.15	17.69	17.45	19.89
29	19.91	19.97	18.95	16.94	---	16.41	14.31	18.68	15.71	18.01	17.38	20.11
30	19.79	19.77	18.88	17.06	---	16.56	14.63	18.86	15.25	18.38	16.66	20.18
31	19.45	---	18.85	17.31	---	16.74	---	18.98	---	18.51	15.72	---
MAX	20.38	20.53	20.10	19.25	18.84	17.23	18.90	18.98	19.38	18.51	20.72	20.18
CAL YR 1997	LOW	20.53										
WTR YR 1998	LOW	20.72										



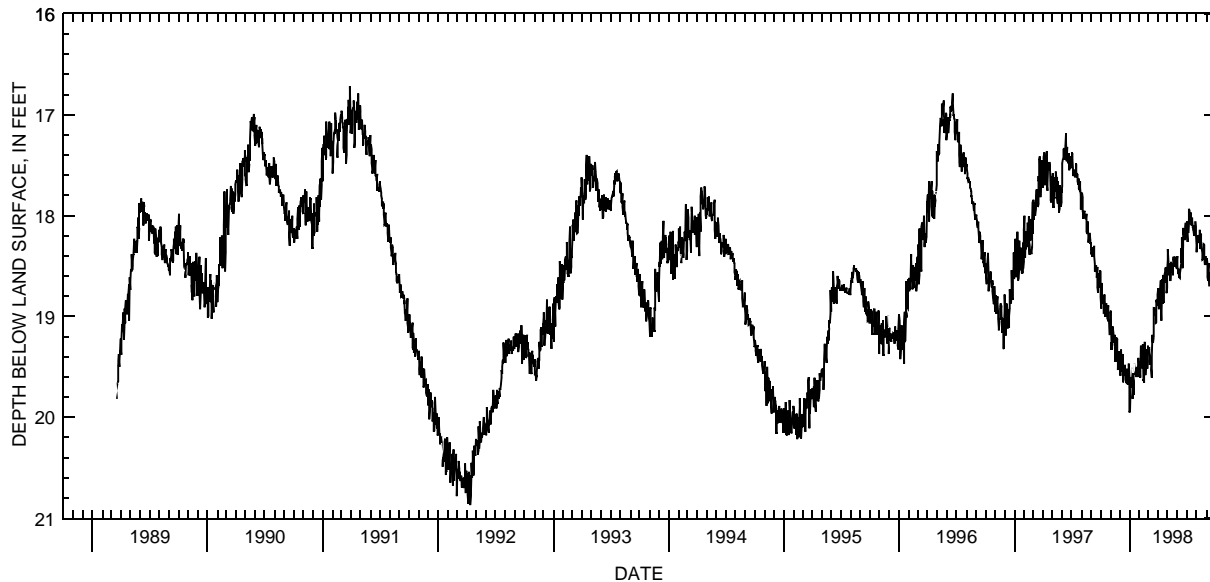
**GROUND-WATER RECORDS**  
**Darke County**

**400514084345700. LOCAL NUMBER, D-2**

LOCATION.--Lat 40°05'14", long 84°34'57", Hydrologic Unit 05080001, State Route 571, 3 mi east of Greenville.  
 Owner: Greenville Water Department.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled unused water table well, diameter 6 in., depth 70 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land-surface datum is 1038 ft above sea level, from topographic map.  
 Measuring point: Floor of instrument shelter 4.00 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--August 1977 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 20.87 ft below land-surface datum, Apr. 12, 1992;  
 minimum daily low, 16.72 ft below land-surface datum, Feb. 13, Mar. 27, 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	18.92	18.94	19.59	19.93	19.45	19.32	18.82	18.33	18.51	18.17	18.36	18.45
2	18.82	19.02	19.53	19.68	19.61	19.30	18.93	18.45	18.54	18.26	18.24	18.42
3	18.67	19.26	19.33	19.65	19.59	19.33	18.93	18.49	18.58	18.15	18.20	18.48
4	18.80	19.32	19.34	19.70	19.29	19.41	18.89	18.53	18.53	18.06	18.21	18.61
5	18.85	19.32	19.46	19.60	19.43	19.48	18.89	18.59	18.58	18.17	18.23	18.65
6	18.87	19.18	19.45	19.64	19.51	19.40	18.80	18.57	18.62	18.04	18.19	18.53
7	18.83	19.12	19.54	19.51	19.49	19.33	18.76	18.47	18.61	17.93	18.24	18.47
8	18.88	19.10	19.52	19.41	19.50	19.12	18.64	18.60	18.62	17.95	18.27	18.63
9	18.84	19.16	19.37	19.80	19.50	19.53	18.75	18.65	18.57	17.99	18.23	18.70
10	18.97	19.22	19.53	19.82	19.51	19.61	19.04	18.50	18.53	18.02	18.14	18.67
11	18.88	19.26	19.65	19.71	19.28	19.55	18.95	18.46	18.52	18.05	18.26	18.61
12	18.78	19.25	19.62	19.56	19.64	19.39	18.82	18.49	18.47	17.97	18.33	18.56
13	18.91	19.18	19.49	19.78	19.62	19.18	18.63	18.52	18.33	18.03	18.27	18.59
14	18.99	19.28	19.58	19.75	19.66	19.24	18.74	18.56	18.33	18.10	18.18	18.62
15	18.99	19.31	19.55	19.38	19.59	19.26	18.71	18.51	18.22	18.10	18.27	18.71
16	18.95	19.44	19.48	19.47	19.37	19.21	18.59	18.47	18.32	18.03	18.33	18.72
17	18.88	19.44	19.54	19.56	19.25	19.07	18.86	18.59	18.52	18.02	18.33	18.68
18	18.88	19.23	19.54	19.58	19.57	18.92	18.86	18.51	18.30	18.04	18.37	18.65
19	18.87	19.21	19.57	19.54	19.58	18.93	18.60	18.41	18.12	18.11	18.44	18.63
20	18.99	19.25	19.66	19.60	19.48	18.91	18.67	18.43	18.19	18.14	18.43	18.68
21	18.97	19.22	19.64	19.52	19.53	18.98	18.58	18.45	18.17	18.14	18.41	18.71
22	19.03	19.35	19.52	19.51	19.50	18.98	18.55	18.47	18.24	18.20	18.34	18.82
23	18.95	19.38	19.67	19.50	19.33	18.98	18.53	18.42	18.16	18.10	18.28	18.89
24	18.89	19.53	19.59	19.54	19.44	19.07	18.51	18.41	18.24	18.20	18.29	18.76
25	19.05	19.35	19.68	19.60	19.52	19.06	18.57	18.48	18.14	18.18	18.42	18.76
26	19.02	19.44	19.68	19.53	19.29	18.83	18.65	18.50	18.07	18.15	18.49	18.81
27	19.18	19.48	19.59	19.47	19.36	18.86	18.77	18.50	18.11	18.06	18.47	18.77
28	19.18	19.35	19.61	19.41	19.36	18.86	18.72	18.52	18.16	18.11	18.40	18.88
29	19.09	19.35	19.47	19.51	---	18.89	18.54	18.45	18.20	18.13	18.44	18.83
30	19.09	19.39	19.71	19.53	---	18.78	18.44	18.46	18.06	18.19	18.47	18.84
31	18.96	---	19.95	19.56	---	18.72	---	18.40	---	18.30	18.49	---
MAX	19.18	19.53	19.95	19.93	19.66	19.61	19.04	18.65	18.62	18.30	18.49	18.89
CAL YR 1997	LOW	19.95										
WTR YR 1998	LOW	19.95										



**GROUND-WATER RECORDS**  
**Delaware County**

**402126083040400. LOCAL NUMBER, DL-3**

LOCATION.--Lat 40°21'26", long 83°04'04", Hydrologic Unit 05060001, east bank of Olentangy River at toe of Delaware dam.

Owner: U.S. Army Corps of Engineers.

AQUIFER.--Limestone of Devonian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in., depth 135 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 900 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 2.60 ft above land-surface datum.

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

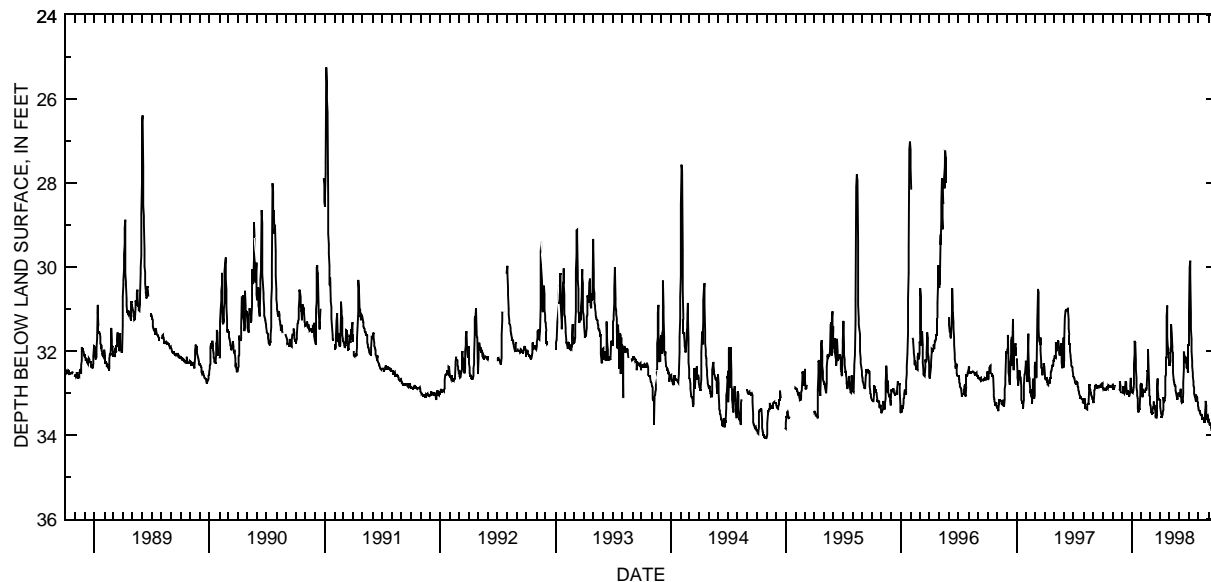
PERIOD OF RECORD.--October 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 37.04 ft below land-surface datum, Nov. 1, 1948, Dec. 2, 3, 1948; minimum daily low, 20.43 ft below land-surface datum, Jan. 27, 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	32.90	32.79	32.98	32.98	32.77	33.29	33.33	32.28	33.07	31.10	33.40	33.66
2	32.90	32.78	33.00	32.99	32.99	33.45	33.44	32.28	33.08	30.15	33.41	33.67
3	32.87	32.85	32.95	32.96	33.10	33.47	33.45	31.95	33.10	30.00	33.42	33.70
4	32.89	32.90	32.84	32.97	33.05	33.43	33.53	31.89	32.90	29.85	33.45	33.73
5	32.90	32.90	32.92	32.95	32.90	33.47	33.55	31.52	33.04	30.22	33.46	33.77
6	32.91	32.86	32.95	32.95	32.95	33.47	33.55	31.35	33.13	31.09	33.47	33.75
7	32.92	32.84	33.01	32.79	32.95	33.48	33.54	31.57	33.18	31.48	33.50	33.74
8	32.92	32.82	33.01	32.30	32.96	33.41	33.49	31.89	33.23	31.71	33.52	33.75
9	32.91	---	32.95	32.08	32.97	33.33	33.43	32.00	33.24	32.02	33.53	33.81
10	32.93	---	32.91	31.75	32.98	33.32	33.40	32.05	33.22	32.24	33.51	33.85
11	32.90	---	32.86	31.80	32.96	33.20	33.10	32.25	33.24	32.37	33.53	33.84
12	32.87	---	32.71	31.78	32.92	33.37	33.24	32.52	33.00	32.53	33.55	33.83
13	32.84	---	32.76	32.21	32.91	33.34	33.20	32.67	32.75	32.61	33.60	33.81
14	32.88	---	32.85	32.43	32.94	33.27	33.17	32.74	32.44	32.73	33.59	33.88
15	32.89	---	32.95	32.66	32.93	33.39	33.18	32.78	32.01	32.81	33.57	33.93
16	32.88	---	32.95	32.86	32.88	33.55	33.05	32.80	32.12	32.86	33.61	33.95
17	32.86	---	33.00	32.97	32.81	33.58	32.60	32.85	32.23	32.93	33.61	33.95
18	32.83	---	33.01	33.05	32.49	33.57	32.56	32.79	32.24	33.00	33.65	33.93
19	32.81	---	33.02	33.13	32.45	33.58	32.14	32.84	32.12	33.06	33.67	33.88
20	32.82	---	32.96	33.36	32.46	33.60	32.16	32.93	32.16	33.10	33.67	33.94
21	32.83	---	32.95	33.43	31.95	33.52	31.17	33.01	32.15	33.13	33.50	33.96
22	32.85	32.93	32.95	33.46	31.98	32.93	30.92	33.08	32.32	33.20	33.28	33.95
23	32.84	32.90	33.05	33.35	32.55	32.65	31.68	33.11	32.38	33.03	33.18	33.96
24	32.83	32.71	33.05	33.36	32.93	32.87	31.91	33.12	32.40	33.03	33.30	33.97
25	32.80	32.83	32.97	33.40	33.05	33.07	32.04	33.12	32.37	33.09	33.54	33.99
26	32.83	32.94	32.99	33.31	33.08	33.11	32.04	33.15	32.38	33.10	33.65	34.00
27	32.84	32.99	32.69	33.00	33.19	33.15	32.13	33.01	32.47	33.18	33.56	33.95
28	32.83	32.97	32.63	32.80	33.25	33.13	32.27	33.00	32.50	33.21	33.54	34.01
29	32.85	---	32.84	32.77	---	33.17	32.32	32.99	31.85	33.27	33.61	34.01
30	32.85	---	32.85	32.77	---	33.16	32.32	33.00	31.85	33.30	33.62	34.02
31	32.85	---	32.89	32.79	---	33.16	---	33.04	---	33.35	33.67	---
MAX	32.93	32.99	33.05	33.46	33.25	33.60	33.55	33.15	33.24	33.35	33.67	34.02

CAL YR 1997 LOW 33.37  
WTR YR 1998 LOW 34.02



**GROUND-WATER RECORDS**  
**Fairfield County**

**393450082403600. LOCAL NUMBER, F-7**

LOCATION.--Lat 39°34'50", long 82°40'36", Hydrologic Unit 05030204, southeast of Amanda.

Owner: Pine Grove Springs Water Co. Inc.

AQUIFER.--Sandstone of Mississippian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 5 in., depth 120 ft, cased to 31 ft.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 980 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 0.60 ft above land-surface datum.

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

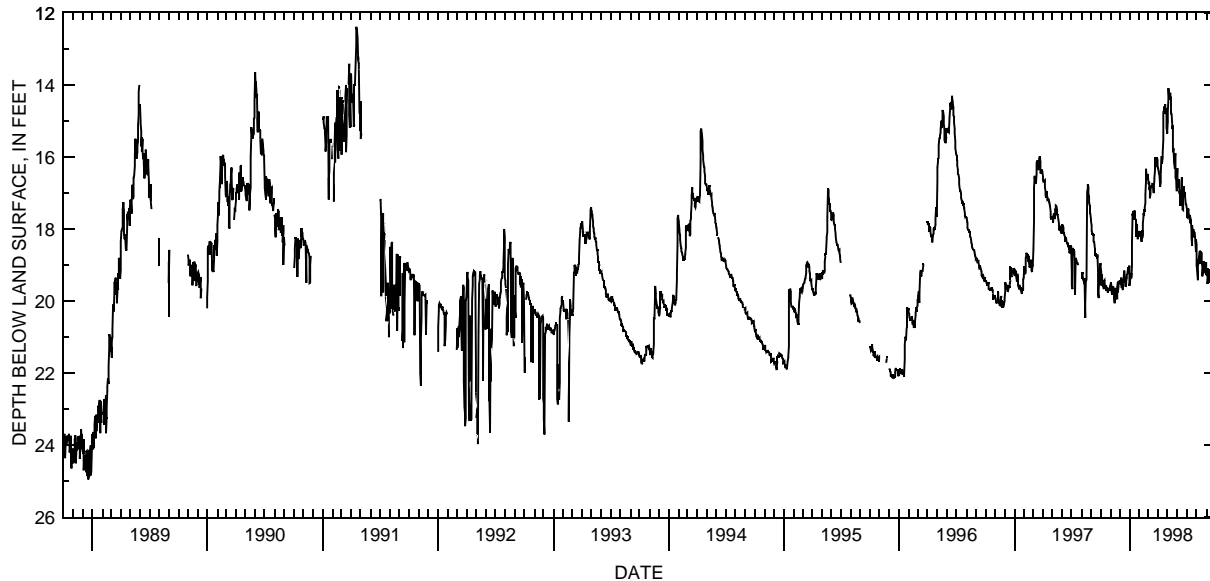
PERIOD OF RECORD.--August 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 25.36 ft below land-surface datum, Sept. 20, 1988;

minimum daily low, 12.38 ft below land-surface datum, Apr. 17, 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	19.20	19.51	19.52	19.46	18.12	16.76	16.33	14.75	16.57	17.67	19.02	19.21
2	19.56	19.48	19.55	19.28	18.20	16.68	16.41	14.37	16.73	17.68	19.17	19.30
3	19.47	19.59	19.51	19.25	18.22	16.88	16.43	14.09	16.84	17.64	19.41	19.09
4	19.30	19.72	19.35	19.26	18.15	16.87	16.48	14.41	16.67	17.48	19.43	19.53
5	19.26	19.80	19.63	19.24	18.08	17.05	16.53	14.39	16.62	17.43	18.99	19.34
6	19.53	19.84	19.56	19.37	18.35	17.14	16.81	14.33	16.67	17.65	18.94	19.25
7	19.60	19.69	19.53	19.03	18.17	17.02	16.83	14.25	16.98	17.65	18.84	19.13
8	19.50	19.61	19.63	18.40	18.04	16.92	16.71	14.22	16.97	17.62	18.76	19.19
9	19.67	19.61	19.69	17.58	18.25	16.80	16.49	14.29	17.33	17.61	18.61	19.49
10	19.53	19.66	19.65	17.62	18.16	16.84	16.00	14.34	17.33	17.85	18.85	19.37
11	19.46	19.82	19.40	17.50	17.84	16.82	15.99	14.81	17.35	17.67	18.91	19.27
12	19.42	19.90	19.36	17.54	17.67	16.82	15.99	14.75	17.27	17.85	18.96	19.49
13	19.63	20.06	19.15	17.76	17.55	16.79	16.19	14.82	17.00	17.74	18.75	19.32
14	19.62	19.99	19.15	17.72	17.62	16.73	16.01	15.12	16.56	18.03	18.74	19.38
15	19.57	19.64	19.35	17.58	17.45	16.80	15.89	15.22	17.09	18.23	18.65	19.38
16	19.64	19.73	19.48	17.49	17.52	17.00	15.53	15.13	17.25	18.47	18.66	19.41
17	19.69	19.96	19.44	17.76	17.40	16.92	14.76	15.29	17.45	18.19	18.93	19.59
18	19.69	19.80	19.60	17.71	17.27	16.85	14.71	15.88	17.47	17.89	19.05	19.65
19	19.60	19.68	19.51	17.74	17.05	16.66	14.61	15.77	17.13	18.10	19.31	19.40
20	19.64	19.89	19.43	18.19	16.65	16.59	14.81	15.82	16.87	18.01	19.08	19.38
21	19.66	19.91	19.35	18.20	16.33	16.36	14.65	16.17	16.81	18.24	19.11	19.90
22	19.77	19.64	19.29	17.90	16.33	16.01	14.53	16.29	17.12	18.11	18.98	19.77
23	19.77	19.47	19.27	17.86	16.59	16.16	14.71	16.33	17.01	18.05	18.89	19.77
24	19.70	19.76	19.24	18.05	16.60	16.27	14.69	16.06	17.01	18.07	19.23	19.59
25	19.71	19.60	19.08	18.11	16.51	16.26	14.79	15.91	17.12	18.09	19.21	19.71
26	19.66	19.44	19.07	18.28	16.62	16.16	14.80	16.56	17.29	18.33	18.93	19.55
27	19.67	19.50	19.25	18.13	16.48	16.10	15.19	16.62	17.30	18.34	19.11	19.75
28	19.71	19.47	19.15	18.21	16.54	16.01	15.32	16.90	17.33	18.63	19.21	19.78
29	19.61	19.48	19.10	18.06	---	16.09	15.36	16.95	17.34	18.48	18.98	19.85
30	19.61	19.42	19.02	18.10	---	16.25	15.02	16.83	17.48	18.29	18.92	19.94
31	19.56	---	19.59	18.12	---	16.31	---	16.32	---	18.42	19.28	---
MAX	19.77	20.06	19.69	19.46	18.35	17.14	16.83	16.95	17.48	18.63	19.43	19.94
CAL YR 1997	LOW	20.48										
WTR YR 1998	LOW	20.06										



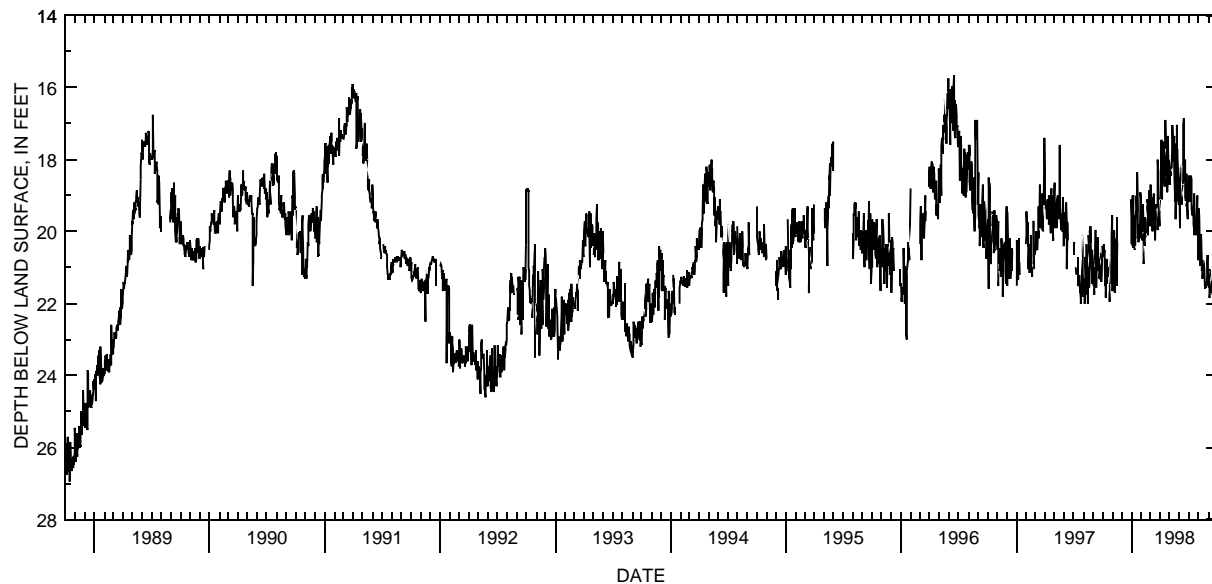
**GROUND-WATER RECORDS**  
**Fairfield County**

**394257082362900. LOCAL NUMBER, F-6**

LOCATION.--Lat 39°42'57", long 82°36'29", Hydrologic Unit 05030204, near Hocking River in well field at Lancaster.  
 Owner: Lancaster Water Department.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled unused water table well, diameter 12 in., depth 108 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 820 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.--June 1978 to current year.  
 EXREMES FOR PERIOD OF RECORD.--Maximum daily low, 27.45 ft below land-surface datum, Aug. 17, 1988;  
 minimum daily low, 15.65 ft below land-surface datum, June 16, 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	20.60	21.60	---	19.70	19.65	18.70	19.10	18.70	19.05	18.45	19.35	21.40
2	20.50	21.35	---	19.00	20.25	19.20	19.05	17.20	19.90	18.85	19.55	21.55
3	20.35	21.60	---	20.40	18.60	19.15	18.40	17.90	18.55	19.15	20.45	21.05
4	20.55	21.05	---	19.50	20.00	19.35	17.45	18.30	18.40	17.70	20.35	21.85
5	20.70	21.25	---	19.00	19.25	19.80	18.10	18.45	18.25	18.55	20.90	20.10
6	20.50	19.95	---	20.45	19.80	19.25	19.10	17.10	18.15	18.55	20.90	21.10
7	21.50	20.75	---	19.85	20.90	20.00	18.75	18.25	18.10	18.45	20.10	19.95
8	21.35	21.70	---	19.55	18.40	19.05	18.35	17.30	19.25	18.55	20.10	21.70
9	21.60	19.65	---	19.65	20.30	19.60	18.35	17.05	19.25	19.35	20.85	21.60
10	21.85	20.25	---	20.50	20.40	18.95	17.50	17.65	17.90	19.55	21.00	21.55
11	21.70	21.05	---	19.45	19.60	19.10	17.50	18.05	18.70	17.10	21.10	20.00
12	20.75	20.35	---	20.40	19.65	19.40	18.25	17.80	18.60	19.15	20.80	21.20
13	20.95	20.20	---	19.45	20.15	19.65	18.35	17.65	17.05	19.50	21.30	21.75
14	21.45	21.50	---	19.60	18.65	19.30	18.75	17.35	16.85	19.60	21.05	21.40
15	21.00	20.30	---	19.00	20.05	20.25	18.00	18.20	18.60	19.80	21.10	21.20
16	21.25	19.60	---	19.15	18.05	19.50	18.40	18.90	18.15	19.95	18.90	21.15
17	21.10	---	---	19.45	19.10	19.40	16.90	17.55	18.15	20.10	20.80	21.10
18	20.80	---	---	18.35	19.25	19.25	17.70	19.15	18.00	18.95	21.05	21.75
19	19.45	---	---	19.25	19.10	19.35	17.30	18.50	19.05	19.80	21.10	22.00
20	20.75	---	---	20.20	19.40	19.25	18.45	19.65	19.15	19.70	21.60	19.45
21	21.95	---	---	19.80	20.10	19.30	17.90	18.45	18.05	19.75	21.55	21.85
22	21.80	---	---	20.30	19.30	17.00	17.60	19.15	19.30	20.10	21.50	21.75
23	21.75	---	---	20.15	19.25	19.95	18.90	17.05	18.40	20.00	21.55	21.70
24	20.00	---	---	19.00	18.85	18.00	17.90	17.70	19.35	19.70	21.45	21.90
25	20.65	---	---	20.05	19.60	18.35	17.35	17.70	19.35	19.60	21.40	21.00
26	20.95	---	---	20.20	19.55	18.70	18.25	17.90	19.65	19.00	21.50	21.20
27	21.40	---	---	19.30	19.10	19.25	18.00	18.35	18.85	19.35	21.45	20.85
28	21.45	---	---	18.90	19.85	19.30	18.05	19.05	19.15	19.60	20.65	21.80
29	20.15	---	---	19.10	---	19.45	18.70	19.25	19.00	20.80	20.85	21.65
30	19.55	---	20.35	20.15	---	19.85	18.35	18.70	18.65	20.50	21.45	21.90
31	21.65	---	19.10	18.40	---	18.50	---	18.65	---	20.70	20.35	---
MAX	21.95	21.70	20.35	20.50	20.90	20.25	19.10	19.65	19.90	20.80	21.60	22.00
CAL YR 1997	LOW	22.00										
WTR YR 1998	LOW	22.00										



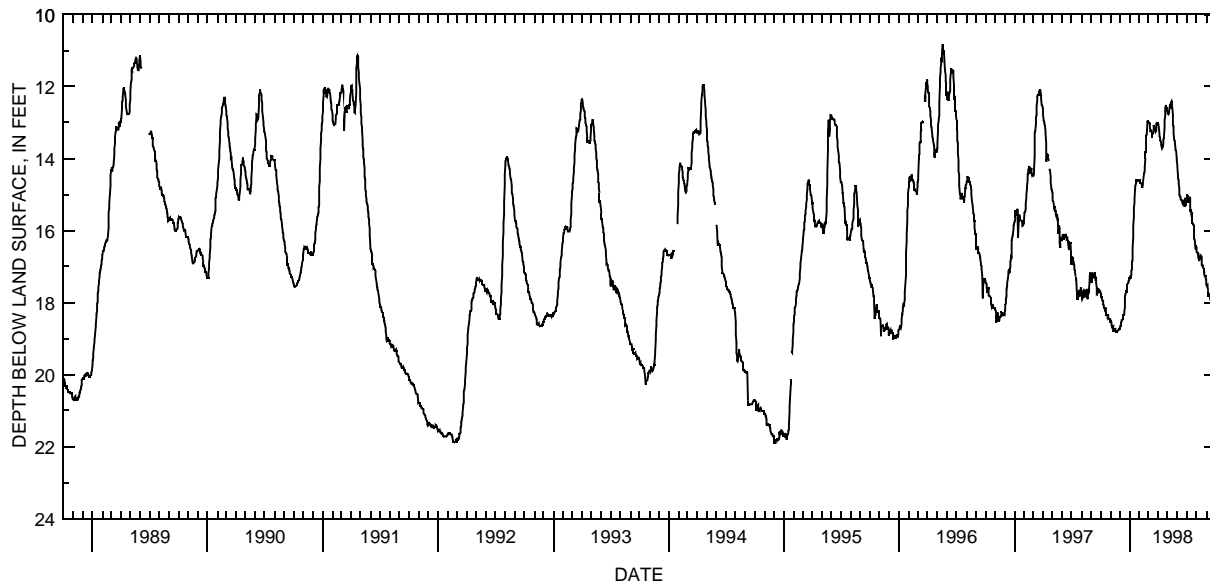
**GROUND-WATER RECORDS**  
**Fairfield County**

**394544082271000. LOCAL NUMBER, F-1**

LOCATION.--Lat 39°45'44", long 82°27'10", Hydrologic Unit 05030204, near the west edge of West Rushville.  
 Owner: State of Ohio.  
 AQUIFER.--Sandstone of Mississippian Age.  
 WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 84 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 980 ft above sea level, from topographic map.  
 Measuring point: Floor of instrument shelter 8.02 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--March 1946 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 21.89 ft below land-surface datum, Nov. 29, 1994;  
 minimum daily low, 7.27 ft below land-surface datum, May 5-6, 1962.

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	17.78	18.47	18.63	17.32	14.65	13.02	13.03	12.74	14.25	15.02	16.58	17.53
2	17.84	18.50	18.63	17.25	14.65	13.02	13.13	12.77	14.49	15.03	16.61	17.53
3	17.84	18.55	18.63	17.34	14.66	13.00	13.14	12.77	14.54	15.12	16.62	17.51
4	17.89	18.59	18.55	17.34	14.66	13.01	13.34	12.71	14.60	15.09	16.60	17.55
5	17.89	18.68	18.49	17.22	14.67	13.14	13.36	12.70	14.70	15.20	16.64	17.67
6	17.93	18.69	18.48	17.10	14.68	13.14	13.41	12.70	14.83	15.20	16.80	17.80
7	17.93	18.69	18.49	17.06	14.70	13.26	13.50	12.55	15.01	15.17	16.82	17.80
8	18.05	18.69	18.49	16.87	14.81	13.26	13.51	12.48	15.03	15.10	16.82	17.74
9	18.07	18.67	18.47	16.80	14.81	13.19	13.51	12.51	15.03	15.05	16.78	17.77
10	18.12	18.77	18.46	16.48	14.72	13.26	13.60	12.59	15.07	15.09	16.78	17.80
11	18.12	18.77	18.34	16.20	14.70	13.30	13.63	12.60	15.13	15.44	16.74	17.83
12	18.15	18.77	18.34	15.88	14.53	13.36	13.70	12.44	15.15	15.43	16.72	17.86
13	18.20	18.77	18.34	15.63	14.52	13.36	13.70	12.40	15.15	15.42	16.67	17.94
14	18.20	18.76	18.26	15.38	14.42	13.30	13.67	12.59	15.14	15.50	16.70	18.07
15	18.13	18.71	18.13	15.22	14.40	13.30	13.62	12.59	15.14	15.57	16.70	18.07
16	18.23	18.78	18.03	15.11	14.33	13.23	13.62	12.78	15.22	15.56	16.73	18.12
17	18.24	18.80	17.83	14.82	14.23	13.13	13.48	13.00	15.24	15.59	16.95	18.21
18	18.27	18.80	17.74	14.77	13.99	13.07	13.46	13.05	15.27	15.79	16.97	18.21
19	18.32	18.80	17.71	14.70	13.81	13.13	13.38	13.10	15.27	15.79	16.94	18.18
20	18.33	18.81	17.68	14.66	13.81	13.14	13.14	13.29	15.15	15.82	17.01	18.50
21	18.33	18.81	17.69	14.66	13.57	13.14	12.92	13.47	15.15	15.84	17.01	18.50
22	18.39	18.79	17.67	14.60	13.37	13.16	12.81	13.50	15.22	15.85	17.04	18.33
23	18.41	18.79	17.50	14.60	13.35	13.24	12.60	13.51	15.22	15.97	17.13	18.25
24	18.40	18.79	17.50	14.60	13.06	13.24	12.52	13.54	15.10	16.21	17.14	18.23
25	18.45	18.78	17.47	14.63	12.98	13.20	12.64	13.73	15.28	16.25	17.20	18.20
26	18.44	18.76	17.44	14.63	12.96	13.03	12.64	13.76	15.28	16.45	17.27	18.36
27	18.43	18.71	17.40	14.61	12.94	13.00	12.57	13.78	15.23	16.48	17.27	18.39
28	18.49	18.72	17.37	14.57	12.96	12.99	12.67	14.00	15.18	16.52	17.27	18.38
29	18.52	18.72	17.38	14.57	---	12.99	12.68	14.02	15.18	16.52	17.29	18.70
30	18.52	18.71	17.35	14.57	---	13.04	12.73	14.05	15.12	16.41	17.35	18.68
31	18.51	---	17.32	14.58	---	13.04	---	14.20	---	16.46	17.48	---
MAX	18.52	18.81	18.63	17.34	14.81	13.36	13.70	14.20	15.28	16.52	17.48	18.70
CAL YR 1997	LOW	18.81										
WTR YR 1998	LOW	18.81										



**GROUND-WATER RECORDS**  
**Fairfield County**

**395053082361900. LOCAL NUMBER, F-5**

LOCATION.--Lat 39°50'53", long 82°36'19", Hydrologic Unit 05060001, Gaylord Paper Co., Baltimore.

Owner: Crown Zellerbach--Gaylord Paper Division.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in., depth 180 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 850 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.

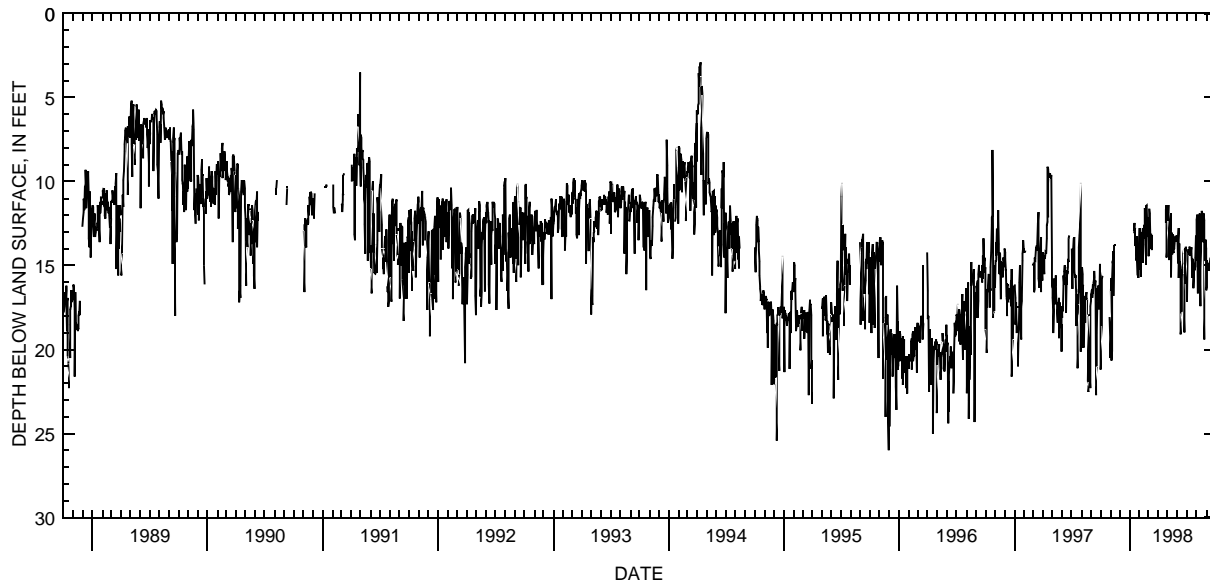
PERIOD OF RECORD.--June 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 34.50 ft below land-surface datum, Sept. 13, 1984;  
minimum daily low, 0.98 ft above land-surface datum, Nov. 7, 1979.

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	16.60	16.38	---	---	15.26	14.45	---	12.36	13.18	17.14	12.27	16.29
2	16.40	16.50	---	---	14.22	13.26	---	11.38	14.85	14.58	11.97	14.69
3	18.60	15.75	---	---	14.41	11.63	---	11.84	13.49	14.21	16.66	14.91
4	16.80	20.65	---	---	15.66	11.89	---	13.49	12.77	14.17	15.51	15.33
5	15.80	20.08	---	---	14.58	11.94	---	12.94	15.74	14.01	12.21	14.91
6	15.60	15.74	---	---	14.26	12.19	---	14.68	13.69	14.31	12.17	15.01
7	---	14.72	---	---	13.00	13.66	---	13.70	13.95	14.29	12.25	14.89
8	---	14.84	---	---	13.18	13.98	---	12.39	15.09	14.28	12.00	15.33
9	---	14.13	---	---	14.21	13.12	---	12.34	14.76	13.88	11.88	14.81
10	---	16.79	---	---	12.78	14.07	---	11.89	15.19	14.21	12.27	14.83
11	---	13.86	---	---	14.81	13.20	---	13.40	19.11	14.32	15.29	15.01
12	---	13.83	---	---	13.76	---	---	15.72	16.18	14.34	17.40	14.85
13	---	13.79	---	---	13.48	---	---	13.05	17.75	14.16	15.20	14.53
14	---	13.72	---	12.90	12.56	---	---	13.53	17.73	13.92	14.14	15.26
15	---	---	---	12.46	13.38	---	---	14.34	15.71	14.30	12.92	15.52
16	---	---	---	13.06	13.04	---	---	13.14	15.09	14.99	11.99	17.85
17	---	---	---	12.76	11.60	---	---	13.62	15.10	15.75	11.73	15.94
18	---	---	---	13.72	11.81	---	---	13.95	14.86	14.94	11.90	16.88
19	---	---	---	13.71	11.98	---	---	14.25	14.31	14.60	11.97	16.22
20	---	---	---	13.76	14.94	---	---	13.57	14.04	14.87	13.60	15.74
21	---	---	---	14.47	11.96	---	---	14.03	13.52	16.34	12.57	16.62
22	---	---	---	14.71	11.48	---	---	13.51	18.96	15.37	11.88	20.40
23	---	---	---	13.25	11.42	---	---	13.41	15.46	15.54	11.90	16.03
24	---	---	---	14.47	12.86	---	12.45	13.29	16.06	15.14	12.31	15.53
25	---	---	---	15.59	12.60	---	11.66	13.41	14.00	15.29	19.38	15.14
26	---	---	---	14.34	13.30	---	11.40	13.23	13.99	15.06	14.46	14.80
27	---	---	---	15.75	12.14	---	14.54	13.55	13.86	14.53	14.71	15.27
28	---	---	---	13.86	12.28	---	10.34	13.39	14.00	13.24	14.35	15.58
29	18.04	---	---	14.90	---	---	8.33	13.58	13.40	13.44	13.46	16.05
30	19.30	---	---	14.62	---	---	12.22	13.37	16.88	14.04	13.98	15.68
31	20.51	---	---	12.76	---	---	---	13.46	---	14.72	16.45	---
MAX	20.51	20.65	---	15.75	15.66	14.45	14.54	15.72	19.11	17.14	19.38	20.40

CAL YR 1997 LOW 22.70  
WTR YR 1998 LOW 20.65



**GROUND-WATER RECORDS**  
**Fayette County**

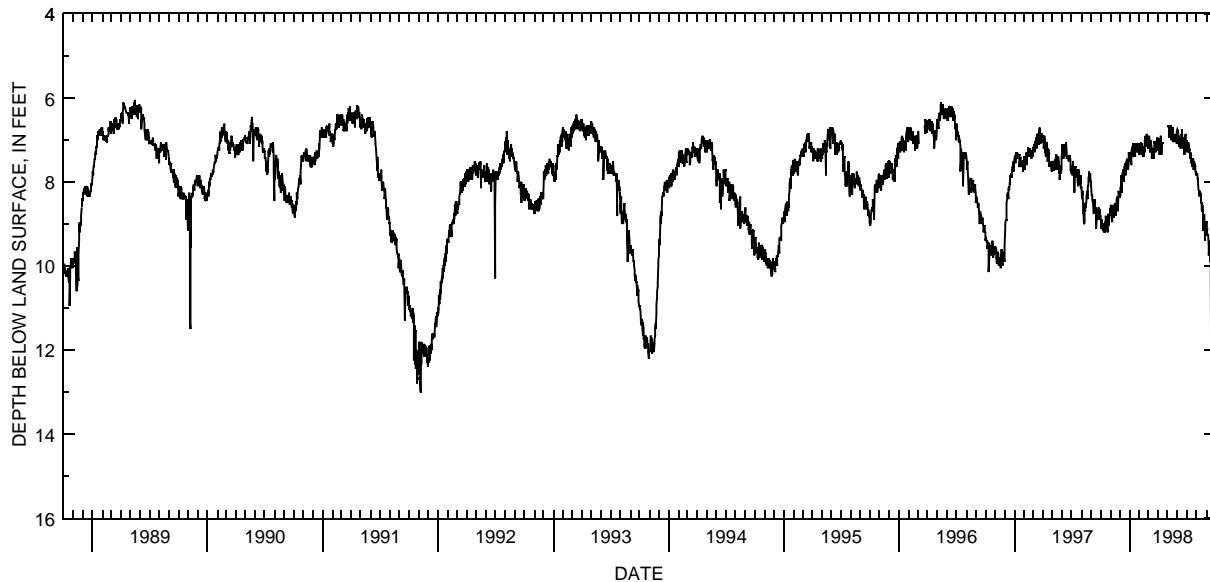
**393153083322000. LOCAL NUMBER, FA-1**

LOCATION.--Lat 39°31'53", long 83°32'20", Hydrologic Unit 05060003, Burnett-Perill Road about 6 mi west of Washington Court House.  
 Owner: Martha Slagle.  
 AQUIFER.--Limestone of Silurian Age.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 5 in., depth 78 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 1010 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.--February 1946 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 14.65 ft below land-surface datum, Sept. 16, 1998;  
 minimum daily low, 3.26 ft below land-surface datum, Apr. 28, 1964.

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	9.10	8.55	8.35	7.50	7.10	6.95	6.95	6.65	6.75	7.15	7.80	8.95
2	9.00	8.55	8.15	7.40	7.10	6.90	7.00	6.65	6.80	7.25	7.80	9.20
3	8.90	8.70	8.05	7.30	7.20	6.95	7.05	6.70	6.80	7.10	7.95	9.10
4	8.95	8.70	7.85	7.30	7.35	7.00	7.20	6.65	7.10	7.30	7.90	9.25
5	9.05	8.80	8.15	7.60	7.05	7.00	7.35	6.95	6.90	7.05	7.95	9.25
6	9.10	8.95	8.25	7.30	7.10	7.30	7.05	6.75	7.15	7.15	8.20	9.25
7	9.15	8.60	7.90	7.20	7.10	7.05	7.05	6.70	7.00	7.30	8.30	9.55
8	9.00	8.55	7.80	7.15	7.10	7.00	7.00	6.65	7.00	7.20	8.30	9.75
9	9.00	8.70	7.75	7.20	7.15	7.10	6.90	6.80	6.95	7.25	8.35	9.40
10	9.10	8.60	7.70	7.20	7.40	7.20	7.25	6.65	7.20	7.45	8.25	9.50
11	9.20	8.85	7.75	7.40	7.15	7.20	7.35	6.95	7.10	7.35	8.20	9.50
12	9.00	8.80	8.00	7.10	7.15	7.45	7.05	7.00	6.95	7.30	8.30	9.90
13	9.20	8.60	7.70	7.10	7.40	7.20	7.05	6.85	6.85	7.45	8.25	9.85
14	8.95	8.55	7.65	7.25	7.25	7.20	7.10	6.75	6.90	7.55	8.35	10.05
15	8.90	8.50	7.60	7.10	7.20	7.20	7.05	6.80	6.75	7.50	8.50	13.70
16	8.90	8.55	7.55	7.20	7.30	7.20	---	6.70	7.05	7.65	8.50	14.65
17	8.80	8.80	7.55	7.40	7.00	7.40	---	7.05	7.00	7.50	8.65	---
18	8.95	8.75	7.85	7.15	6.90	7.45	---	6.85	7.20	7.60	8.70	---
19	9.10	8.50	7.50	7.10	6.90	7.10	---	7.00	7.05	7.45	8.55	---
20	9.00	8.40	7.50	7.10	6.95	7.05	---	6.90	6.95	7.45	8.75	---
21	9.20	8.35	7.50	7.10	7.00	7.05	---	6.90	7.05	7.70	9.15	---
22	9.15	8.35	7.50	7.15	7.15	7.05	---	6.90	7.35	7.65	9.10	---
23	8.90	8.70	7.45	7.30	6.85	7.05	---	7.05	7.10	7.50	8.80	---
24	8.75	8.65	7.70	7.10	6.90	7.30	---	6.90	7.00	7.50	8.75	---
25	9.05	8.30	7.45	7.10	6.90	7.15	---	6.85	6.90	7.55	8.75	---
26	9.00	8.20	7.70	7.30	7.10	7.05	---	6.90	6.85	7.60	9.25	---
27	8.80	8.25	7.45	7.25	7.00	7.00	---	6.95	6.90	7.70	9.40	---
28	8.75	8.25	7.40	7.20	7.20	6.95	---	6.85	7.30	7.85	9.00	10.20
29	8.65	8.30	7.30	7.35	---	7.05	---	7.10	7.00	7.75	8.95	9.95
30	8.65	8.35	7.50	7.15	---	7.25	---	6.80	7.00	7.75	8.95	9.90
31	8.80	---	7.40	7.10	---	7.00	---	6.75	---	7.80	8.95	---
MAX	9.20	8.95	8.35	7.60	7.40	7.45	7.35	7.10	7.35	7.85	9.40	14.65

CAL YR 1997    LOW 9.20  
 WTR YR 1998    LOW 14.65





## GROUND-WATER RECORDS

### Franklin County

**394956083002700. LOCAL NUMBER, FR-18**

LOCATION.--Lat 39°49'56", long 83°00'27", Hydrologic Unit 05060001, south of State Rt. 665 at Shadeville.

Owner: City of Columbus.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water table well, diameter 6 in., depth 86.4 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 690 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 3.80 ft above land-surface datum.

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

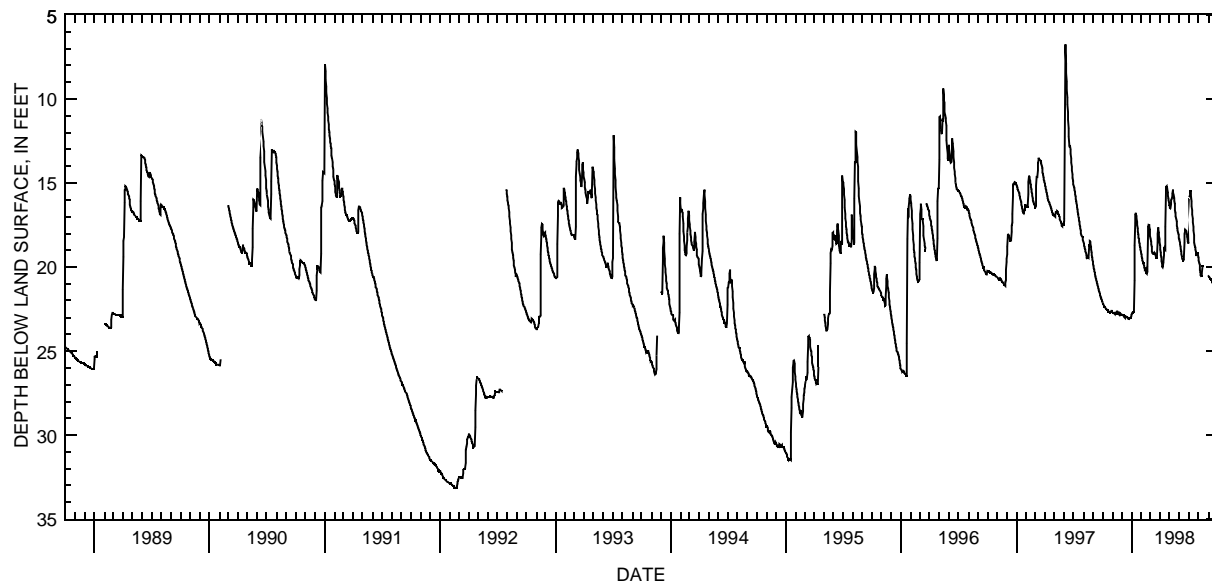
PERIOD OF RECORD.--November 22, 1985, to March 26, 1986, periodic, continuous thereafter.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 33.15 ft below land-surface datum, Feb. 19-22, 1992;  
minimum daily low, 6.74 ft below land-surface datum, June 4, 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	22.16	22.69	22.80	22.75	19.35	18.30	18.94	16.46	18.41	15.80	19.59	20.55
2	22.20	22.70	22.83	22.73	19.46	18.48	19.12	16.50	18.53	15.84	19.73	20.57
3	22.24	22.69	22.85	22.71	19.57	18.63	19.29	16.50	18.65	15.78	19.87	20.59
4	22.27	22.69	22.86	22.70	19.67	18.77	19.41	16.26	18.78	15.63	20.00	20.62
5	22.31	22.71	22.88	22.70	19.72	18.90	19.60	16.08	18.91	15.46	20.15	20.65
6	22.34	22.75	22.91	22.68	19.72	19.03	19.78	16.00	19.05	15.48	20.30	20.68
7	22.37	22.77	22.94	22.68	19.80	19.15	19.95	15.92	19.20	15.75	20.45	20.70
8	22.40	22.75	22.97	22.55	19.90	19.18	20.00	15.77	19.34	16.08	20.52	20.71
9	22.43	22.70	23.00	20.80	19.99	19.19	20.02	15.61	19.45	16.38	20.53	20.74
10	22.45	22.72	23.01	18.72	20.08	19.21	19.75	15.41	19.56	16.62	20.50	20.78
11	22.48	22.75	22.89	17.37	20.15	19.22	19.70	15.43	19.64	16.86	20.38	20.82
12	22.50	22.78	22.91	16.88	20.13	19.20	19.28	15.55	19.64	17.12	20.00	20.88
13	22.52	22.79	22.93	16.78	20.20	19.14	18.88	15.70	19.64	17.36	19.92	20.92
14	22.54	22.66	22.93	16.85	20.27	19.13	18.84	15.88	19.58	17.60	19.93	20.96
15	22.54	22.60	22.95	16.96	20.34	19.19	18.95	16.05	19.40	17.84	19.96	21.00
16	22.56	22.62	22.96	17.12	20.37	19.26	18.97	16.24	18.57	18.08	20.00	21.04
17	22.58	22.66	22.98	17.30	20.36	19.32	17.60	16.43	18.00	18.30	---	21.10
18	22.60	22.70	23.01	17.50	20.26	19.33	15.63	16.60	17.83	18.53	---	21.16
19	22.62	22.75	23.03	17.68	19.95	19.40	15.23	16.78	17.75	18.71	---	21.23
20	22.65	22.78	23.06	17.87	18.10	19.44	15.20	16.96	17.79	18.82	---	21.27
21	22.67	22.80	23.10	18.05	17.76	19.42	15.27	17.11	17.85	18.96	---	21.31
22	22.69	22.76	23.11	18.23	17.60	19.29	15.28	17.27	17.84	19.10	---	21.31
23	22.71	22.71	23.07	18.30	17.44	18.52	15.34	17.40	17.93	19.22	---	21.36
24	22.73	22.73	23.09	18.46	17.46	18.00	15.56	17.52	18.05	19.29	---	21.43
25	22.73	22.74	23.04	18.60	17.60	17.65	15.74	17.66	18.18	19.29	---	21.50
26	22.68	22.76	23.01	18.73	17.77	17.77	15.93	17.81	18.32	19.23	---	21.57
27	22.57	22.78	23.02	18.83	17.95	17.94	16.00	17.94	18.44	19.14	---	21.61
28	22.59	22.81	23.02	18.94	18.13	18.13	16.15	18.07	18.57	19.13	---	21.69
29	22.63	22.83	22.98	19.04	---	18.33	16.30	18.18	18.59	19.20	---	21.81
30	22.64	22.84	22.90	19.14	---	18.53	16.36	18.24	15.65	19.26	---	21.92
31	22.66	---	22.80	19.24	---	18.73	---	18.33	---	19.44	20.51	---
MAX	22.73	22.84	23.11	22.75	20.37	19.44	20.02	18.33	19.64	19.44	20.53	21.92

CAL YR 1997 LOW 23.11  
WTR YR 1998 LOW 23.11



**GROUND-WATER RECORDS**  
**Franklin County**

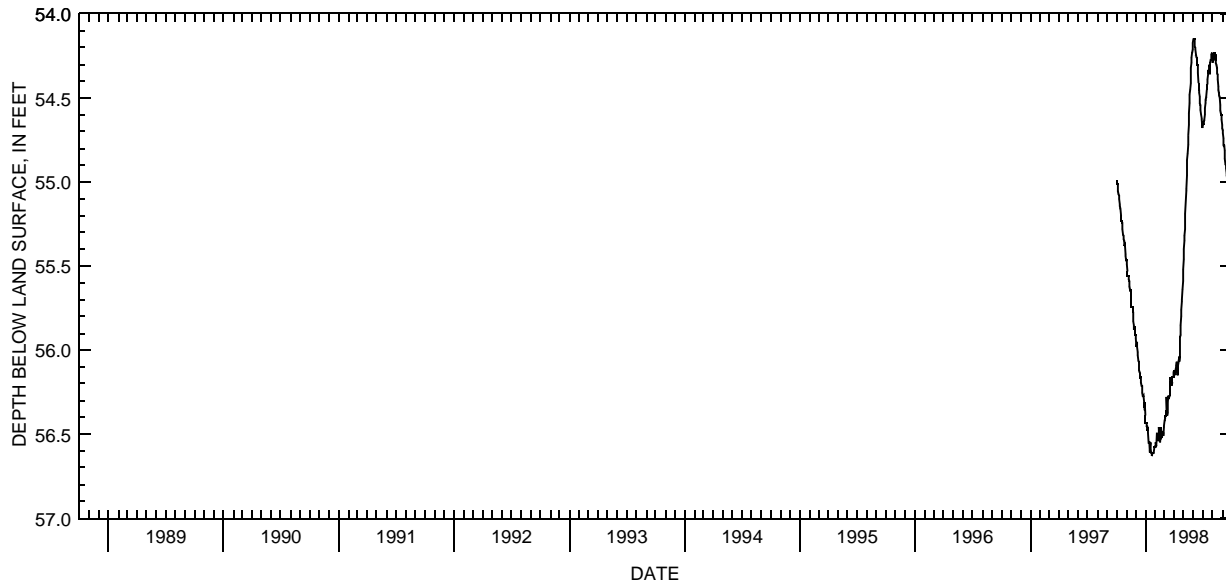
**395055083000600. LOCAL NUMBER, FR-19**

LOCATION.--Lat 39°50'55", long 83°00'06", Hydrologic Unit 05060001, adjacent to State Rt. 23 near Shadeville.  
 Owner: City of Columbus.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 73 ft., present depth 72 ft., cased.  
 INSTRUMENTATION.--Electronic data logger--60 minute log interval.  
 DATUM.--Elevation of land-surface datum is 741.95 ft above sea level.  
 Measuring point: Floor of instrument shelter 2.5 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--September 1997 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 56.63 ft below land-surface datum, Jan. 20, 1998;  
 minimum daily low, 54.15 ft below land-surface datum, May 31 to June 4, 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	54.99	55.46	55.98	56.43	56.55	56.42	56.14	55.40	54.15	54.64	54.29	54.69
2	55.01	55.49	55.98	56.43	56.57	56.40	56.15	55.35	54.15	54.66	54.26	54.71
3	55.01	55.53	55.95	56.45	56.57	56.39	56.12	55.32	54.15	54.64	54.24	54.74
4	55.04	55.56	55.98	56.46	56.49	56.39	56.14	55.28	54.15	54.63	54.23	54.78
5	55.05	55.56	56.01	56.45	56.52	56.39	56.12	55.23	54.19	54.63	54.23	54.79
6	55.07	55.56	56.03	56.48	56.52	56.36	56.10	55.19	54.20	54.60	54.23	54.78
7	55.08	55.56	56.06	56.46	56.52	56.36	56.09	55.12	54.21	54.56	54.26	54.81
8	55.10	55.58	56.06	56.49	56.54	56.28	56.07	55.05	54.24	54.53	54.27	54.86
9	55.13	55.59	56.07	56.55	56.52	56.39	56.07	55.04	54.24	54.51	54.27	54.89
10	55.14	55.62	56.10	56.55	56.52	56.37	56.15	54.96	54.26	54.49	54.24	54.89
11	55.14	55.64	56.12	56.55	56.46	56.34	56.15	54.92	54.30	54.49	54.29	54.90
12	55.16	55.65	56.13	56.54	56.54	56.31	56.14	54.87	54.30	54.45	54.30	54.92
13	55.20	55.64	56.14	56.61	56.52	56.27	56.09	54.83	54.30	54.42	54.30	54.95
14	55.23	55.71	56.16	56.60	56.55	56.29	56.07	54.78	54.30	54.42	54.32	54.96
15	55.23	55.71	56.16	56.55	56.55	56.28	56.06	54.72	54.35	54.39	54.35	54.99
16	55.23	55.74	56.16	56.58	56.49	56.27	56.04	54.66	54.41	54.36	54.36	55.01
17	55.24	55.74	56.19	56.61	56.46	56.22	56.07	54.65	54.45	54.35	54.39	55.04
18	55.24	55.74	56.21	56.61	56.52	56.19	56.03	54.59	54.45	54.33	54.43	55.04
19	55.28	55.74	56.21	56.61	56.52	56.19	55.92	54.53	54.47	54.35	54.45	55.07
20	55.31	55.77	56.25	56.63	56.51	56.16	55.91	54.48	54.49	54.32	54.47	55.10
21	55.32	55.77	56.27	56.61	56.52	56.21	55.85	54.45	54.53	54.30	54.48	55.10
22	55.34	55.83	56.27	56.61	56.52	56.19	55.80	54.41	54.54	54.36	54.49	55.14
23	55.34	55.85	56.28	56.61	56.48	56.19	55.76	54.36	54.57	54.29	54.49	55.17
24	55.35	55.88	56.27	56.61	56.49	56.21	55.71	54.32	54.60	54.29	54.54	55.17
25	55.38	55.86	56.31	56.61	56.51	56.19	55.70	54.29	54.60	54.27	54.57	55.22
26	55.37	55.91	56.33	56.61	56.46	56.16	55.64	54.26	54.62	54.27	54.59	55.23
27	55.43	55.91	56.33	56.58	56.45	56.16	55.64	54.23	54.63	54.24	54.60	55.26
28	55.44	55.91	56.36	56.57	56.45	56.16	55.59	54.21	54.68	54.23	54.60	55.28
29	55.44	55.91	56.31	56.57	---	56.16	55.52	54.21	54.68	54.23	54.63	55.29
30	55.47	55.93	56.39	56.57	---	56.13	55.46	54.17	54.64	54.24	54.66	55.31
31	55.46	---	56.43	56.58	---	56.12	---	54.15	---	54.27	54.68	---
MAX	55.47	55.93	56.43	56.63	56.57	56.42	56.15	55.40	54.68	54.66	54.68	55.31
MIN	54.99	55.46	55.95	56.43	56.45	56.12	55.46	54.15	54.15	54.23	54.23	54.69

WTR YR 1998 HIGH 54.15 LOW 56.63



**GROUND-WATER RECORDS**  
**Franklin County**

**395118082573300. LOCAL NUMBER, FR-3**

LOCATION.--Lat 39°51'14", long 82°57'32", Hydrologic Unit 05060001, 0.7 mi southwest of Rees.

Owner: R. Hann.

AQUIFER.--Sand and gravel of Pleistocene Age.

CHARACTERISTICS.--Drilled test water table well, diameter 12 in., depth drilled 60 ft, present depth 53 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 712.94 ft above sea level.

Measuring point: Floor of instrument shelter 3.43 ft above land-surface datum.

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

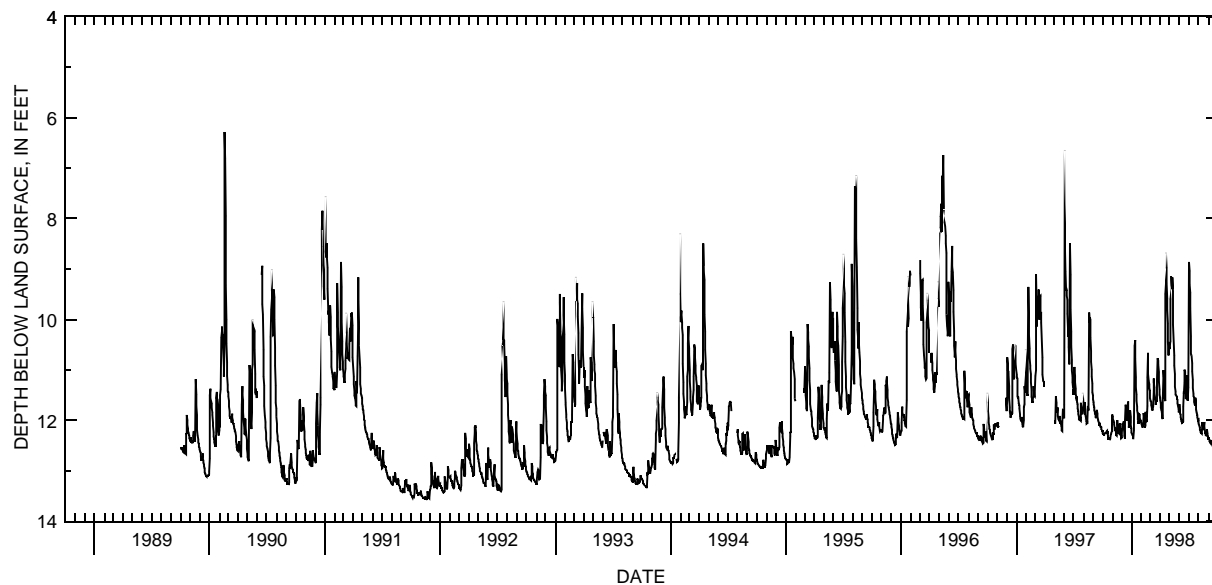
PERIOD OF RECORD.--April 1946 to September 1982 continuous, periodic October 1982 to September 1989, continuous thereafter.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 20.75 ft below land-surface datum, July 7, 1966;  
minimum daily low, 0.0 ft below land-surface datum, Jan. 22, 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	12.27	11.94	12.08	12.27	12.08	11.61	11.59	10.52	11.68	8.86	12.06	12.36
2	12.28	11.98	12.06	12.31	12.12	11.63	11.66	10.44	11.78	9.04	12.10	12.37
3	12.28	12.00	12.09	12.34	12.13	11.70	11.74	9.60	11.86	9.31	12.14	12.38
4	12.30	12.01	12.10	12.36	12.12	11.74	11.80	8.73	11.89	9.47	12.16	12.41
5	12.30	12.04	12.02	12.36	12.12	11.76	11.80	8.97	11.94	9.78	12.17	12.43
6	12.26	12.09	12.15	12.36	11.96	11.78	11.90	9.14	11.98	10.33	12.20	12.44
7	12.25	12.16	12.25	12.20	11.86	11.80	11.95	9.37	12.01	10.68	12.23	12.45
8	12.25	12.19	12.31	12.07	11.95	11.81	11.97	9.39	12.03	10.72	12.25	12.45
9	12.25	12.17	12.35	10.82	12.03	11.73	11.60	9.17	12.05	10.72	12.27	12.39
10	12.27	12.18	12.37	10.53	12.11	11.43	11.14	9.45	12.03	10.87	12.27	12.43
11	12.26	12.24	12.00	10.41	12.12	11.17	11.00	9.75	12.05	11.03	12.26	12.45
12	12.22	12.29	11.70	10.78	12.12	11.25	11.19	10.11	12.03	11.20	12.03	12.46
13	12.21	12.31	11.80	11.15	11.83	11.35	11.34	10.46	11.73	11.36	12.09	12.49
14	12.26	12.30	11.91	11.35	11.87	11.47	11.46	10.72	11.43	11.48	12.12	12.51
15	12.24	12.00	11.99	11.49	11.97	11.56	11.56	10.92	11.48	11.52	12.17	12.53
16	12.21	12.04	12.01	11.62	12.03	11.63	11.61	11.08	11.25	11.54	12.18	12.54
17	12.28	12.11	11.89	11.73	12.02	11.68	9.50	11.23	10.99	11.55	12.17	12.55
18	12.32	12.16	11.71	11.81	11.72	11.69	8.10	11.34	11.03	11.63	12.03	12.55
19	12.35	12.20	11.63	11.89	11.15	11.60	8.69	11.42	11.18	11.68	12.14	12.55
20	12.36	12.25	11.87	11.97	10.67	11.61	8.98	11.49	11.40	11.71	12.21	12.56
21	12.38	12.26	12.08	12.02	10.90	11.61	9.28	11.51	11.58	11.55	12.25	12.55
22	12.39	12.26	12.15	12.05	11.08	11.18	9.59	11.53	11.56	11.65	12.27	12.48
23	12.39	12.06	12.13	12.05	11.21	10.77	9.81	11.57	11.11	11.72	12.29	12.39
24	12.36	12.15	12.07	11.87	11.29	10.77	10.08	11.58	11.31	11.78	12.31	12.37
25	12.35	12.18	12.05	11.89	11.36	10.82	10.45	11.58	11.48	11.84	12.32	12.37
26	12.28	12.20	11.81	11.96	11.41	10.90	10.70	11.66	11.60	11.90	12.27	12.45
27	12.22	12.31	11.94	11.98	11.48	11.05	10.72	11.72	11.62	11.94	12.18	12.47
28	11.95	12.37	12.04	11.99	11.55	11.24	10.45	11.78	11.35	11.99	12.26	12.44
29	11.94	12.36	12.10	12.01	---	11.39	10.54	11.83	11.20	12.01	12.30	12.29
30	11.94	12.26	12.16	12.04	---	11.49	10.59	11.84	9.28	12.01	12.32	12.40
31	11.89	---	12.24	12.07	---	11.56	---	11.68	---	12.00	12.35	---
MAX	12.39	12.37	12.37	12.36	12.13	11.81	11.97	11.84	12.05	12.01	12.35	12.56

CAL YR 1997 LOW 12.39  
WTR YR 1998 LOW 12.56



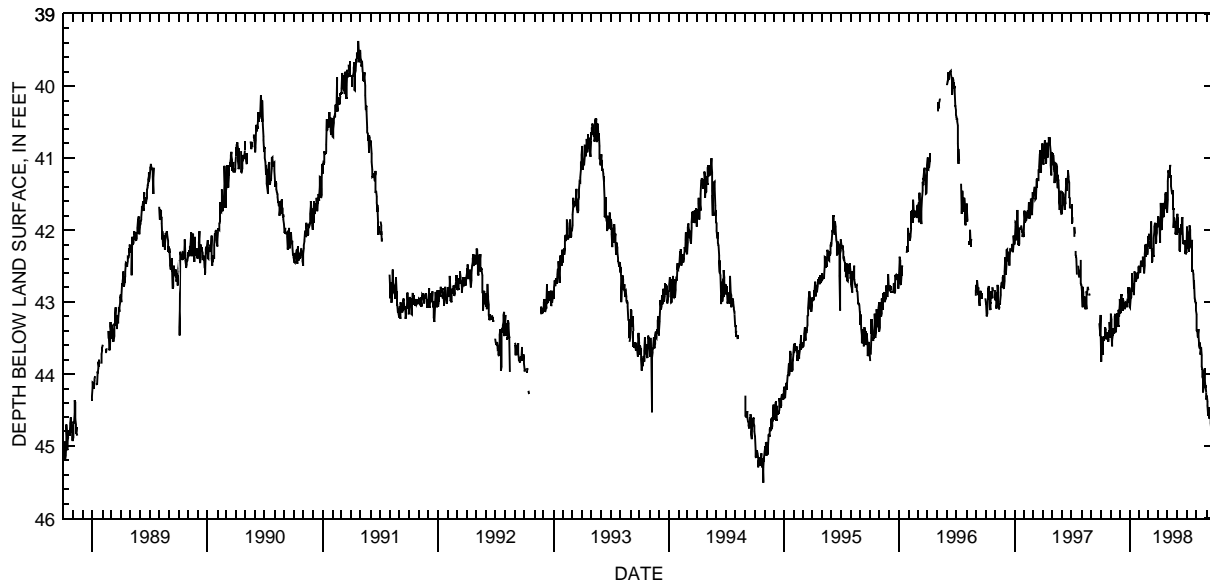
**GROUND-WATER RECORDS**  
**Franklin County**

**400101083021800. LOCAL NUMBER, FR-10**

LOCATION.--Lat 40°01'01", long 83°02'18", Hydrologic Unit 05060001, Kenny and Ackerman Roads, Columbus.  
 Owner: Ohio State University.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled test artesian well, diameter 4 in., depth 75 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 775 ft above sea level, from topographic map.  
 Measuring point: Floor of instrument shelter 4.00 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.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 48.20 ft below land-surface datum, Oct. 7, 1954;  
 minimum daily low, 37.76 ft below land-surface datum, Apr. 13, 1951.

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	43.83	43.23	43.07	43.07	42.57	42.10	41.81	41.32	41.91	41.95	43.39	44.33
2	43.80	43.16	43.15	42.96	42.59	42.05	41.91	41.17	41.83	42.12	43.40	44.30
3	43.55	43.24	43.14	42.95	42.59	42.05	41.91	41.18	42.02	42.25	43.49	44.38
4	43.48	43.44	42.89	42.95	42.43	42.15	41.93	41.22	42.02	42.12	43.46	44.44
5	43.63	43.61	42.89	42.94	42.42	42.24	41.95	41.25	41.97	42.20	43.46	44.58
6	43.70	43.54	42.95	42.83	42.46	42.24	42.17	41.26	42.05	42.30	43.38	44.47
7	43.72	43.46	43.02	42.80	42.45	42.24	42.00	41.17	42.27	42.05	43.47	44.47
8	43.51	43.38	43.10	42.60	42.47	42.17	41.73	41.10	42.29	42.00	43.60	44.46
9	43.51	43.38	43.10	42.74	42.50	41.88	41.62	41.25	42.30	41.94	43.64	44.62
10	43.47	43.37	42.96	42.83	42.50	42.30	41.91	41.25	41.98	42.00	43.60	44.62
11	43.53	43.44	42.95	42.83	42.37	42.44	41.98	41.29	42.06	42.08	43.56	44.53
12	43.51	43.44	43.05	42.81	42.44	42.44	42.00	41.39	41.92	42.23	43.65	44.50
13	43.48	43.40	43.07	42.90	42.47	42.44	41.90	41.45	41.99	42.18	43.73	44.60
14	43.35	43.20	43.01	42.90	42.59	42.25	41.71	41.50	41.97	42.20	43.66	44.68
15	43.38	43.16	43.10	42.67	42.60	42.35	41.75	41.49	41.84	42.25	43.62	44.80
16	43.49	43.28	43.05	42.57	42.50	42.35	41.62	41.45	41.82	42.14	43.74	44.83
17	43.49	43.42	43.05	42.63	42.33	42.28	41.80	41.58	41.97	42.37	43.89	44.87
18	43.50	43.41	43.00	42.64	42.20	42.11	41.82	41.70	42.19	42.56	43.93	44.88
19	43.48	43.25	43.01	42.65	42.25	42.02	41.68	41.70	42.17	42.56	44.03	44.81
20	43.47	43.20	43.00	42.70	42.27	41.95	41.70	41.97	42.17	42.61	44.06	44.84
21	43.42	43.16	43.05	42.70	42.37	41.90	41.65	41.83	42.15	42.62	44.25	44.82
22	43.42	43.15	43.07	42.65	42.37	41.98	41.57	41.87	42.20	42.81	44.19	44.90
23	43.48	43.20	43.03	42.59	42.19	42.03	41.50	41.88	42.14	42.70	44.09	45.07
24	43.52	43.32	42.97	42.60	42.30	42.18	41.47	41.93	42.18	42.72	43.98	45.05
25	43.55	43.32	42.98	42.67	42.34	42.18	41.58	41.94	42.31	42.94	43.95	45.05
26	43.41	43.11	42.80	42.67	42.24	42.10	41.53	42.06	42.30	42.98	43.92	45.04
27	43.40	43.20	42.87	42.60	42.12	42.04	41.70	42.00	42.33	42.99	44.10	45.03
28	43.41	43.15	42.88	42.51	42.10	41.91	41.76	42.06	42.30	43.02	44.19	45.02
29	43.28	43.03	42.85	42.50	---	41.96	41.75	42.07	42.32	43.00	44.16	45.00
30	43.49	42.96	42.80	42.54	---	41.93	41.58	42.01	41.97	43.12	44.25	45.09
31	43.48	---	43.05	42.59	---	41.83	---	41.77	---	43.17	44.35	---
MAX	43.83	43.61	43.15	43.07	42.60	42.44	42.17	42.07	42.33	43.17	44.35	45.09
CAL YR 1997	LOW	43.83										
WTR YR 1998	LOW	45.09										



**GROUND-WATER RECORDS**  
**Gallia County**

**383638082103300. LOCAL NUMBER, G-2**

LOCATION.--Lat 38°36'38", long 82°10'33", Hydrologic Unit 05090101, 5.9 mi east of Crown City.  
Owner: State of Ohio.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 12 in., depth 65 ft, cased.

INSTRUMENTATION.--Periodic measurement with chalked tape by Ohio Department of Natural Resources personnel.

DATUM.--Elevation of land-surface datum is 552 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.--June 1975 to September 1982 continuous, periodic thereafter.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 33.94 ft below land-surface datum, Oct. 4, 1982;  
minimum daily low 16.43 ft below land-surface datum, Mar. 8, 1979.

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

DATE	WATER LEVEL
Oct. 21, 1997	32.49
Apr. 2, 1998	23.58

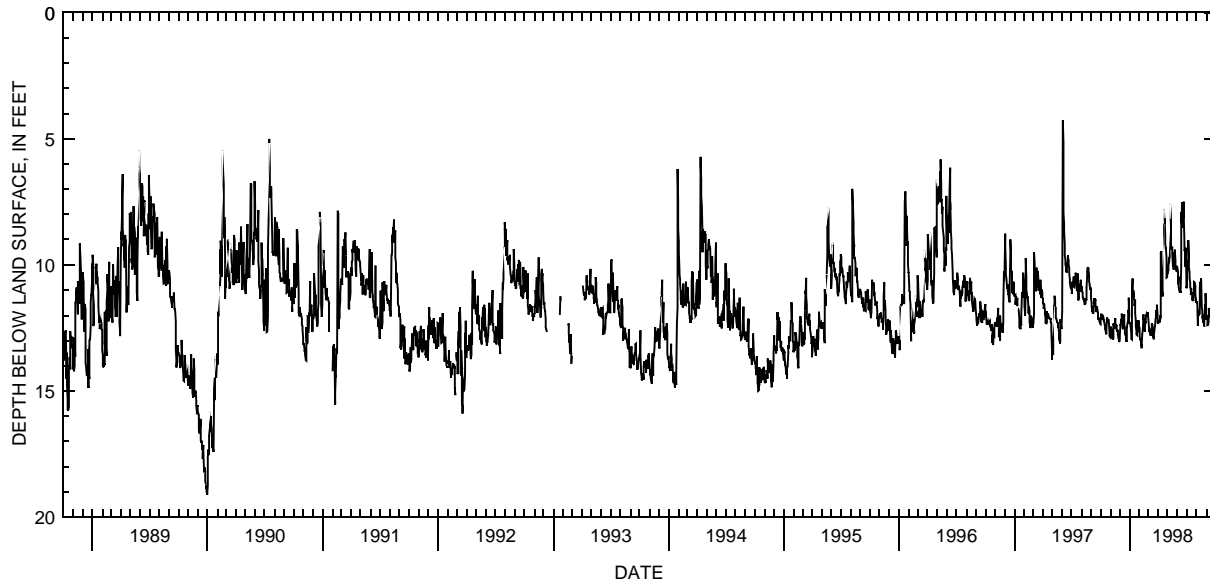
**GROUND-WATER RECORDS**  
**Greene County**

**394411083561300. LOCAL NUMBER, GR-1**

LOCATION.--Lat 39°44'11", long 83°56'13", Hydrologic Unit 05090202, along Massies Creek near U.S. 68 north of Xenia.  
 Owner: Xenia Water Department.  
 AQUIFER.--Sand and Gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 30 in., depth 77 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land-surface datum is 818.88 ft above sea level.  
 Measuring point: Floor of instrument shelter 4.50 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--August 1944 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 21.60 ft below land-surface datum, July 7, 1966;  
 minimum daily low, 0.70 ft above land-surface datum, Aug. 3, 1958.

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	11.95	12.71	12.36	12.29	12.82	12.27	12.30	10.13	10.12	10.41	11.49	12.02
2	12.09	12.44	12.38	12.42	12.97	12.65	12.23	10.15	10.28	9.94	11.49	11.99
3	12.16	12.53	12.23	12.45	12.94	12.49	12.26	10.03	10.76	9.85	12.29	12.05
4	12.07	12.69	12.25	12.48	13.02	12.66	12.25	9.70	10.46	9.82	12.41	12.38
5	12.04	12.92	12.29	12.74	13.14	12.59	12.28	9.93	10.86	9.02	11.79	12.37
6	11.99	12.91	11.93	12.93	13.14	12.68	12.00	9.88	10.95	9.64	11.86	12.39
7	12.02	12.86	12.22	12.95	13.30	12.80	12.03	9.67	11.02	10.12	11.95	11.98
8	12.03	12.95	12.41	11.19	12.77	12.59	12.05	5.86	11.07	10.28	11.97	11.71
9	12.17	12.90	12.54	10.54	12.74	12.59	9.49	7.58	11.08	10.51	11.90	11.87
10	12.25	12.33	12.56	10.97	12.58	12.46	9.45	8.21	11.06	10.72	10.95	11.93
11	12.16	12.45	12.15	11.24	12.58	12.36	9.61	9.00	11.09	10.88	10.89	12.07
12	12.33	12.45	12.15	11.00	11.97	12.31	10.63	9.34	10.00	10.96	10.66	12.01
13	12.48	12.39	11.96	11.12	12.16	12.36	11.02	9.34	7.90	11.21	11.11	12.09
14	12.53	12.52	12.38	11.34	12.11	12.36	11.19	9.26	8.34	10.94	11.17	12.29
15	12.57	12.11	12.50	11.49	12.45	12.83	11.26	9.59	7.52	11.10	10.54	12.22
16	12.53	12.45	12.67	11.64	12.52	12.88	8.80	9.98	7.78	11.09	11.56	12.41
17	12.63	12.42	12.70	11.38	12.65	12.96	6.07	10.09	8.54	11.25	11.64	12.35
18	12.75	12.45	12.77	11.91	12.23	12.88	7.79	9.83	7.92	11.39	11.85	12.49
19	12.62	12.37	12.82	12.22	12.31	12.59	7.81	9.87	8.18	11.35	12.08	12.34
20	12.09	12.53	13.00	12.45	12.06	12.53	8.36	10.18	7.49	11.43	12.06	12.33
21	12.30	12.61	13.01	12.55	12.06	12.41	8.15	9.51	8.10	11.39	12.19	12.05
22	12.27	12.65	12.45	12.75	12.02	12.44	8.78	9.71	9.09	10.81	12.28	12.02
23	12.28	12.57	12.50	12.77	11.95	12.11	9.17	9.39	9.45	10.73	12.22	12.03
24	12.18	12.75	12.32	12.71	12.00	12.11	9.37	9.45	9.40	10.66	12.44	11.94
25	12.13	12.88	12.19	12.68	12.00	12.04	9.32	9.82	10.07	10.69	12.25	12.00
26	12.32	12.89	11.79	12.20	12.01	11.81	9.71	10.14	9.69	10.82	11.70	12.06
27	12.72	12.99	11.85	12.38	11.88	11.81	10.51	10.17	9.32	11.13	11.58	12.62
28	12.83	13.04	11.41	12.18	11.99	11.59	10.49	10.22	10.48	11.37	11.82	12.61
29	12.81	12.92	11.31	12.28	---	11.97	10.27	10.28	10.91	11.42	11.13	12.73
30	12.84	12.83	12.05	12.45	---	12.26	10.28	10.03	10.82	11.44	12.15	12.13
31	12.84	---	12.29	12.49	---	12.32	---	10.10	---	11.46	12.10	---
MAX	12.84	13.04	13.01	12.95	13.30	12.96	12.30	10.28	11.09	11.46	12.44	12.73
CAL YR 1997	LOW	13.76										
WTR YR 1998	LOW	13.30										



**GROUND-WATER RECORDS**  
**Greene County**

**394425083551100. LOCAL NUMBER, GR-10**

LOCATION.--Lat 39°44'25", long 83°55'11", Hydrologic Unit 05090202, in well field along Massies Creek north of Xenia.  
Owner: Xenia Water Department.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 100 ft, cased.

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

DATUM.--Elevation of land-surface datum is 835 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter at land-surface datum.

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

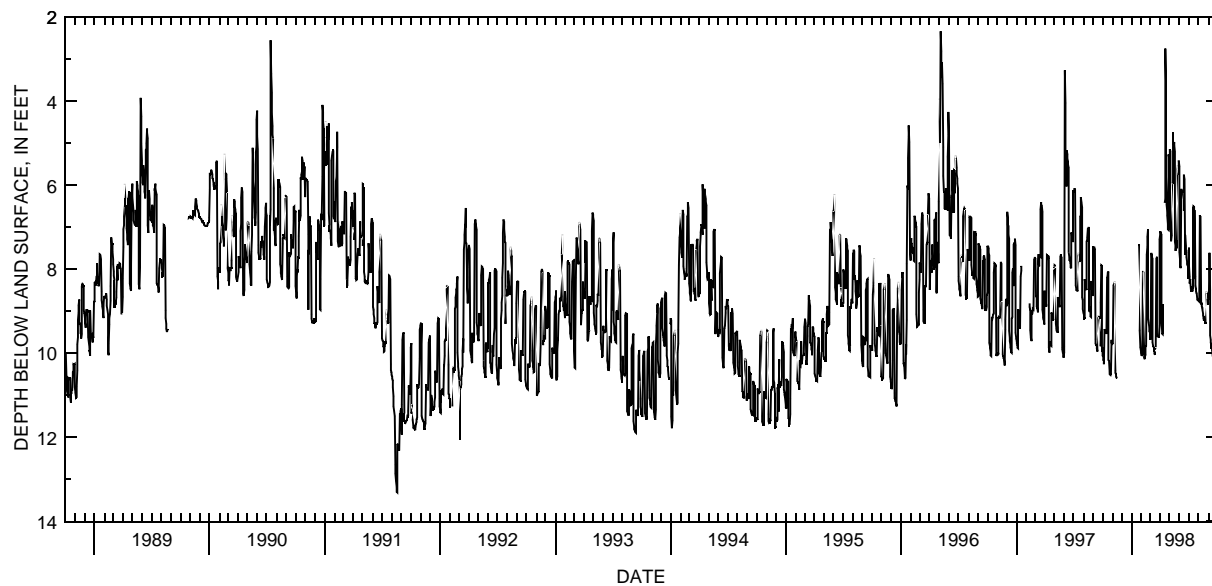
PERIOD OF RECORD.--March 1976 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 20.40 ft below land-surface datum, Nov. 5, 1977;  
minimum daily low, 0.15 ft below land-surface datum, Feb. 1, 1982.

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	10.08	9.77	---	---	10.07	9.65	7.09	5.14	7.60	7.92	8.76	8.68
2	10.15	9.76	---	---	10.00	7.64	7.12	5.18	7.78	8.18	8.77	8.73
3	10.18	8.56	---	---	10.04	7.62	7.14	7.03	7.92	8.35	7.13	7.62
4	10.25	8.38	---	---	8.13	7.65	7.17	7.16	7.96	8.24	6.71	7.62
5	10.27	8.37	---	---	8.07	7.71	9.29	7.24	7.97	8.30	6.72	8.50
6	9.43	8.35	---	---	8.05	7.71	9.47	7.33	6.17	8.50	6.75	9.58
7	9.45	8.29	---	---	8.03	7.74	9.54	7.20	6.09	8.51	6.80	9.69
8	9.47	8.27	---	---	9.94	9.75	9.55	5.23	6.15	8.51	8.81	9.75
9	9.49	10.42	---	---	10.09	9.83	8.85	5.93	6.16	8.47	8.85	9.78
10	9.50	10.46	---	---	10.14	9.85	---	5.97	6.17	8.41	8.80	9.87
11	9.52	10.49	---	---	10.08	9.87	---	4.75	6.18	8.46	8.87	9.87
12	9.51	10.55	---	---	10.03	9.93	---	4.94	5.24	8.48	8.92	9.92
13	8.29	10.59	---	---	9.86	9.93	---	5.04	4.40	6.54	8.97	10.05
14	8.20	10.59	---	---	9.83	10.00	---	4.97	6.60	6.54	9.06	10.05
15	8.13	10.58	---	---	9.83	10.03	6.43	5.06	5.75	6.50	9.09	10.05
16	8.09	10.58	---	---	7.76	8.03	6.33	5.20	5.86	6.51	9.17	10.03
17	8.08	---	---	---	7.65	9.87	2.75	7.22	6.36	8.24	9.18	10.00
18	8.05	---	---	---	7.46	9.86	3.52	7.36	7.66	6.59	9.17	9.96
19	10.16	---	---	---	7.23	7.91	5.76	7.46	7.18	6.60	9.19	9.94
20	10.17	---	---	---	7.05	7.75	6.18	7.57	7.45	8.17	9.20	9.93
21	10.44	---	---	---	7.06	7.70	6.47	7.35	7.62	8.38	9.27	10.04
22	10.48	---	---	7.41	9.16	9.53	6.63	7.50	7.60	8.47	9.28	10.05
23	10.49	---	---	7.41	9.27	9.57	6.73	7.32	7.72	8.50	9.29	9.21
24	10.51	---	---	7.38	9.40	9.59	6.92	7.33	7.83	8.53	8.41	9.23
25	10.50	---	---	9.45	9.47	9.60	7.05	5.40	7.87	8.57	8.53	9.25
26	10.52	---	---	9.47	9.50	9.60	7.06	5.54	7.92	8.72	8.58	9.25
27	9.69	---	---	9.85	9.53	9.60	5.27	5.64	8.20	8.72	8.58	9.28
28	9.74	---	---	9.87	9.65	9.63	5.34	5.70	8.21	8.74	8.71	8.09
29	9.75	---	---	9.96	---	9.35	5.38	5.75	7.91	8.75	8.82	7.97
30	9.78	---	---	9.99	---	7.29	5.36	5.41	7.49	8.72	8.82	7.96
31	9.79	---	---	10.04	---	7.17	---	5.56	---	8.74	7.61	---
MAX	10.52	10.59	---	10.04	10.14	10.03	9.55	7.57	8.21	8.75	9.29	10.05

CAL YR 1997   LOW 10.59  
WTR YR 1998   LOW 10.59



**GROUND-WATER RECORDS**  
**Hamilton County**

247

**391039084291500. LOCAL NUMBER, H-11**

LOCATION.--Lat 39°10'39", long 84°29'15", Hydrologic Unit 05090203, 5.6 mi north of Riverfront Stadium in Cincinnati.  
Owner: Procter and Gamble Company.  
AQUIFER.--Sand and gravel of Pleistocene Age.  
WELL CHARACTERISTICS.--Drilled test artesian well, diameter 6 in., depth 148 ft, cased.  
INSTRUMENTATION.--Biyearly measurement with chalked tape by Ohio Department of Natural Resources personnel.  
DATUM.--Elevation of land-surface datum is 539 ft above sea level, from topographic map.  
Measuring point: Floor of instrument shelter 2.23 ft above land-surface datum.  
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
PERIOD OF RECORD.--August 1939 to September 1982 continuous, periodic thereafter.  
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 129.72 ft below land-surface datum, Oct 25, 1948;  
minimum measured low, 46.40 ft below land-surface datum, Aug. 24, 1998.

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

DATE	WATER LEVEL
Oct. 28, 1997	47.26
Apr. 24, 1998	46.40



**GROUND-WATER RECORDS**  
**Hamilton County**

**391101084172100. LOCAL NUMBER, H-3**

LOCATION.--Lat 39°11'01", long 84°17'21", Hydrologic Unit 05090202, southeast of Miamiville.

Owner: Indian Hills Water Department.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water table well, diameter 4 in., depth 60 ft, cased.

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

DATUM.--Elevation of land-surface datum is 532.22 ft above sea level.

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.

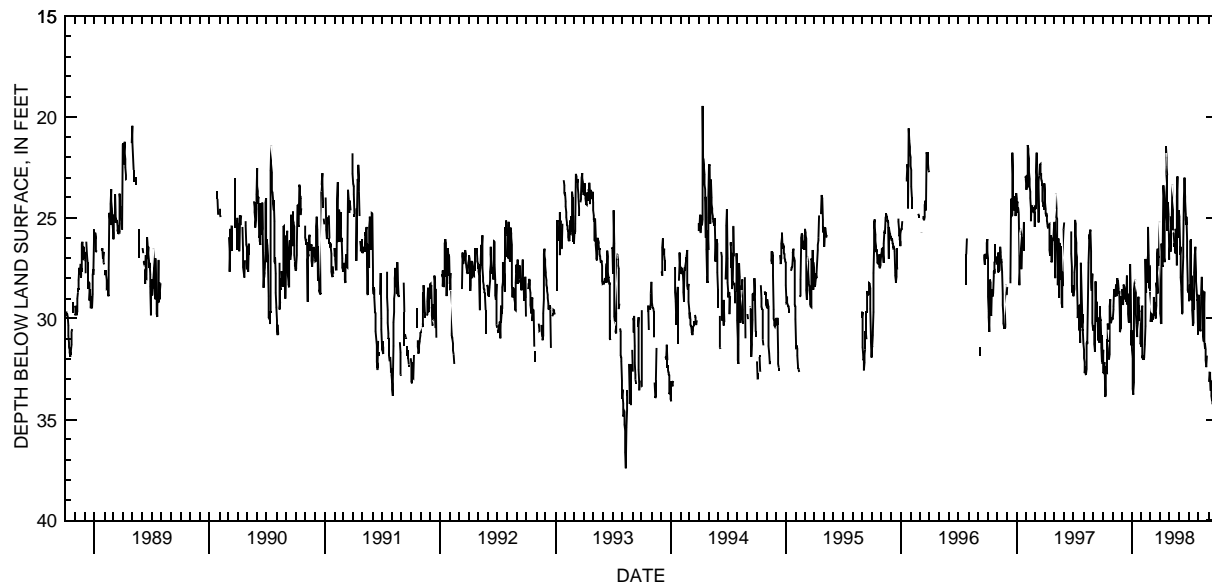
PERIOD OF RECORD.--August 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 37.43 ft below land-surface datum, Aug. 11, 1993;  
minimum daily low, 15.60 ft below land-surface datum, Feb. 28, 1962.

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	31.55	30.00	29.02	31.57	29.65	30.14	29.74	24.96	25.15	29.13	28.84	31.84
2	32.66	30.00	28.54	31.93	29.35	29.94	30.01	25.44	26.25	28.32	30.40	---
3	32.69	29.54	29.20	32.95	31.96	29.74	30.19	26.70	26.83	28.99	30.31	32.64
4	32.65	29.40	29.33	33.50	31.81	29.77	30.24	26.41	26.43	29.00	30.34	33.15
5	32.24	28.52	28.32	33.76	32.02	29.95	26.29	25.45	27.97	26.14	30.46	32.68
6	32.16	28.76	28.33	33.63	31.93	30.14	26.86	24.94	28.45	26.07	30.64	32.85
7	33.57	28.84	28.41	33.17	31.96	29.94	27.37	25.18	28.56	28.63	30.64	33.57
8	33.86	28.88	28.45	28.54	31.96	30.07	27.37	23.35	29.49	28.32	28.94	33.07
9	33.77	28.82	28.53	28.27	31.90	29.88	26.11	22.44	29.78	27.86	28.01	33.19
10	32.83	28.81	28.66	28.27	31.31	29.82	23.84	24.63	29.67	28.59	27.93	33.83
11	32.39	28.31	29.06	28.08	31.27	28.95	23.38	25.62	27.92	29.57	28.84	34.09
12	32.64	28.84	28.83	26.52	30.37	29.17	23.99	23.13	26.95	30.16	28.89	33.80
13	32.66	28.89	29.16	28.73	27.05	29.18	26.97	25.78	26.35	30.34	28.59	34.15
14	31.08	28.84	29.08	29.79	28.71	29.37	27.19	26.24	24.37	30.18	30.28	34.24
15	31.08	28.67	27.86	30.32	27.25	29.84	25.24	26.37	24.05	29.18	30.81	33.59
16	30.47	27.99	29.30	30.31	28.23	29.68	24.84	26.37	23.03	29.55	31.14	34.34
17	30.26	28.73	28.96	30.92	27.57	30.00	18.83	26.60	23.04	28.74	29.85	34.28
18	30.55	28.10	28.75	30.53	27.56	29.76	21.77	26.63	23.96	27.71	28.68	33.26
19	30.14	28.50	28.85	30.26	27.22	29.35	21.46	26.76	24.15	26.87	31.13	33.74
20	32.02	28.66	29.79	30.19	26.82	28.21	22.02	25.54	24.83	26.46	31.49	32.14
21	31.79	28.75	30.18	28.93	27.34	28.52	22.47	25.74	25.11	26.80	31.23	32.92
22	29.38	28.64	29.82	29.79	25.46	26.96	22.88	27.04	25.36	27.72	31.52	32.93
23	29.39	29.99	29.19	29.32	26.86	26.52	25.54	27.35	24.95	27.97	32.07	32.35
24	29.05	30.68	30.21	30.13	28.50	28.75	25.55	23.92	26.04	28.15	32.41	33.02
25	29.70	30.51	28.00	28.97	27.49	26.72	24.22	22.94	26.88	28.63	32.39	33.19
26	30.21	28.93	27.29	28.96	27.46	27.38	24.81	25.78	28.12	29.11	31.85	33.01
27	30.07	28.91	28.58	30.92	28.66	26.90	24.81	26.01	28.57	29.06	---	33.16
28	29.99	28.93	28.97	31.24	28.05	26.97	26.59	25.79	28.70	30.48	---	33.38
29	30.05	29.18	29.20	31.26	---	25.21	27.08	24.63	28.52	30.80	---	31.98
30	30.04	29.28	31.33	31.39	---	25.04	24.38	24.63	28.78	30.53	---	32.08
31	30.00	---	30.58	29.61	---	29.05	---	24.94	---	30.02	---	---
MAX	33.86	30.68	31.33	33.76	32.02	30.14	30.24	27.35	29.78	30.80	32.41	34.34

CAL YR 1997 LOW 33.86  
WTR YR 1998 LOW 34.34



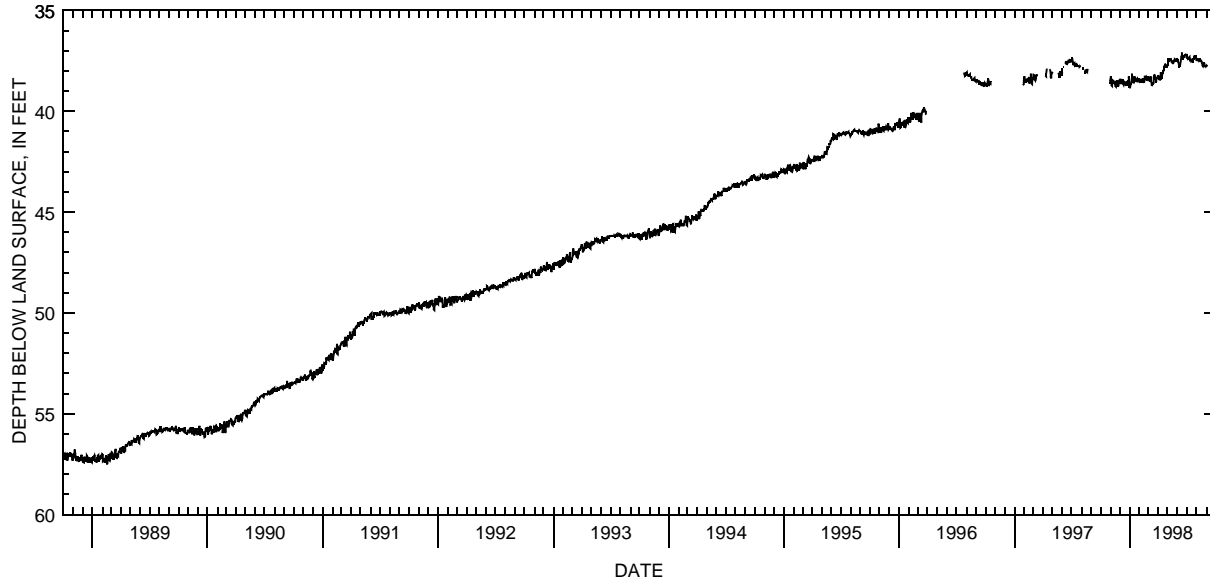
**GROUND-WATER RECORDS**  
**Hamilton County**

**391201084281600. LOCAL NUMBER, H-10**

LOCATION.--Lat 39°12'01", long 84°28'16", Hydrologic Unit 05090203, Section Road, Cincinnati.  
 Owner: National Distillers.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 170 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60-minute.  
 DATUM.--Elevation of land-surface datum is 544.7 ft above sea level.  
 Measuring point: Floor of instrument shelter 8.13 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--January 1944 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 121.58 ft below land-surface datum, Nov. 3, 10, 1950;  
 minimum daily low, 37.10 ft below land-surface datum, July 15, 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	---	38.29	38.62	38.80	38.48	38.32	38.29	37.41	37.44	37.30	37.49	37.76
2	---	38.28	38.65	38.66	38.57	38.31	38.39	37.39	37.45	37.37	37.43	37.71
3	---	38.54	38.50	38.60	38.58	38.33	38.39	37.40	37.54	37.39	37.40	37.76
4	---	38.70	38.38	38.65	38.40	38.45	38.43	37.43	37.56	37.33	37.39	---
5	---	38.73	38.49	38.55	38.43	38.53	38.46	37.51	37.62	37.39	37.40	---
6	---	38.60	38.52	38.50	38.49	38.50	38.37	37.52	37.70	37.37	37.40	---
7	---	38.54	38.62	38.38	38.50	38.49	38.29	37.41	37.75	37.34	37.42	---
8	---	38.45	38.60	38.13	38.51	38.26	38.16	37.40	37.76	37.32	37.49	---
9	---	38.49	38.42	38.47	38.54	38.49	38.08	37.48	37.73	37.38	37.48	---
10	---	38.53	38.45	38.53	38.56	38.70	38.34	37.38	37.57	37.44	37.38	---
11	---	38.61	38.61	38.52	38.36	38.72	38.39	37.40	37.55	37.47	37.44	---
12	---	38.64	38.67	38.37	38.49	38.75	38.37	37.44	37.34	37.43	37.52	---
13	---	38.52	38.57	38.62	38.49	38.60	38.19	37.53	37.27	37.44	37.51	---
14	---	38.48	38.62	38.60	38.59	38.56	38.09	37.58	37.22	37.52	37.43	---
15	---	38.57	38.63	38.26	38.59	38.64	38.11	37.57	37.10	37.52	37.47	---
16	---	38.75	38.56	38.30	38.40	38.61	37.94	37.54	37.27	37.50	37.53	---
17	---	38.78	38.56	38.41	38.22	38.49	38.00	37.65	37.37	37.50	37.56	---
18	---	38.64	38.59	38.43	38.32	38.31	37.99	37.63	37.36	37.50	37.62	---
19	---	38.53	38.63	38.44	38.38	38.29	37.78	37.55	37.30	37.52	37.70	---
20	---	38.54	38.68	38.49	38.39	38.16	37.77	37.55	37.24	37.53	37.74	---
21	---	38.45	38.68	38.46	38.47	38.33	37.73	37.49	37.23	37.36	37.75	---
22	---	38.56	38.51	38.43	38.47	38.37	37.67	37.50	37.34	37.36	37.69	---
23	---	38.65	38.60	38.40	38.32	38.42	37.67	37.50	37.27	37.26	37.61	---
24	---	38.77	38.52	38.46	38.42	38.54	37.68	37.42	37.24	37.31	37.59	---
25	---	38.70	38.47	38.53	38.49	38.53	37.73	37.45	37.23	37.33	37.62	---
26	---	38.59	38.51	38.51	38.35	38.42	37.74	37.46	37.17	37.34	37.74	---
27	---	38.65	38.44	38.47	38.28	38.40	37.77	37.48	37.18	37.26	37.76	---
28	38.57	38.50	38.46	38.38	38.29	38.29	37.77	37.52	37.22	37.25	37.74	---
29	38.58	38.49	38.28	38.40	---	38.34	37.76	37.48	37.22	37.24	37.76	---
30	38.59	38.40	38.43	38.48	---	38.30	37.71	37.48	37.16	37.30	37.76	---
31	38.44	---	38.80	38.54	---	38.19	---	37.36	---	37.44	37.77	---
MAX	38.59	38.78	38.80	38.80	38.59	38.75	38.46	37.65	37.76	37.53	37.77	37.76
CAL YR 1997	LOW	38.80										
WTR YR 1998	LOW	38.80										



## GROUND-WATER RECORDS

### Hamilton County

#### 391214084470100. LOCAL NUMBER, H-1

LOCATION.--Lat 39°12'14", long 84°47'01", Hydrologic Unit 05080003, Kilby Road 4 mi southeast of Harrison.

Owner: Robert Weber.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water-table well, diameter 6 in., depth 124 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 500 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 2.70 ft above land-surface datum.

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

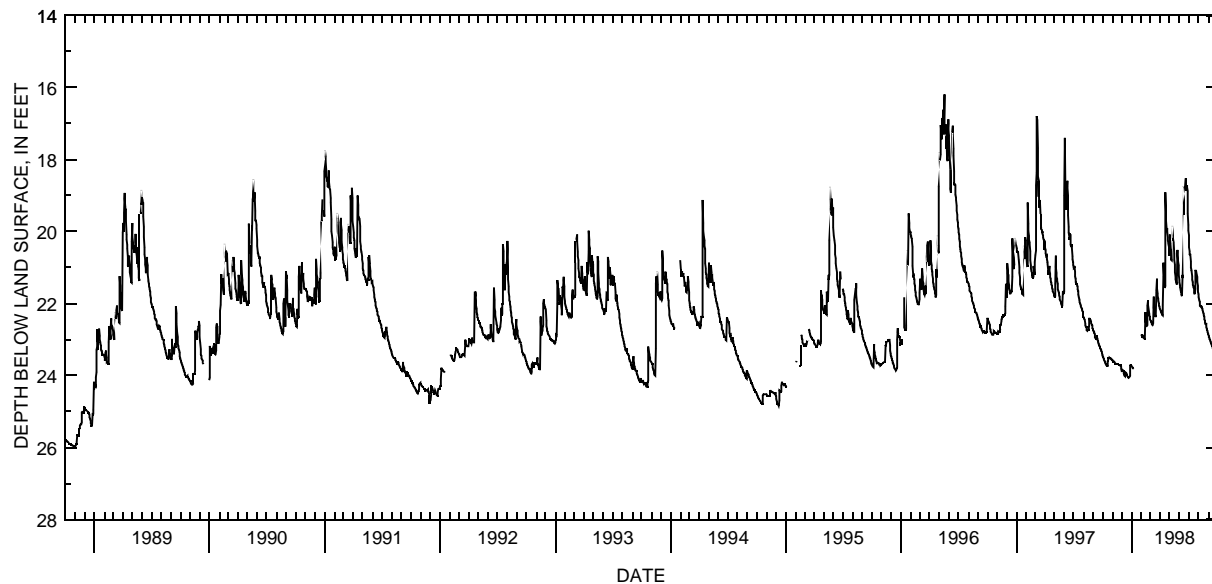
PERIOD OF RECORD.--February 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 25.95 ft below land-surface datum, Oct. 26-27, 1988;  
minimum daily low, 14.00 ft below land-surface datum, Jan. 22, 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	23.47	23.56	23.86	23.75	22.88	22.46	22.17	20.08	21.40	20.43	21.80	22.88
2	23.49	23.57	23.83	23.76	22.90	22.49	22.18	20.33	21.49	20.54	21.89	22.92
3	23.51	23.58	23.85	23.77	22.92	22.51	22.21	20.47	21.54	20.65	21.95	22.95
4	23.52	23.60	23.87	23.78	22.92	22.53	22.23	20.55	21.60	20.62	22.00	22.98
5	23.55	23.60	23.88	23.79	22.92	22.55	22.25	20.68	21.64	20.63	22.06	23.00
6	23.58	23.61	23.92	23.80	22.91	22.57	22.28	20.78	21.68	20.83	22.08	23.02
7	23.61	23.62	23.96	23.78	22.92	22.58	22.30	20.80	21.74	20.98	22.05	23.05
8	23.63	23.62	23.99	---	22.96	22.58	22.33	19.36	21.78	21.07	22.06	23.08
9	23.65	23.63	24.01	---	22.97	22.54	22.03	19.85	21.79	21.10	22.07	23.11
10	23.66	23.65	24.00	---	22.97	21.80	21.25	20.10	21.20	21.23	22.07	23.13
11	23.68	23.65	23.95	---	22.95	22.00	20.87	20.25	21.29	21.33	22.10	23.15
12	23.70	23.65	23.91	---	22.23	22.10	21.25	20.20	18.39	21.39	22.13	23.18
13	23.71	23.66	23.92	---	22.46	22.19	21.44	20.30	18.75	21.47	22.17	23.20
14	23.72	23.65	23.93	---	22.56	22.25	21.54	20.62	19.53	21.50	22.21	23.23
15	23.74	23.65	23.95	---	22.60	22.31	21.55	20.79	19.25	21.54	22.23	23.25
16	23.73	23.66	23.97	---	22.62	22.35	21.50	20.91	18.08	21.58	22.26	23.27
17	23.60	23.66	24.00	---	22.63	22.38	18.92	21.02	18.75	21.64	22.30	23.29
18	23.53	23.67	24.01	---	22.61	22.36	19.45	21.13	18.78	21.68	22.35	23.32
19	23.52	23.69	24.03	---	22.05	21.70	19.67	21.25	18.77	21.73	22.43	23.34
20	23.52	23.70	24.05	---	21.92	21.63	19.90	21.32	18.52	21.60	22.47	23.35
21	23.51	23.70	24.07	---	21.94	21.32	19.96	21.39	18.78	21.06	22.51	23.27
22	23.50	23.70	24.07	---	22.03	21.57	19.90	21.45	18.86	21.10	22.56	23.28
23	23.50	23.70	24.07	---	22.17	21.71	20.01	21.47	18.87	21.10	22.59	23.31
24	23.51	23.70	24.04	---	22.28	21.78	20.15	21.37	18.71	21.08	22.53	23.34
25	23.51	23.71	24.00	---	22.33	21.86	20.24	20.50	18.77	21.18	22.65	23.37
26	23.52	23.73	23.73	---	22.36	21.92	20.31	20.65	18.88	21.26	22.69	23.39
27	23.53	23.74	23.72	---	22.40	21.98	20.34	20.83	19.50	21.40	22.73	23.41
28	23.53	23.80	23.69	---	22.43	22.03	20.44	20.94	19.82	21.50	22.76	23.43
29	23.54	23.88	23.71	---	22.07	22.07	20.64	21.01	19.97	21.63	22.79	23.45
30	23.56	23.88	23.72	22.85	---	22.11	20.64	21.21	20.10	21.67	22.82	23.48
31	23.56	---	23.73	22.86	---	22.15	---	21.34	---	21.73	22.85	---
MAX	23.74	23.88	24.07	23.80	22.97	22.58	22.33	21.47	21.79	21.73	22.85	23.48

CAL YR 1997 LOW 24.07  
WTR YR 1998 LOW 24.07



**GROUND-WATER RECORDS**  
**Hamilton County**

**391324084272500. LOCAL NUMBER, H-9**

LOCATION.--Lat 39°13'24", long 84°27'25", Hydrologic Unit 05090203, 9.1 mi north of Riverfront Stadium in Cincinnati.  
Owner: Diamond National Corporation.  
AQUIFER.--Sand and gravel of Pleistocene Age.  
WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 10 in., depth drilled 168 ft, present depth 163 ft, cased.  
INSTRUMENTATION.--Periodic measurement with chalked tape by ODNR personnel.  
DATUM.--Elevation of land-surface datum is 555.30 ft above sea level.  
Measuring point: Floor of instrument shelter, 2.76 ft above land-surface datum.  
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
PERIOD OF RECORD.--July 1938 to September 1982 continuous, periodic thereafter.  
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low 136.80 ft below land-surface datum, Nov. 9, 1947, Feb. 15, 1948; minimum water level measured, 29.45 ft below land-surface datum, Apr. 22, 1997.

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

DATE	WATER LEVEL
Oct. 28, 1997	32.07

**GROUND-WATER RECORDS**  
**Hamilton County**

**391341084275300. LOCAL NUMBER, H-8**

LOCATION.--Lat 39°13'41", long 84°27'53", Hydrologic Unit 05090203, Vine and Water Streets, Wyoming.

Owner.--Wyoming Water Department.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 194 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 576.2 ft above sea level.

Measuring point: Top of platform 3.30 ft above land-surface datum.

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

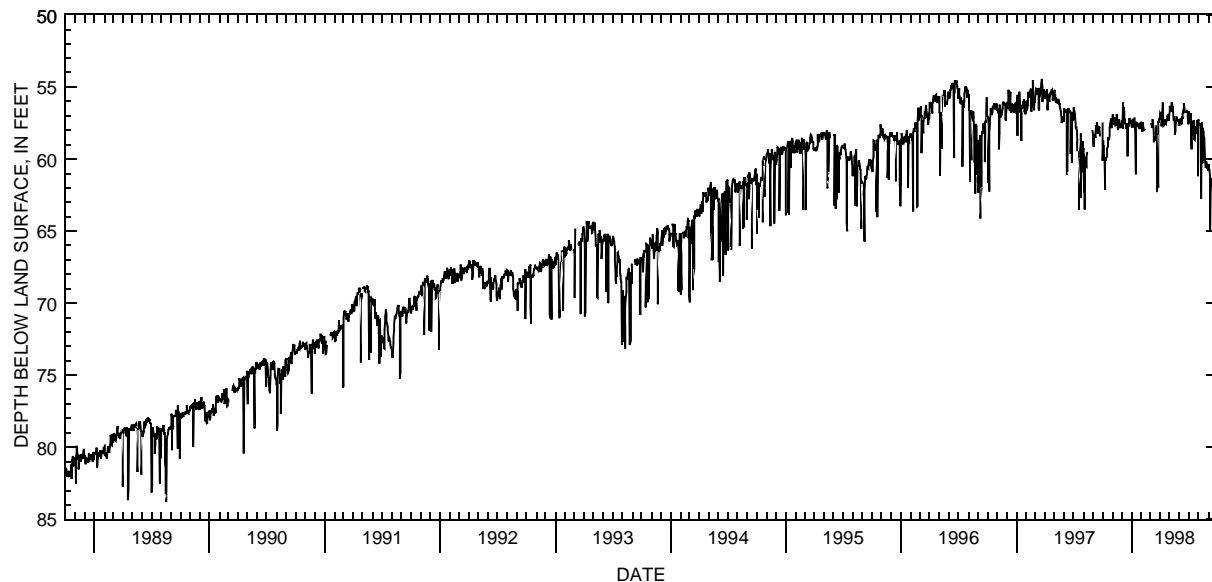
PERIOD OF RECORD.--June 1938 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 148.86 ft below land-surface datum, Dec. 1, 1948;  
minimum daily low, 54.45 ft below land-surface datum, Mar. 21, 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	58.70	56.90	57.85	57.80	57.85	---	56.80	56.30	57.25	57.00	57.50	60.33
2	59.00	57.00	57.65	57.45	58.10	57.50	56.90	56.55	57.50	57.25	57.55	60.59
3	59.05	57.30	56.10	57.80	58.15	57.50	56.90	56.60	57.45	57.50	57.60	60.74
4	59.40	57.55	57.90	57.20	57.45	57.65	56.80	56.60	57.30	57.10	57.55	60.79
5	59.65	57.55	56.40	57.35	57.65	57.80	57.75	56.65	57.15	57.20	57.50	61.24
6	60.00	57.40	56.50	57.65	57.80	57.65	57.25	56.50	57.40	57.00	57.80	64.91
7	62.10	57.10	56.70	57.70	57.95	57.60	56.90	56.05	57.60	56.85	57.95	61.67
8	60.05	57.20	57.30	---	58.00	57.25	56.25	56.20	57.55	59.35	62.75	61.38
9	60.05	57.45	57.20	57.10	58.00	57.55	56.10	56.55	57.10	57.45	58.30	61.41
10	60.05	57.70	57.25	57.45	57.95	58.20	57.65	56.50	57.10	57.30	57.45	61.35
11	59.95	57.65	57.50	58.00	57.90	58.70	57.75	56.50	56.85	58.00	57.65	61.43
12	59.90	57.55	57.55	58.00	---	58.85	57.70	56.65	56.65	58.15	57.80	61.82
13	59.80	57.40	57.55	61.05	---	58.45	57.65	57.30	56.70	58.40	60.30	61.85
14	59.25	56.90	57.80	57.70	---	58.50	57.50	57.20	56.45	58.10	57.85	62.13
15	59.15	57.25	57.80	57.40	---	58.65	57.30	57.00	56.15	57.65	58.00	62.29
16	58.80	57.50	57.50	57.50	---	58.65	57.25	57.85	56.55	57.35	58.15	62.48
17	58.55	58.00	57.50	57.55	---	58.20	57.50	58.30	56.75	57.90	58.40	62.51
18	58.50	57.70	59.80	57.60	---	57.85	57.55	58.30	56.70	58.60	58.55	61.71
19	58.70	57.45	57.65	57.75	---	57.65	57.45	58.05	56.70	58.65	58.70	61.85
20	58.65	57.25	57.65	57.75	---	---	57.35	57.75	56.70	57.90	59.90	61.86
21	58.40	57.25	57.60	57.70	---	62.30	57.20	57.30	56.75	57.80	60.10	60.95
22	58.40	57.60	57.75	57.65	---	58.30	57.20	57.25	56.65	57.75	60.60	60.60
23	57.80	57.85	57.60	57.50	---	58.20	57.00	57.15	56.70	57.80	60.60	60.66
24	57.50	57.85	57.15	57.80	---	57.85	56.90	57.05	56.65	57.85	60.50	60.39
25	57.60	57.50	57.45	57.90	---	62.00	57.00	57.40	56.65	58.15	60.18	60.20
26	57.20	57.80	57.40	57.85	---	57.30	57.00	57.25	56.75	58.20	60.47	60.42
27	57.85	57.50	57.45	57.60	---	57.45	57.25	57.30	57.05	57.30	60.62	60.60
28	57.65	57.55	57.30	57.50	---	57.20	57.25	57.40	57.60	57.35	60.66	60.56
29	57.55	57.50	57.30	57.45	---	57.20	57.05	57.30	57.05	61.20	60.33	60.24
30	57.35	57.35	57.40	57.40	---	57.25	56.60	57.70	56.70	57.35	60.66	60.29
31	57.30	---	57.65	57.50	---	56.80	---	57.30	---	57.25	60.77	---
MAX	62.10	58.00	59.80	61.05	58.15	62.30	57.75	58.30	57.60	61.20	62.75	64.91

CAL YR 1997 LOW 63.50  
WTR YR 1998 LOW 64.91



**GROUND-WATER RECORDS**  
**Hamilton County**

**391442084262900. LOCAL NUMBER, H-7**

LOCATION.--Lat 39°14'42", long 84°26'29", Hydrologic Unit 05090203, at Evendale.

Owner: General Electric Corp.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 6 in., depth 180 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 555.40 ft above sea level.

Measuring point: Floor of instrument shelter 7.78 ft above land-surface datum.

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

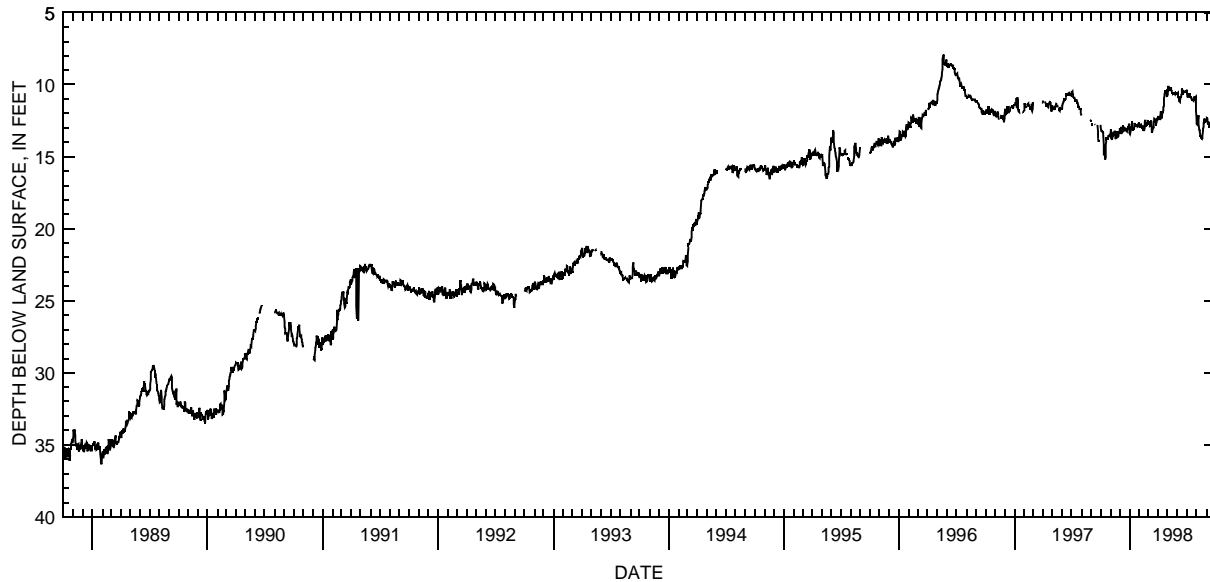
PERIOD OF RECORD.--April 1941 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 101.09 ft below land-surface datum, Jan. 29, 1964;

minimum daily low, 7.90 ft below land-surface datum, May 20, 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	13.18	13.24	13.32	13.40	12.93	12.58	12.19	10.31	10.61	10.62	12.70	12.41
2	13.22	13.12	13.40	13.22	12.94	12.58	12.40	10.11	10.59	10.85	12.75	12.31
3	13.20	13.41	13.31	13.14	12.97	12.54	12.41	10.14	10.83	10.90	12.81	12.35
4	13.14	13.73	12.94	13.16	12.86	12.73	12.37	10.20	10.85	10.78	12.89	12.59
5	13.23	13.80	13.07	13.11	12.70	12.90	12.46	10.32	10.91	10.73	12.59	12.76
6	13.27	13.73	13.14	12.95	12.86	12.90	12.35	10.38	11.12	10.70	12.14	12.74
7	13.30	13.58	13.24	12.86	12.91	12.85	12.23	10.37	11.16	10.62	12.74	12.56
8	13.43	13.44	13.24	12.54	12.94	12.65	11.98	10.19	11.18	10.60	13.07	12.61
9	14.19	13.39	13.02	12.92	12.97	12.49	11.87	10.34	11.15	10.69	13.18	12.76
10	14.70	13.39	12.83	13.12	12.98	13.15	12.23	10.31	10.88	10.78	13.16	12.90
11	14.84	13.47	13.14	13.12	12.86	13.26	12.34	10.21	10.87	10.85	13.30	12.88
12	14.86	13.52	13.23	13.02	12.98	13.32	12.29	10.28	10.79	10.83	13.52	12.81
13	14.93	13.48	13.21	13.13	13.14	13.19	12.08	10.43	10.70	10.81	13.56	12.79
14	15.21	13.20	13.14	13.16	13.14	12.93	11.87	10.51	10.62	10.94	13.53	12.77
15	15.04	13.40	13.15	12.83	13.14	13.05	11.93	10.53	10.27	10.99	13.67	12.90
16	14.52	13.70	13.09	12.66	12.97	13.01	11.79	10.55	10.40	11.02	13.74	12.97
17	14.17	13.77	13.00	12.77	12.57	12.90	11.57	10.64	10.62	11.06	13.63	12.99
18	13.92	13.64	13.08	12.86	12.44	12.58	11.48	10.66	10.64	11.08	13.78	12.98
19	13.75	13.41	13.11	12.84	12.68	12.44	10.97	10.61	10.50	11.08	13.61	12.91
20	13.72	13.35	13.20	12.91	12.71	12.36	10.69	10.60	10.47	11.10	13.23	12.95
21	13.72	13.26	13.24	12.91	12.89	12.42	10.60	10.61	10.43	11.04	13.05	12.91
22	13.80	13.33	13.10	12.83	12.90	12.56	10.51	10.65	10.52	10.95	12.87	13.00
23	13.78	13.46	13.06	12.75	12.69	12.60	10.45	10.65	10.50	10.86	12.67	13.14
24	13.58	13.62	13.06	12.82	12.67	12.76	10.43	10.63	10.53	10.99	12.44	13.12
25	13.58	13.61	12.89	12.95	12.82	12.76	10.51	10.52	10.54	11.05	12.35	12.97
26	13.58	13.24	13.00	12.94	12.75	12.61	10.45	10.55	10.47	11.00	12.53	13.00
27	13.53	13.42	12.99	12.88	12.47	12.50	10.75	10.58	10.43	10.88	12.62	12.93
28	13.66	13.30	12.98	12.72	12.56	12.34	10.82	10.67	10.45	10.82	12.56	12.91
29	13.58	13.21	12.82	12.64	---	12.38	10.74	10.68	10.45	11.08	12.47	12.90
30	13.59	13.03	12.71	12.83	---	12.33	10.65	10.69	10.33	11.84	12.47	12.86
31	13.47	---	13.34	12.93	---	12.19	---	10.64	---	12.41	12.46	---
MAX	15.21	13.80	13.40	13.40	13.14	13.32	12.46	10.69	11.18	12.41	13.78	13.14
CAL YR 1997	LOW	15.21										
WTR YR 1998	LOW	15.21										



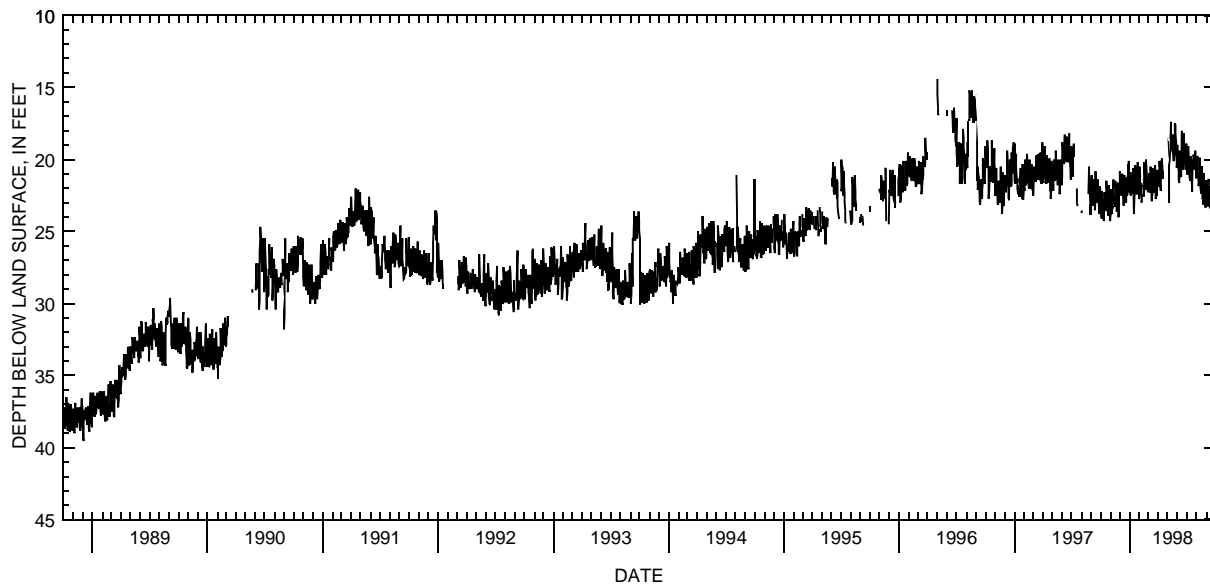
## GROUND-WATER RECORDS Hamilton County

**391608084254400. LOCAL NUMBER, H-6**

LOCATION.--Lat 39°16'08", long 84°25'44", Hydrologic Unit 05090203, Water Treatment Plant in Glendale.  
 Owner: Glendale Water Department.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 167 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 570.65 ft above sea level.  
 Measuring point: Floor of instrument shelter 4.05 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--July 1938 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 84.10 ft below land-surface datum, Oct. 14, 1960;  
 minimum daily low, 14.40 ft below land-surface datum, Apr. 30, 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	24.00	23.80	21.60	21.00	20.50	---	21.80	18.70	19.80	20.80	20.88	22.80
2	24.00	22.05	22.00	22.50	21.20	21.00	21.90	18.50	20.10	21.10	19.74	22.83
3	24.00	22.90	21.90	22.10	21.70	22.10	21.80	17.30	20.40	21.00	19.85	23.09
4	23.60	23.40	22.40	20.90	21.70	22.10	21.70	22.10	20.80	19.10	20.58	22.97
5	22.20	23.80	22.50	22.10	22.40	22.30	20.10	23.00	21.40	19.20	21.09	23.27
6	23.00	23.20	22.40	22.30	22.40	22.00	21.10	20.40	21.60	20.00	21.47	21.53
7	23.30	23.40	21.00	22.30	23.00	22.30	21.70	20.00	19.40	20.60	21.84	21.35
8	23.90	23.20	21.40	22.10	20.40	20.50	22.20	19.10	19.80	21.20	21.66	21.92
9	23.80	21.40	21.90	22.20	21.40	21.80	21.50	18.90	20.30	21.20	19.86	23.01
10	24.00	22.20	22.00	22.20	21.80	22.90	20.90	17.40	20.80	21.40	20.11	23.00
11	24.30	22.60	22.60	20.60	21.80	22.80	20.10	18.00	21.10	21.50	21.22	23.37
12	22.30	23.00	23.20	21.20	21.80	22.60	19.90	18.30	21.20	19.80	21.62	23.30
13	22.70	23.00	22.40	23.60	22.60	22.40	20.10	18.70	20.40	20.90	21.92	21.86
14	23.00	23.00	21.10	23.80	22.30	22.40	20.80	19.20	18.00	21.10	22.37	22.77
15	23.50	23.30	22.00	22.50	20.20	20.60	21.30	19.30	18.70	21.41	22.07	23.75
16	23.30	21.50	22.50	22.20	20.70	21.60	---	19.50	20.30	21.83	20.45	23.85
17	23.50	22.20	22.60	21.90	21.00	22.10	---	18.30	20.30	22.22	21.57	23.58
18	23.30	22.60	22.80	20.40	21.30	22.30	---	19.50	20.70	21.87	21.83	23.88
19	21.50	22.80	23.00	21.00	22.10	22.10	---	20.00	20.60	20.10	22.68	23.67
20	22.40	23.60	22.70	21.40	21.80	22.00	---	20.10	20.30	20.13	22.71	22.05
21	22.70	23.50	21.20	21.60	22.10	22.00	---	20.00	18.20	19.65	23.10	22.17
22	23.30	23.20	22.00	22.40	20.00	20.40	---	19.50	19.40	19.75	22.55	22.65
23	23.60	21.60	22.50	22.20	21.00	21.00	---	19.70	20.00	19.95	20.93	22.76
24	23.90	22.50	22.40	21.80	21.80	22.70	---	17.50	20.00	20.49	21.96	22.79
25	23.80	22.60	20.30	20.20	22.00	22.50	---	17.60	20.00	20.66	22.28	23.19
26	21.80	24.00	21.40	21.00	22.30	22.10	---	18.20	20.70	19.40	22.56	22.91
27	22.40	23.00	21.70	21.40	22.30	22.20	---	18.80	20.60	19.75	22.65	21.47
28	23.40	22.10	20.10	21.70	21.60	22.50	---	19.40	18.90	20.81	23.33	21.99
29	23.70	22.10	21.40	21.80	---	20.70	---	20.00	19.90	20.87	22.85	22.83
30	24.30	20.80	22.00	22.70	---	21.40	---	20.60	20.40	21.29	21.44	23.21
31	24.10	---	22.30	22.50	---	21.90	---	19.00	---	21.14	22.05	---
MAX	24.30	24.00	23.20	23.80	23.00	22.90	22.20	23.00	21.60	22.22	23.33	23.88
CAL YR 1997	LOW	24.30										
WTR YR 1998	LOW	24.30										



**GROUND-WATER RECORDS**  
**Hamilton County**

**391733084392400. LOCAL NUMBER, H-2**

LOCATION.--Lat 39°17'33", long 84°39'24", Hydrologic Unit 05080002, East Miami River Road 1.5 mi south of Ross.

Owner: Lee Wilhelm.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water table well, diameter 6 in., depth 89 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 534.21 ft above sea level.

Measuring point: Floor of instrument shelter 8.97 ft above land-surface datum.

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

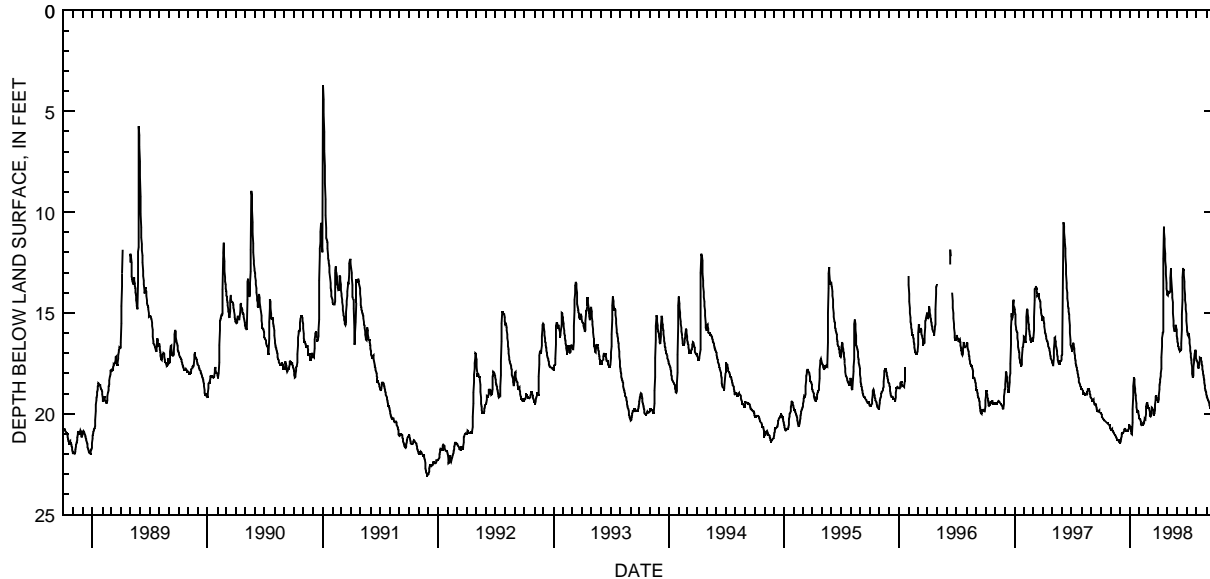
PERIOD OF RECORD.--August 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 24.37 ft below land-surface datum, Sept. 24, 25, 1972;  
minimum daily low 1.60 ft below land-surface datum, June, 16, 1958. (Water level above land surface but could not be measured during January 1959 flood.)

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	19.97	20.75	21.44	20.58	20.25	19.71	19.38	13.99	16.40	15.85	17.36	19.09
2	19.99	20.78	21.34	20.63	20.24	19.70	19.27	13.89	16.50	15.96	17.39	19.15
3	20.02	20.78	21.26	20.70	20.28	19.76	19.07	13.99	16.63	16.05	17.47	19.18
4	20.09	20.77	21.18	20.75	20.37	19.88	18.77	14.06	16.67	16.10	17.54	19.22
5	20.15	20.75	21.10	20.84	20.49	19.98	18.56	14.06	16.73	16.10	17.65	19.28
6	20.19	20.78	21.02	20.98	20.56	20.08	18.40	14.02	16.78	15.99	17.74	19.31
7	20.22	20.81	20.97	21.02	20.57	20.12	18.27	14.00	16.82	16.05	17.74	19.34
8	20.25	20.84	20.94	21.00	20.56	20.12	18.12	13.93	16.87	16.31	17.57	19.39
9	20.28	20.89	20.95	20.45	20.50	20.07	18.00	13.25	16.90	16.50	17.36	19.45
10	20.30	20.90	20.95	19.75	20.46	19.94	17.77	12.77	16.89	16.69	17.23	19.54
11	20.30	20.93	20.94	19.10	20.52	19.79	17.19	12.90	16.85	16.86	17.21	19.63
12	20.30	20.97	20.89	18.63	20.52	19.68	16.65	13.13	16.79	17.01	17.23	19.66
13	20.33	21.02	20.83	18.30	20.50	19.70	16.26	13.65	16.50	17.16	17.23	19.66
14	20.35	21.05	20.78	18.17	20.45	19.76	16.07	14.05	15.82	17.32	17.24	19.69
15	20.36	21.05	20.75	18.27	20.37	19.78	15.99	14.23	15.08	17.49	17.32	19.76
16	20.37	21.06	20.73	18.52	20.26	19.85	15.95	14.46	14.32	17.69	17.41	19.90
17	20.38	21.10	20.74	18.75	20.20	19.96	12.30	14.75	13.23	17.88	17.50	20.05
18	20.39	21.13	20.75	18.92	20.23	20.01	10.72	15.01	12.78	17.99	17.61	20.12
19	20.40	21.18	20.78	19.08	20.22	20.01	10.93	15.37	12.84	18.14	17.75	20.20
20	20.42	21.21	20.81	19.26	20.03	19.94	11.32	15.65	12.84	18.14	17.89	20.27
21	20.44	21.24	20.82	19.47	19.80	19.80	11.67	15.85	13.10	17.68	17.99	20.32
22	20.45	21.25	20.83	19.67	19.65	19.55	12.06	15.88	13.45	17.45	18.08	20.35
23	20.46	21.25	20.83	19.86	19.49	19.30	12.39	15.89	13.75	17.41	18.16	20.35
24	20.49	21.26	20.82	19.90	19.43	19.12	12.71	15.82	14.10	17.29	18.30	20.35
25	20.50	21.27	20.82	19.90	19.50	19.08	13.08	15.73	14.37	17.02	18.44	20.36
26	20.51	21.31	20.78	19.84	19.58	19.14	13.50	15.56	14.60	16.84	18.58	20.38
27	20.52	21.35	20.72	19.87	19.69	19.18	13.80	15.71	14.80	16.80	18.70	20.41
28	20.52	21.37	20.61	19.97	19.71	19.25	13.99	15.82	15.05	16.91	18.80	20.44
29	20.57	21.41	20.53	20.09	---	19.33	14.09	15.97	15.39	17.06	18.86	20.47
30	20.65	21.44	20.51	20.20	---	19.40	14.11	16.12	15.70	17.23	18.92	20.47
31	20.71	---	20.55	20.25	---	19.40	---	16.27	---	17.33	19.00	---
MAX	20.71	21.44	21.44	21.02	20.57	20.12	19.38	16.27	16.90	18.14	19.00	20.47

CAL YR 1997    LOW 21.44  
WTR YR 1998    LOW 21.44





**GROUND-WATER RECORDS**  
**Hamilton County**

**391748084393800. LOCAL NUMBER, H-19**

LOCATION.--Lat 39°17'48", long 84°39'38", Hydrologic Unit 05080002, on left bank of Great Miami River 1.3 mi southwest of Venice.

Owner: Southwest Ohio Water Company.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Collector-type industrial supply water-table well, diameter 20 ft, depth 144 ft, and horizontal intakes at 95-100 ft.

PERIOD OF RECORD.--1964 to current year.

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)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	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)	BICAR- BONATE IT-FLD (MG/L AS HCO3) (99440)	ANC UNFLTRD CARBON- ATE IT-FLD (MG/L - CAC03) (99430)
NOV 05...	0900	672	7.4	5.0	15.1	<10	76	27	34	4.0	288	236
APR 15...	1000	719	7.3	14.9	14.1	<10	100	28	18	2.7	--	--

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)	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)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L AS P) (00671)	ARSENIC TOTAL (UG/L AS AS) (01002)	ARSENIC DIS- SOLVED (UG/L AS AS) (01000)
NOV 05...	68	61	.33	7.7	442	.040	1.25	<.020	.021	<1	<1
APR 15...	59	33	.15	10	438	<.010	3.26	.025	.012	--	--

DATE	CHRO- MIUM, DIS- SOLVED (UG/L AS CR) (01030)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L AS CR) (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L AS CU) (01042)	COPPER, DIS- SOLVED (UG/L AS CU) (01040)	IRON, DIS- SOLVED (UG/L AS FE) (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L AS PB) (01051)	LEAD, DIS- SOLVED (UG/L AS PB) (01049)	MANGA- NESE, DIS- SOLVED (UG/L AS MN) (01056)	ZINC, TOTAL RECOV- ERABLE (UG/L AS ZN) (01092)	ZINC, DIS- SOLVED (UG/L AS ZN) (01090)	CARBON, ORGANIC TOTAL (MG/L AS C) (00680)
NOV 05...	<1.0	<1	2	1.9	16	<1	<1.0	222	<10	3.2	--
APR 15...	--	--	--	--	<10	--	--	90	--	--	.70

**GROUND-WATER RECORDS**  
**Hamilton County**

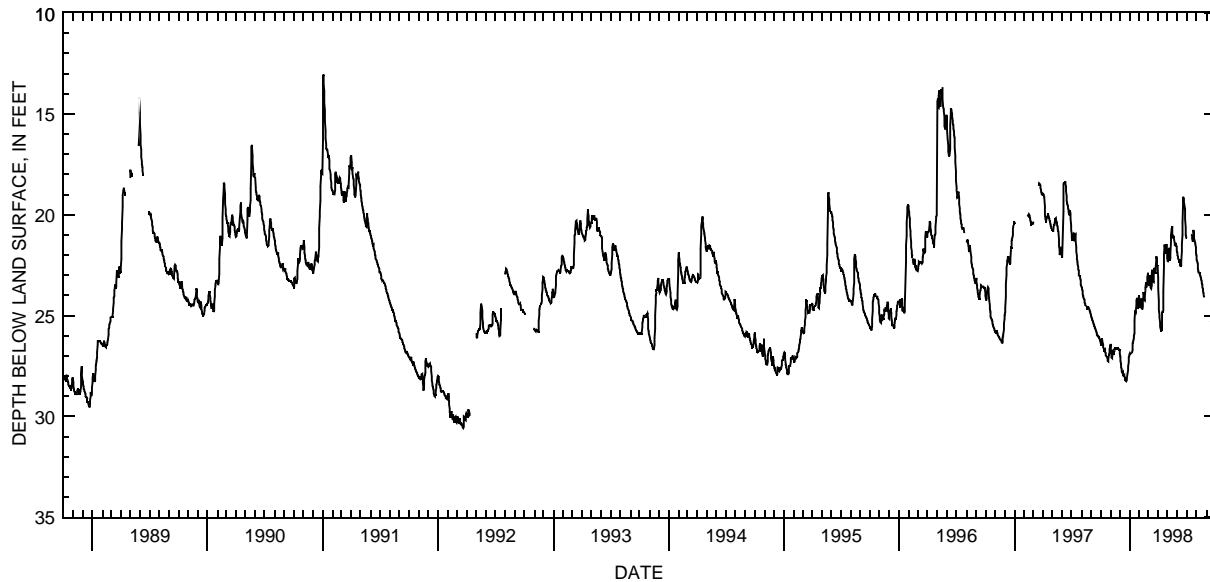
**391817084393300. LOCAL NUMBER, H-4**

LOCATION.--Lat 39°18'17", long 84°39'33", Hydrologic Unit 05080002, 0.7 mi southwest of Ross.  
 Owner: Southwestern Ohio Water Company.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled test water table well, diameter 6 in., depth 100 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land-surface datum is 541.57 ft above sea level. (Levels by Miami Conservancy District).  
 Measuring point: Floor of instrument shelter 3.00 ft above land-surface datum.  
 PERIOD OF RECORD.--December 1954 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 32.16 ft below land-surface datum, Nov. 20, 1971;  
 minimum daily low, 11.60 ft below land-surface datum, June 16, 1958.

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	26.38	26.40	27.04	26.86	24.55	23.47	23.65	22.34	21.98	---	22.20	---
2	26.44	26.70	27.22	26.92	24.61	23.50	24.29	22.21	22.07	---	22.31	---
3	26.44	26.97	27.40	26.92	24.63	23.38	24.72	21.87	22.15	---	22.43	---
4	26.23	27.08	27.53	26.90	24.50	23.14	24.97	21.63	22.22	---	22.56	---
5	26.13	27.10	27.66	---	24.27	23.01	25.11	21.90	22.31	---	22.67	---
6	26.32	27.05	27.75	---	24.15	23.01	25.34	22.10	22.30	---	22.82	---
7	26.45	26.88	27.83	26.85	24.46	23.36	25.52	22.20	22.20	---	22.86	---
8	26.55	26.76	27.83	26.85	24.67	23.59	25.69	22.20	22.34	---	22.89	---
9	26.64	26.71	27.81	26.70	24.69	23.63	25.73	21.94	22.46	---	22.89	---
10	26.73	26.89	27.89	26.36	24.52	23.48	25.73	21.34	22.54	---	22.89	---
11	26.73	26.89	27.97	26.24	24.24	23.15	25.59	20.99	22.55	---	22.94	---
12	26.72	26.79	28.00	26.25	24.01	22.90	25.78	21.08	22.51	---	23.01	---
13	26.70	26.71	27.96	26.13	23.85	22.72	24.85	20.70	22.30	---	23.06	---
14	26.77	26.66	28.00	26.00	24.09	23.05	24.76	20.55	21.85	---	23.10	25.28
15	26.85	26.65	28.06	25.88	24.22	23.29	24.80	20.94	21.46	20.98	23.19	25.29
16	26.90	26.63	28.11	25.22	24.25	23.33	24.80	21.03	21.00	21.00	23.27	25.04
17	26.96	26.62	28.17	24.74	24.05	23.20	23.80	21.14	20.37	21.11	23.36	25.23
18	27.01	26.60	28.22	24.83	23.78	22.98	22.60	21.17	19.32	21.18	23.46	25.44
19	27.01	26.60	28.26	24.86	23.60	22.80	21.99	21.04	19.11	21.29	23.57	25.62
20	27.05	26.60	28.25	24.75	23.35	22.63	21.48	21.03	19.19	21.29	23.67	25.76
21	27.11	26.60	28.17	24.46	23.48	22.79	21.51	21.28	19.34	20.75	23.78	25.86
22	27.17	26.60	28.13	24.24	23.55	22.88	21.68	21.45	19.52	21.02	23.90	25.97
23	27.23	26.61	28.12	24.11	23.56	22.90	21.85	21.53	19.56	21.14	23.97	26.04
24	27.26	26.62	27.90	24.40	23.35	22.62	21.92	21.53	19.71	21.17	24.08	26.07
25	27.19	26.62	27.70	24.60	23.10	22.31	21.90	21.46	20.20	21.29	---	25.90
26	26.95	26.63	27.50	24.65	22.92	22.06	21.46	21.38	20.62	21.38	---	25.92
27	26.83	26.65	27.32	24.57	22.87	22.16	21.57	21.49	20.96	21.47	---	26.07
28	26.81	26.69	27.17	24.25	23.20	22.48	21.80	21.59	21.12	21.60	---	26.19
29	26.65	26.69	27.05	24.04	---	22.52	22.16	21.69	21.12	21.74	---	26.30
30	26.52	26.87	26.96	24.00	---	22.50	22.33	21.78	21.14	21.89	---	26.37
31	26.46	---	26.91	24.32	---	23.14	---	21.88	---	22.04	---	---
MAX	27.26	27.10	28.26	26.92	24.69	23.63	25.78	22.34	22.55	22.04	24.08	26.37

CAL YR 1997   LOW 28.26  
 WTR YR 1998   LOW 28.26



**GROUND-WATER RECORDS**  
**Hardin County**

**404218083503700. LOCAL NUMBER, HN-1**

LOCATION.--Lat 40°42'18", long 83°50'37", Hydrologic Unit 05060001, at grain elevator in Alger.

Owner: Village of Alger.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 40 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 975 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 1.5 ft above land-surface datum.

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

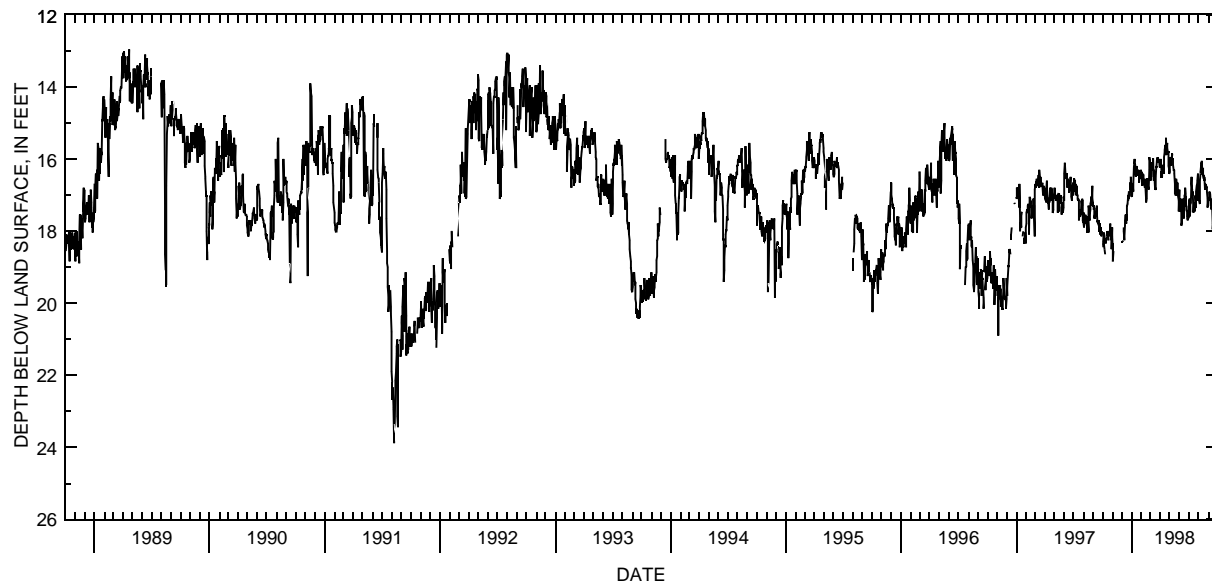
PERIOD OF RECORD.--April 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 23.90 ft below land-surface datum, Aug. 7, 1991;  
minimum daily low, 5.85 ft below land-surface datum, July 1, 1946.

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	18.45	18.50	18.35	17.05	16.35	16.60	16.25	16.00	17.15	17.20	17.10	17.15
2	18.30	18.85	18.30	16.70	16.50	16.45	16.05	16.10	17.25	17.10	17.15	17.10
3	18.05	18.55	18.25	16.90	16.75	16.20	16.00	15.95	17.45	17.60	17.25	17.05
4	18.40	18.35	---	16.70	16.50	16.15	16.35	16.20	17.10	17.45	17.05	16.90
5	18.35	---	17.90	16.90	16.40	16.10	16.50	16.00	17.25	17.25	16.60	17.10
6	18.50	---	18.00	16.65	16.45	16.30	16.50	16.00	17.50	17.20	16.40	16.95
7	18.65	---	18.25	16.20	16.55	16.30	16.40	15.95	17.85	17.15	16.35	17.30
8	---	---	18.20	16.25	16.60	16.00	16.30	15.85	17.75	16.50	16.15	17.25
9	---	---	17.85	16.00	16.60	16.00	16.40	16.00	17.70	16.70	16.20	17.25
10	18.20	---	17.70	16.10	16.80	16.60	16.15	16.00	17.45	16.85	16.20	17.40
11	18.35	---	17.70	16.15	16.55	16.30	16.30	16.15	17.50	17.00	16.05	17.10
12	18.15	---	17.55	16.35	16.60	16.50	16.40	16.15	17.50	16.90	16.40	17.25
13	18.05	---	17.80	16.50	16.80	16.35	15.95	16.30	17.10	17.00	16.45	17.80
14	18.00	---	17.55	16.30	17.15	16.50	15.80	16.30	17.65	17.50	16.25	17.95
15	---	---	17.70	16.25	17.20	16.85	15.75	16.40	17.65	17.45	16.40	17.65
16	18.00	---	17.50	16.20	17.10	16.80	15.60	16.70	17.20	17.20	16.55	17.85
17	18.10	---	17.30	16.40	16.90	16.85	15.65	16.90	17.00	17.25	16.45	17.90
18	18.25	---	17.25	16.45	16.65	16.50	15.90	16.95	16.95	17.30	16.60	18.00
19	18.00	---	17.00	16.45	16.55	16.20	15.40	16.75	16.80	17.45	16.50	18.30
20	18.15	---	17.15	16.30	16.55	16.25	15.90	17.00	17.05	17.30	16.85	18.35
21	---	---	16.95	16.40	16.70	16.00	15.75	16.55	17.30	17.00	16.70	18.30
22	18.15	---	17.10	16.30	16.75	16.10	15.55	16.70	17.30	17.35	16.75	18.40
23	18.15	---	16.90	16.35	16.85	15.95	15.70	16.80	17.40	17.10	16.70	17.95
24	17.80	---	17.05	16.65	16.30	16.10	15.80	17.00	17.45	16.90	16.80	18.10
25	18.00	---	16.90	16.40	15.95	16.00	15.80	16.65	17.60	16.75	16.75	17.80
26	18.15	---	16.65	16.50	16.05	16.00	15.80	16.70	17.70	16.65	16.80	18.05
27	18.25	---	16.85	16.45	16.15	16.05	16.20	17.05	17.65	16.60	16.90	18.20
28	18.10	---	16.50	16.40	16.05	16.00	16.30	17.15	17.60	16.40	17.10	18.20
29	18.50	18.60	16.70	16.30	---	16.20	16.40	17.45	17.65	16.60	17.35	18.35
30	17.90	---	16.70	16.50	---	16.20	16.35	17.45	17.15	17.15	17.15	18.35
31	18.15	---	16.95	16.55	---	16.20	---	16.85	---	17.00	17.10	---
MAX	18.65	18.85	18.35	17.05	17.20	16.85	16.50	17.45	17.85	17.60	17.35	18.40

CAL YR 1997   LOW 18.85  
WTR YR 1998   LOW 18.85



**GROUND-WATER RECORDS**  
**Hocking County**

259

**393200082235300. LOCAL NUMBER, HK-1**

LOCATION.--Lat 39°32'00", long 82°23'53", Hydrologic Unit 05060002, at railroad yards southeast edge of Logan.  
Owner: Chessie System.  
AQUIFER.--Sand and gravel of Quaternary Age.  
WELL CHARACTERISTICS.--Drilled unused water table well, diameter 6 in., depth 88 ft, cased.  
INSTRUMENTATION.--Periodic measurement with chalked tape by Ohio Department of Natural Resources personnel.  
DATUM.--Elevation of land-surface datum is 710 ft above sea level, from topographic map.  
Measuring point: Top of gage platform 4.90 ft above land-surface datum.  
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
PERIOD OF RECORD.--August 1962 to September 1982 continuous, periodic thereafter.  
EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 21.35 ft below land-surface datum, Dec. 21, 22, 1967;  
minimum daily low, 9.11 ft below land-surface datum, Apr. 22, 1964.

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

DATE	WATER LEVEL
Oct. 30, 1997	18.10
Apr. 2, 1998	14.42

## GROUND-WATER RECORDS

### Knox County

#### 402344082300700. LOCAL NUMBER, K-1

LOCATION.--Lat 40°23'44", long 82°30'07", Hydrologic Unit 05040003, in city park, Mt. Vernon.

Owner: Mt. Vernon Water Department.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water table well, diameter 8 in., depth 90 ft, cased.

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

DATUM.--Elevation of land-surface datum is 1,000 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 3.50 ft above land-surface datum.

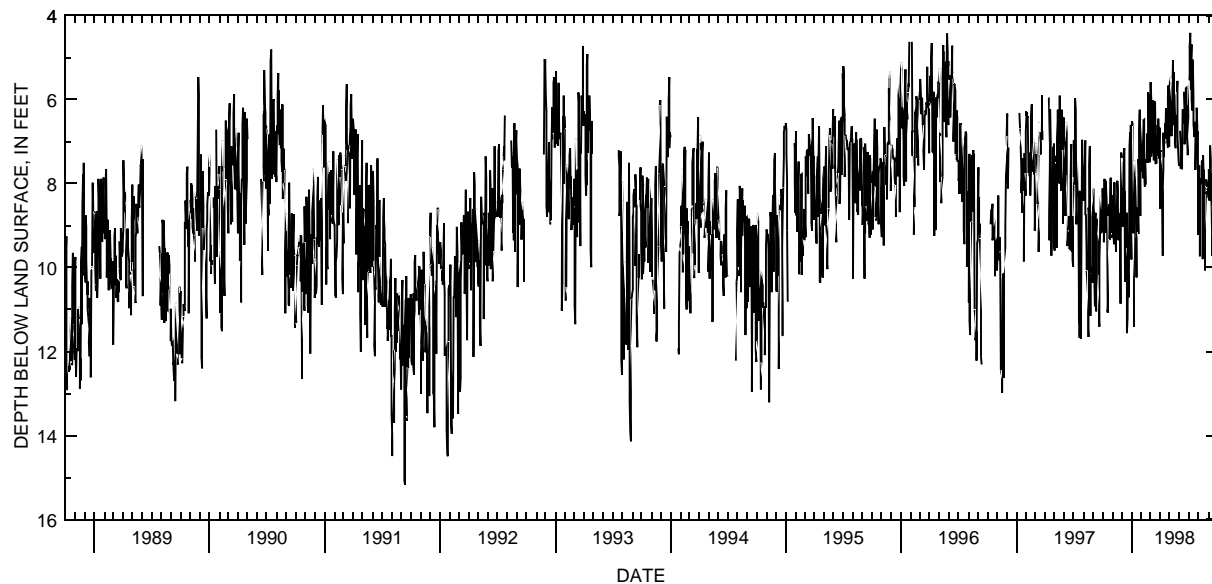
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.- April 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 20.74 ft below land-surface datum, July 14, 1988;  
minimum daily low, 1.43 ft below land-surface datum, Apr. 29, 1950.

#### 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	8.66	9.26	8.80	6.52	6.32	5.58	8.61	5.61	---	4.73	9.03	8.35
2	9.14	8.28	9.04	6.59	7.61	5.97	7.64	5.47	---	5.54	7.57	7.66
3	8.37	8.63	8.21	6.62	7.22	7.36	7.20	5.14	6.75	4.75	9.29	8.27
4	8.32	9.28	7.51	6.02	7.87	6.62	7.24	6.26	7.12	4.42	9.73	8.41
5	9.39	9.45	7.35	9.19	7.12	6.12	6.10	6.69	7.65	4.46	7.87	7.72
6	7.89	7.96	7.30	8.55	6.54	7.22	7.79	6.82	6.94	5.77	7.93	7.09
7	8.86	7.99	7.16	11.40	6.50	6.55	8.40	6.87	5.91	5.11	7.91	7.44
8	9.06	8.91	8.12	9.16	6.48	6.21	9.72	6.52	7.41	4.68	7.96	8.23
9	9.16	9.19	10.34	8.24	7.65	6.01	8.10	5.79	7.66	5.98	7.94	7.76
10	8.84	9.23	8.18	7.46	8.07	7.28	7.65	5.07	6.24	6.26	7.79	8.35
11	7.93	9.62	8.46	6.24	7.42	6.63	6.80	6.23	6.58	5.23	7.47	9.18
12	8.32	8.62	10.23	8.06	8.03	7.45	7.37	6.27	---	5.05	7.45	9.72
13	8.67	9.33	8.32	8.56	7.64	6.13	6.89	5.34	---	5.09	9.77	8.42
14	10.08	8.64	9.54	8.66	6.06	6.09	7.05	6.61	---	5.93	9.79	8.47
15	11.07	8.07	8.69	10.23	6.19	6.04	---	5.88	5.82	6.59	7.32	8.64
16	11.01	7.94	11.00	9.30	7.15	7.54	6.57	6.64	6.28	6.77	7.90	7.98
17	11.05	8.22	11.56	7.08	7.50	6.83	6.93	6.85	7.07	6.59	7.67	8.62
18	8.66	9.25	11.19	6.22	6.81	7.02	6.21	7.05	6.41	6.88	8.05	8.70
19	8.77	9.20	8.80	9.15	7.41	7.53	6.32	7.12	6.88	6.53	8.20	7.98
20	8.50	9.35	8.78	8.57	7.50	7.07	6.77	7.16	5.79	6.96	8.21	7.29
21	9.32	8.62	6.76	9.20	6.27	7.16	6.82	6.37	5.74	7.67	10.06	8.06
22	8.76	7.95	9.76	7.41	5.83	6.03	6.89	---	5.72	6.88	8.20	8.55
23	9.33	8.83	10.70	7.84	5.94	6.91	6.99	---	6.95	6.77	7.03	8.66
24	7.89	9.29	7.12	6.75	7.30	6.61	7.14	5.81	6.13	7.22	8.07	8.27
25	7.89	10.81	6.77	6.24	7.36	7.34	5.95	5.56	6.93	6.19	7.90	8.68
26	7.86	10.86	8.18	7.21	7.49	6.46	5.67	6.88	7.32	6.64	8.01	7.98
27	9.17	8.53	6.94	8.77	6.70	7.22	6.76	7.25	7.33	6.81	8.17	8.13
28	8.53	7.27	6.61	7.47	6.21	7.40	6.99	7.53	4.23	6.76	8.11	8.26
29	8.03	7.39	7.93	7.72	---	6.67	7.13	7.58	6.44	7.91	8.22	8.62
30	9.29	6.62	9.44	7.00	---	7.08	5.96	---	4.61	9.21	8.22	8.85
31	8.64	---	9.81	6.47	---	8.42	---	6.20	---	8.95	8.29	---
MAX	11.07	10.86	11.56	11.40	8.07	8.42	9.72	7.58	7.66	9.21	10.06	9.72
CAL YR 1997	LOW	11.70										
WTR YR 1998	LOW	11.56										



**GROUND-WATER RECORDS**  
**Knox County**

**402747082374300. LOCAL NUMBER, K-4**

LOCATION.--Lat 40°27'47", long 82°37'43", Hydrologic Unit 05040003, near Fredericktown.

Owner: Delco Water Company.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused observation well, diameter 6 in., depth 151 ft, cased.

INSTRUMENTATION.--Type F graphic recorder.

DATUM.--Elevation of land-surface datum is 1,085 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 1.5 ft above land-surface datum.

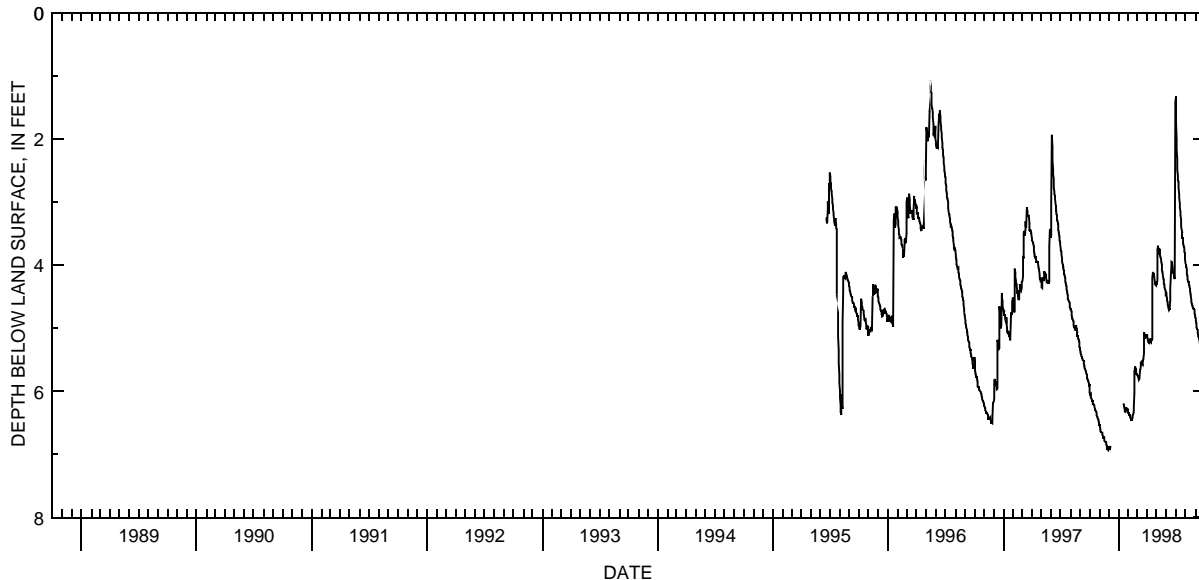
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.- June 19, 1995 to current year.93 ft below land-surface datum, Nov. 27, 1997 and Dec. 2, 1997;  
minimum daily low, 0.84 ft below land-surface datum, May 12, 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	6.06	6.53	6.92	---	6.33	5.75	5.13	4.26	4.47	1.71	4.01	4.84
2	6.06	6.56	6.93	---	6.38	5.75	5.18	4.26	4.52	2.00	4.02	4.88
3	6.05	6.61	6.90	---	6.39	5.77	5.18	3.75	4.55	2.16	4.08	4.92
4	6.09	6.64	6.87	---	6.36	5.81	5.22	3.69	4.58	2.32	4.11	4.98
5	6.10	6.65	6.89	---	6.38	5.81	5.22	3.77	4.61	2.48	4.14	5.01
6	6.12	6.65	---	---	6.41	5.81	5.24	3.81	4.64	2.58	4.17	5.01
7	6.14	6.65	---	---	6.42	5.79	5.24	3.81	4.67	2.64	4.22	5.02
8	6.15	6.65	---	---	6.44	5.76	5.21	3.75	4.71	2.67	4.26	5.07
9	6.15	6.66	---	---	6.45	5.66	5.16	3.74	4.71	2.78	4.26	5.12
10	6.19	6.69	---	---	6.45	5.61	5.19	3.75	4.69	2.88	4.26	5.13
11	6.20	6.71	---	---	6.45	5.60	5.21	3.80	4.71	2.94	4.29	5.15
12	6.21	6.73	---	---	6.42	5.55	5.22	3.84	4.56	3.02	4.32	5.16
13	6.21	6.73	---	---	6.39	5.54	5.19	3.87	4.37	3.09	4.34	5.19
14	6.21	6.72	---	---	6.36	5.55	5.18	3.93	4.17	3.15	4.37	5.22
15	6.27	6.74	---	---	6.36	5.57	5.19	3.94	4.17	3.21	4.41	5.27
16	6.29	6.78	---	6.19	6.33	5.58	5.16	3.99	3.99	3.27	4.46	5.28
17	6.29	6.80	---	6.23	6.27	5.55	4.20	4.05	3.94	3.33	4.48	5.31
18	6.29	6.80	---	6.25	6.03	5.52	4.11	4.08	3.96	3.39	4.55	5.31
19	6.30	6.80	---	6.28	5.69	5.49	4.11	4.11	3.99	3.45	4.58	5.34
20	6.31	6.81	---	6.31	5.61	5.49	4.14	4.13	4.05	3.49	4.61	5.37
21	6.34	6.81	---	6.33	5.64	5.40	4.17	4.20	4.09	3.57	4.62	5.39
22	6.35	6.84	---	6.33	5.66	5.06	4.17	4.23	4.13	3.57	4.64	5.43
23	6.38	6.86	---	6.32	5.64	5.10	4.20	4.26	4.11	3.57	4.65	5.46
24	6.40	6.92	---	6.27	5.69	5.15	4.26	4.29	4.16	3.65	4.68	5.46
25	6.40	6.90	---	6.27	5.72	5.15	4.29	4.31	4.18	3.69	4.69	5.49
26	6.43	6.92	---	6.27	5.72	5.12	4.31	4.35	4.22	3.72	4.68	5.51
27	6.45	6.93	---	6.27	5.73	5.13	4.31	4.38	4.17	3.78	4.69	5.52
28	6.45	6.92	---	6.27	5.73	5.13	4.32	4.41	2.84	3.80	4.71	5.55
29	6.47	6.92	---	6.29	---	5.13	4.29	4.46	1.41	3.86	4.76	5.57
30	6.49	6.87	---	6.33	---	5.10	4.29	4.47	1.32	3.90	4.80	5.58
31	6.53	---	---	6.35	---	5.10	---	4.46	---	3.98	4.83	---
MAX	6.53	6.93	6.93	6.35	6.45	5.81	5.24	4.47	4.71	3.98	4.83	5.58

CAL YR 1997    LOW 6.93  
WTR YR 1998    LOW 6.93



## GROUND-WATER RECORDS

## Licking County

400848082251100. LOCAL NUMBER, LI-4

LOCATION.--Lat 40°08'48", long 82°25'11", Hydrologic Unit 05040006, near St. Louisville.

Owner: City of Newark

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 79 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 885 ft above sea level, from topographic map.

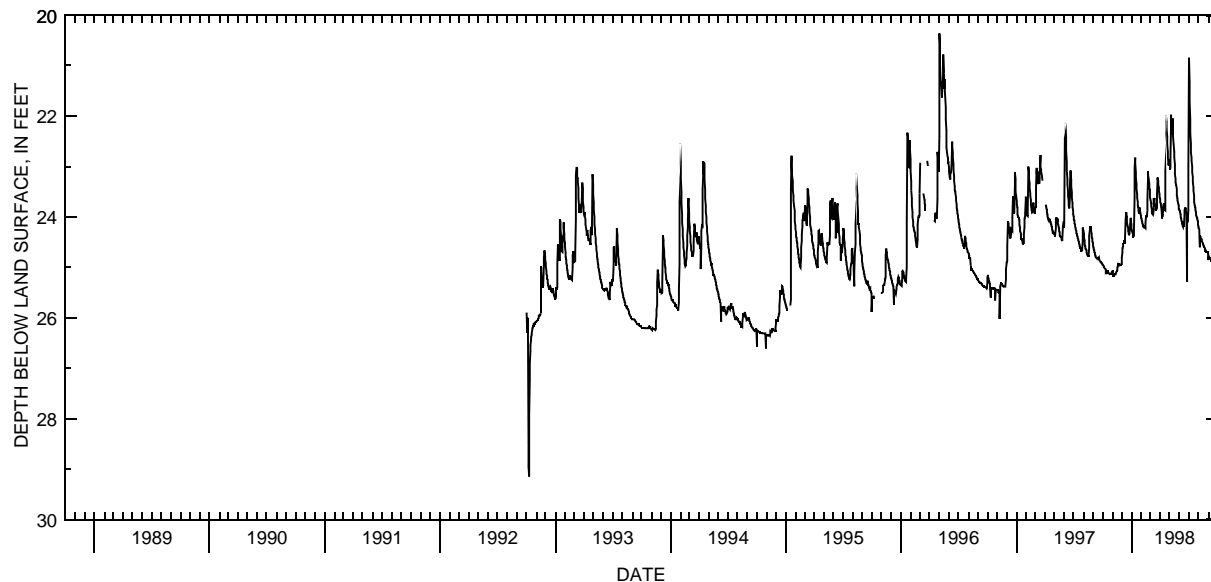
Measuring point: Floor of instrument shelter 4.00 ft above land-surface datum.

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

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 29.15 ft below land-surface datum, Oct. 8 1992;  
minimum daily low, 20.36 ft below land-surface, May 1, 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	24.96	25.08	24.71	24.27	24.06	23.67	23.70	23.04	23.87	20.85	24.22	24.78
2	24.96	25.11	24.62	24.32	24.09	23.72	23.73	23.04	23.88	21.33	24.24	24.78
3	24.97	25.14	24.57	24.35	24.12	23.78	23.75	22.83	23.91	21.72	24.60	24.80
4	24.99	25.16	24.54	24.38	24.15	23.84	23.81	22.16	23.94	22.07	24.39	24.81
5	24.99	25.16	24.53	24.39	24.18	23.88	23.84	21.97	23.99	22.34	24.36	24.81
6	25.01	25.14	24.48	24.39	24.20	23.91	24.03	22.16	24.03	22.55	24.38	24.83
7	25.02	25.14	24.48	24.36	24.20	23.93	23.94	22.31	24.06	22.72	24.41	24.84
8	25.02	25.14	24.50	24.26	24.17	23.94	23.96	22.35	24.09	22.83	24.42	24.86
9	25.04	25.14	24.53	23.61	24.18	23.96	23.93	22.16	24.12	22.89	24.44	24.86
10	25.13	25.13	24.53	23.03	24.20	23.85	23.85	22.05	24.15	23.00	24.45	24.87
11	25.08	25.11	24.42	22.83	24.21	23.63	23.76	22.23	24.17	23.12	24.48	24.87
12	25.07	25.10	24.05	22.94	24.22	23.75	23.73	22.41	24.20	23.21	24.50	24.89
13	25.08	25.08	23.90	23.12	24.12	23.63	23.76	22.56	24.20	23.31	24.50	24.89
14	25.08	25.08	23.93	23.22	23.97	23.70	23.82	22.71	24.08	23.42	24.53	24.90
15	25.08	25.07	23.99	23.34	23.97	23.75	23.85	22.83	24.20	23.49	24.54	24.92
16	25.08	25.01	24.05	23.45	24.00	23.79	23.87	22.95	23.97	23.57	24.56	24.92
17	25.10	24.96	24.11	23.55	24.00	23.82	23.09	23.06	23.87	23.64	24.57	24.93
18	25.10	24.93	24.17	23.63	23.88	23.85	21.86	23.16	23.82	23.70	24.60	24.93
19	25.10	24.92	24.21	23.70	23.67	23.85	21.99	23.24	23.84	23.76	24.60	24.95
20	25.11	24.92	24.27	23.76	23.22	23.84	22.11	23.31	23.82	23.82	24.62	24.96
21	25.13	24.92	24.32	23.82	23.09	23.81	22.25	23.37	23.87	23.85	24.65	24.96
22	25.13	24.95	24.35	23.87	23.16	23.55	22.41	23.45	23.93	23.90	24.66	24.97
23	25.13	24.95	24.36	23.93	23.25	23.22	22.56	23.51	23.96	23.93	24.66	24.97
24	25.14	24.96	24.32	23.91	23.34	23.24	22.71	23.57	25.29	23.96	24.68	24.97
25	25.14	24.95	24.22	23.82	23.42	23.28	22.83	23.63	24.03	23.99	24.69	24.99
26	25.14	24.95	24.14	23.87	23.46	23.36	22.95	23.67	24.09	24.02	24.69	24.99
27	25.14	24.96	24.02	23.90	23.55	23.42	22.97	23.72	24.11	24.05	24.69	25.01
28	25.14	24.96	24.03	23.93	23.61	23.49	22.86	23.76	23.87	24.08	24.69	25.01
29	25.10	24.95	24.06	23.97	---	23.55	22.94	23.81	23.00	24.12	24.71	25.01
30	25.08	24.81	24.15	24.00	---	23.60	22.98	23.84	21.06	24.15	24.71	25.02
31	25.08	---	24.22	24.03	---	23.64	---	23.85	---	24.20	24.86	---
MAX	25.14	25.16	24.71	24.39	24.22	23.96	24.03	23.85	25.29	24.20	24.86	25.02

CAL YR 1997 LOW 25.16  
WTR YR 1998 LOW 25.29

**GROUND-WATER RECORDS**  
**Logan County**

**401510083444400. LOCAL NUMBER, LO-3**

LOCATION.--Lat 40°15'10", long 83°44'44", Hydrologic Unit 05080001, at West Liberty.

Owner: City of West Liberty

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 71 ft, cased.

INSTRUMENTATION.--Type F graphic recorder.

DATUM.--Elevation of land-surface datum is 1090 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.

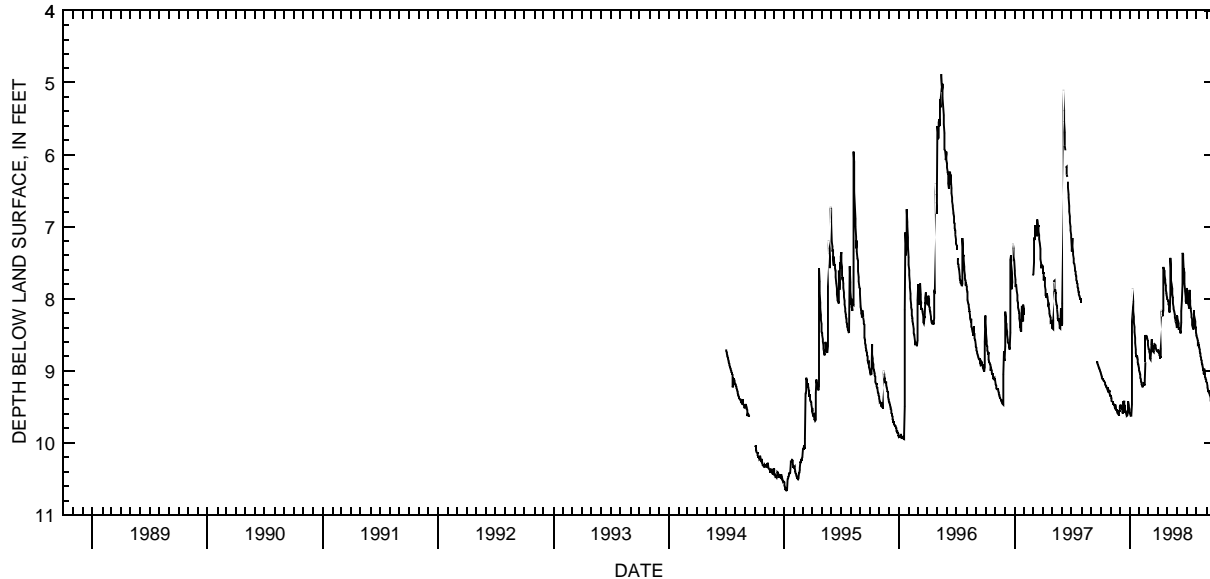
PERIOD OF RECORD.--July 1994 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 10.67 ft below land-surface datum, Jan. 9-11, 1995;  
minimum daily low, 4.25 ft below land-surface, 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	9.05	9.34	9.48	9.59	9.01	8.69	8.70	8.01	8.27	7.89	8.52	9.16
2	9.05	9.34	9.47	9.62	9.05	8.70	8.72	8.04	8.30	8.00	8.54	9.16
3	9.08	9.38	9.49	9.62	9.09	8.73	8.72	8.07	8.30	8.06	8.58	9.21
4	9.09	9.41	9.51	9.62	9.11	8.76	8.76	8.09	8.34	8.01	8.61	9.23
5	9.09	9.42	9.51	9.62	9.14	8.79	8.78	8.12	8.43	8.07	8.64	9.26
6	9.11	9.42	9.53	9.62	9.16	8.82	8.79	8.16	8.39	8.10	8.63	9.27
7	9.11	9.42	9.53	9.47	9.18	8.84	8.81	8.19	8.40	8.13	8.67	9.27
8	9.12	9.45	9.57	8.31	9.20	8.84	8.81	7.94	8.43	7.88	8.67	9.30
9	9.14	9.45	9.59	7.69	9.21	8.72	8.69	7.43	8.43	7.91	8.70	9.31
10	9.14	9.45	9.59	7.86	9.23	8.56	8.09	7.58	8.46	8.03	8.72	9.31
11	9.14	9.47	9.42	8.04	9.21	8.59	8.15	7.64	8.48	8.09	8.73	9.34
12	9.15	9.48	9.44	8.17	9.21	8.64	8.17	7.74	8.33	8.13	8.76	9.33
13	9.16	9.48	9.41	8.25	9.16	8.61	8.21	7.80	8.17	8.16	8.79	9.36
14	9.18	9.49	9.47	8.33	9.18	8.69	8.24	7.86	8.03	8.21	8.81	9.41
15	9.20	9.53	9.53	8.39	9.18	8.73	8.24	7.94	8.03	8.25	8.84	9.42
16	9.20	9.47	9.48	8.46	9.20	8.74	8.16	7.98	7.80	8.28	8.85	9.44
17	9.20	9.54	9.56	8.54	9.14	8.74	7.56	8.03	7.36	8.31	8.88	9.45
18	9.21	9.54	9.56	8.61	8.88	8.73	7.58	8.06	7.38	8.36	8.91	9.47
19	9.23	9.54	9.59	8.70	8.52	8.64	7.59	8.12	7.43	8.39	8.92	9.47
20	9.24	9.56	9.59	8.76	8.52	8.66	7.61	8.13	7.62	8.40	8.96	9.45
21	9.24	9.56	9.62	8.81	8.51	8.64	7.67	8.17	7.58	8.43	8.99	9.48
22	9.27	9.57	9.62	8.78	8.52	8.63	7.73	8.21	7.64	8.37	9.00	9.49
23	9.23	9.59	9.63	8.82	8.52	8.64	7.77	8.24	7.79	8.16	9.03	9.51
24	9.29	9.59	9.62	8.79	8.55	8.67	7.81	8.25	7.88	8.22	9.05	9.53
25	9.30	9.59	9.49	8.84	8.56	8.70	7.88	8.28	7.89	8.27	8.97	9.57
26	9.27	9.60	9.42	8.88	8.58	8.70	7.92	8.31	7.98	8.31	9.06	9.57
27	9.29	9.62	9.48	8.91	8.61	8.72	7.94	8.33	8.03	8.37	9.08	9.56
28	9.27	9.56	9.48	8.92	8.64	8.72	7.98	8.37	8.06	8.39	9.09	9.56
29	9.31	9.56	9.49	8.96	---	8.73	8.00	8.40	8.06	8.45	9.11	9.59
30	9.34	9.49	9.53	8.99	---	8.73	8.01	8.24	7.85	8.46	9.12	9.60
31	9.34	---	9.57	9.01	---	8.74	---	8.24	---	8.51	9.15	---
MAX	9.34	9.62	9.63	9.62	9.23	8.84	8.81	8.40	8.48	8.51	9.15	9.60

CAL YR 1997   LOW 9.63  
WTR YR 1998   LOW 9.63





## GROUND-WATER RECORDS

### Madison County

#### 395301083272200. LOCAL NUMBER, M-2

LOCATION.--Lat 39°53'01", long 83°27'22", Hydrologic Unit 05060002, U.S. 42 and Westmore Dr., London.

Owner: State of Ohio

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in., depth 350 ft, cased.

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

DATUM.--Elevation of land-surface datum is 1035 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 1.00 ft above land-surface datum.

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

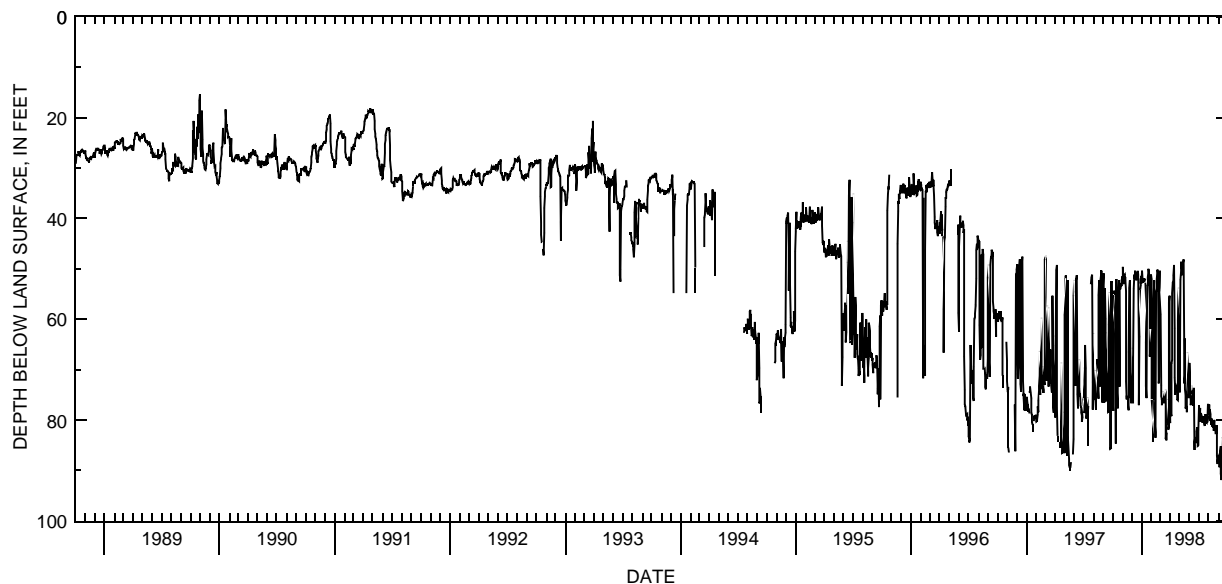
PERIOD OF RECORD.--August 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 91.98 ft below land-surface datum, Sept. 9, 1998;  
minimum daily low, 0.55 ft above land-surface, Apr. 13, 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	78.16	52.25	65.72	50.35	75.90	59.05	79.26	74.54	68.67	77.10	78.98	87.08
2	62.86	49.56	74.65	52.45	64.95	73.10	77.40	65.00	72.86	79.47	76.90	87.09
3	54.97	53.00	76.73	52.75	71.88	75.31	78.56	52.15	74.42	80.38	80.14	87.93
4	55.05	51.86	68.13	52.21	84.36	76.04	79.17	50.51	75.95	77.65	78.97	89.37
5	54.34	52.00	54.42	52.40	59.83	75.95	68.68	48.86	76.98	79.53	77.99	87.18
6	54.74	51.27	53.95	52.41	76.05	77.08	68.00	48.57	76.15	79.53	78.80	86.15
7	55.48	51.09	51.21	51.92	55.99	62.98	54.82	49.72	65.38	78.55	79.42	85.18
8	73.12	51.59	51.98	52.44	52.29	61.13	52.75	50.94	73.22	79.12	80.97	90.64
9	84.61	51.63	51.63	51.96	55.58	74.39	52.69	51.22	74.76	79.15	79.76	91.98
10	84.35	52.22	50.32	52.68	75.88	76.62	52.28	50.42	74.17	80.21	80.48	72.81
11	55.45	54.48	50.87	52.03	80.74	76.65	51.33	48.68	74.66	80.51	80.41	83.47
12	52.03	72.33	51.26	51.51	82.32	76.26	49.24	48.75	77.21	79.99	80.95	85.84
13	65.45	75.97	52.29	64.57	83.50	60.18	51.73	48.13	76.51	79.36	81.39	88.01
14	74.66	75.20	51.23	73.17	63.03	52.47	61.83	66.77	73.68	80.09	80.78	89.64
15	77.13	56.92	51.91	75.69	54.46	65.27	71.53	72.67	76.54	79.26	81.49	88.71
16	77.69	59.97	50.79	75.26	53.97	73.97	74.56	71.22	85.98	80.23	81.30	89.45
17	64.23	75.60	51.45	62.17	52.03	75.93	75.05	63.88	84.24	80.32	82.15	87.72
18	56.14	76.87	50.41	53.31	50.33	83.81	72.74	73.85	83.42	80.56	79.98	89.12
19	54.20	78.01	51.01	52.68	50.16	82.48	62.25	75.03	84.27	81.05	80.57	89.41
20	52.33	66.52	51.84	51.61	50.70	84.04	73.19	77.65	84.35	79.17	81.55	89.14
21	73.34	54.50	64.29	50.57	51.85	64.11	73.24	77.18	84.12	78.83	81.06	87.25
22	60.81	53.83	75.24	49.95	55.96	52.29	74.54	77.69	84.31	79.71	82.69	80.30
23	53.80	52.29	77.01	51.04	72.78	75.98	75.90	78.45	82.22	80.73	82.20	79.71
24	53.04	62.28	63.51	52.04	71.39	80.26	76.09	75.30	81.51	80.37	82.25	77.39
25	54.10	72.49	53.63	56.58	54.35	80.71	60.24	55.10	82.92	80.45	82.63	76.92
26	52.82	75.64	54.24	67.41	50.39	81.83	53.74	66.65	82.92	79.16	81.01	75.12
27	53.40	74.54	53.31	54.56	48.58	81.35	52.43	72.10	85.13	80.43	87.04	73.75
28	52.67	76.66	51.91	61.93	47.99	56.71	62.09	73.82	85.08	76.75	88.74	77.53
29	52.34	59.30	52.92	52.41	---	55.34	71.06	75.51	82.02	78.54	87.84	77.66
30	51.72	53.28	51.39	51.20	---	78.57	73.39	75.61	77.30	78.42	88.08	79.22
31	51.53	---	52.93	52.02	---	80.57	---	72.89	---	78.68	87.30	---
MAX	84.61	78.01	77.01	75.69	84.36	84.04	79.26	78.45	85.98	81.05	88.74	91.98

CAL YR 1997   LOW 90.12  
WTR YR 1998   LOW 91.98



**GROUND-WATER RECORDS**  
**Madison County**

**395352083292100. LOCAL NUMBER, M-5**

LOCATION.--Lat 39°53'52", long 83°29'21", Hydrologic Unit 05060002, at London Correctional Institute near London, Ohio.

Owner: State of Ohio.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water table well, diameter 8 in., depth 55 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 1,090 ft above sea level, from topographic map.

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.

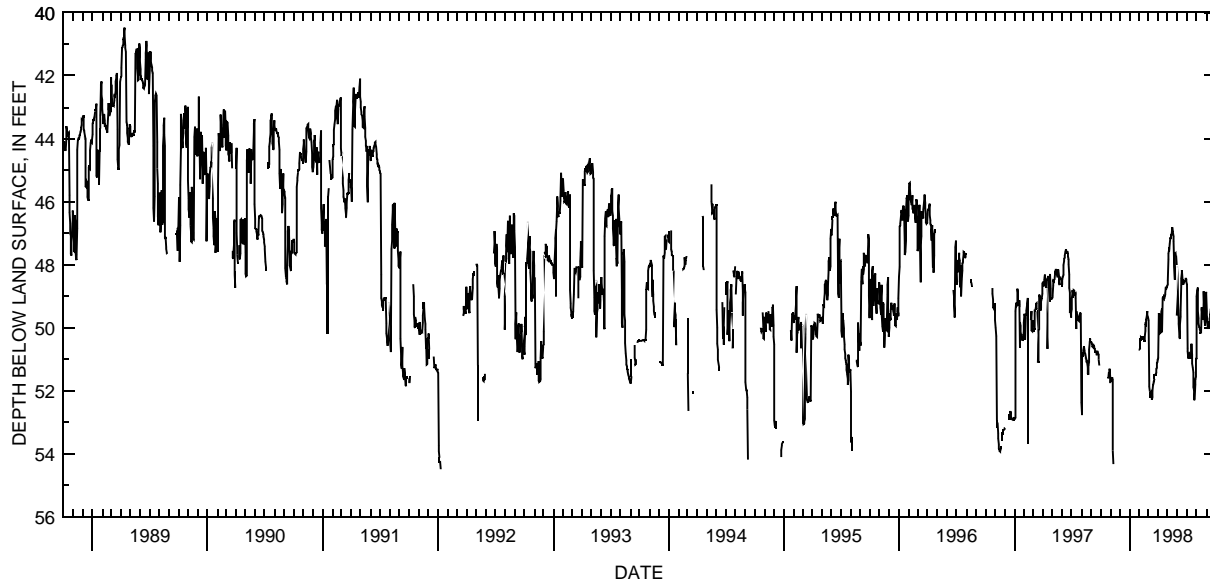
PERIOD OF RECORD.--October 1, 1986 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 54.65 ft below land-surface datum, Jan. 17, 1992;  
 minimum daily low, 40.47 ft below land-surface datum, Apr. 11, 1989.

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	---	51.57	---	---	50.69	49.75	50.93	48.50	48.06	48.75	49.01	49.46
2	---	---	---	---	50.66	51.69	49.52	47.82	49.09	50.65	48.81	49.61
3	---	51.71	---	---	50.36	51.87	49.52	47.65	49.20	50.75	48.71	49.71
4	---	51.60	---	---	50.36	52.03	49.68	47.52	49.72	50.97	48.99	49.91
5	---	51.61	---	---	50.29	52.13	49.72	47.46	49.87	50.96	49.47	50.03
6	---	51.57	---	---	50.31	52.18	49.69	47.58	50.20	50.88	49.70	50.04
7	---	51.65	---	---	50.33	52.18	50.18	47.33	50.28	50.83	49.85	49.79
8	---	53.90	---	---	50.33	52.05	50.16	47.14	50.35	50.80	49.95	49.88
9	---	54.33	---	---	50.34	52.04	49.59	47.17	49.90	50.84	50.00	49.95
10	---	---	---	---	50.35	52.20	49.50	47.13	49.65	50.90	49.98	49.97
11	---	---	---	---	50.34	52.27	49.46	47.07	49.45	50.93	50.03	49.91
12	---	---	---	---	50.27	52.27	49.39	47.04	48.66	50.93	50.12	49.57
13	---	---	---	---	50.32	52.19	50.13	47.03	48.43	50.92	50.15	49.46
14	---	---	---	---	50.36	52.01	49.08	46.81	48.25	50.51	50.13	49.44
15	---	---	---	---	50.41	51.81	49.05	46.83	48.17	50.52	50.13	49.47
16	---	---	---	---	50.40	51.72	49.00	46.93	48.45	50.85	49.35	49.49
17	---	---	---	---	50.28	51.71	49.06	46.96	48.57	51.01	49.43	49.70
18	---	---	---	---	50.10	51.71	49.08	46.98	48.58	51.13	49.61	51.57
19	---	---	---	---	49.88	51.63	48.99	47.10	48.53	51.25	49.68	50.00
20	---	---	---	---	49.89	51.51	49.00	47.25	48.55	51.43	49.74	50.21
21	---	---	---	---	49.82	51.51	48.99	48.07	48.53	51.87	49.74	50.29
22	---	---	---	---	49.73	51.51	48.94	48.47	48.54	51.98	49.25	50.40
23	---	---	---	---	49.66	51.50	48.89	47.83	48.52	52.14	48.84	50.46
24	51.57	---	---	---	49.47	51.46	48.70	47.67	48.51	52.29	49.49	50.46
25	51.60	---	---	---	49.60	51.41	48.77	47.65	48.50	52.26	49.70	50.45
26	51.40	---	---	---	49.66	51.30	48.74	47.67	48.46	51.80	49.88	50.46
27	51.48	---	---	---	49.65	51.25	48.70	47.71	48.42	51.63	49.94	50.45
28	51.36	---	---	---	49.66	51.12	48.70	48.00	48.45	51.55	49.82	50.58
29	51.30	---	---	---	---	51.10	48.65	---	48.53	50.99	49.04	50.66
30	51.55	---	---	50.69	---	51.01	48.61	49.62	48.62	50.96	48.86	50.72
31	51.75	---	---	50.70	---	50.95	---	47.92	---	51.00	48.89	---
MAX	51.75	54.33	---	50.70	50.69	52.27	50.93	49.62	50.35	52.29	50.15	51.57

CAL YR 1997 LOW 54.33  
 WTR YR 1998 LOW 54.33



## GROUND-WATER RECORDS

### Madison County

**395357083304400. LOCAL NUMBER, M-4**

LOCATION.--Lat 39°53'57", long 83°30'44" Hydrologic Unit 05060002, 3.5 mi northwest of London, Ohio.

Owner.--State of Ohio.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water table well, diameter 10 in., depth 49 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 1,112 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 4.00 ft above land-surface datum.

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

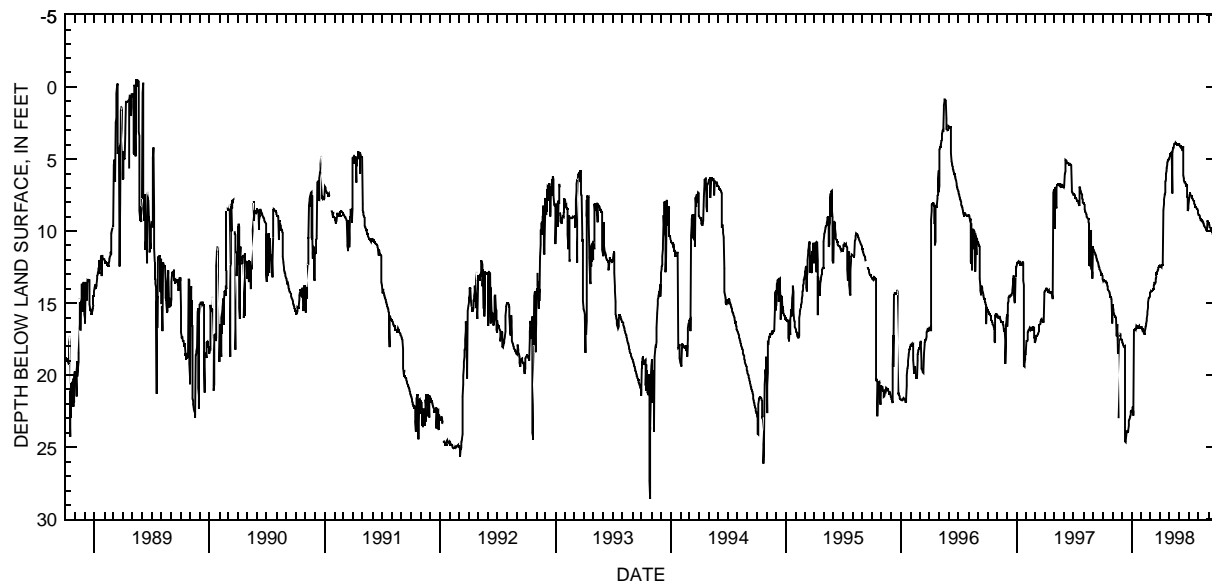
PERIOD OF RECORD.--June 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 28.60 ft below land-surface datum, Oct. 26, 1994;  
minimum daily low 0.50 ft above land-surface datum, May 13-14, 16, 1989.

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	13.45	15.10	17.70	22.50	16.65	14.25	12.40	4.65	4.00	7.90	8.88	9.42
2	13.45	15.25	17.75	22.30	16.80	14.20	12.50	4.65	4.10	7.45	8.88	9.48
3	13.35	15.45	17.80	22.20	16.80	14.15	12.45	4.65	4.10	7.40	8.94	9.56
4	13.40	15.60	17.90	22.20	16.70	14.20	12.50	4.65	4.10	7.40	8.99	9.71
5	13.40	15.70	17.95	22.55	16.85	14.20	12.45	4.65	4.15	7.45	9.03	9.75
6	13.45	15.80	18.00	22.80	16.95	14.20	12.40	4.60	4.20	7.50	9.12	9.74
7	13.45	15.85	18.05	16.85	17.00	14.15	12.35	4.55	4.25	7.50	9.23	9.75
8	13.45	15.95	18.05	16.80	17.10	14.00	12.30	7.40	4.30	7.55	9.24	9.89
9	13.50	15.95	18.00	16.90	17.15	14.00	12.15	4.50	4.25	7.60	9.30	9.95
10	13.55	15.95	18.05	16.85	17.10	14.00	9.15	4.30	4.40	7.70	9.24	9.98
11	13.60	16.00	24.60	16.80	16.90	13.90	8.55	4.20	4.30	7.70	9.20	9.99
12	13.55	16.10	24.65	16.70	16.75	13.75	8.10	4.20	4.10	7.75	9.26	10.04
13	13.60	17.30	24.20	16.80	16.65	13.60	7.80	4.20	6.10	7.80	9.26	10.09
14	13.70	17.30	24.05	16.80	16.50	13.55	7.55	3.95	6.35	7.90	9.30	10.17
15	13.85	16.45	23.95	16.55	16.40	13.60	7.45	3.90	6.45	7.90	9.39	10.29
16	13.90	16.60	23.85	16.55	16.20	13.55	7.30	3.90	6.60	7.90	9.45	10.29
17	14.00	18.50	23.85	16.60	16.05	13.40	6.55	3.90	6.60	8.00	9.54	10.31
18	14.10	17.85	23.90	16.65	15.80	13.30	6.40	3.90	6.60	8.05	9.62	10.23
19	14.10	---	23.90	16.70	15.60	13.15	6.00	3.85	6.60	8.15	9.65	10.28
20	14.15	23.00	23.85	16.70	15.30	12.95	5.80	3.85	6.70	8.20	9.69	10.32
21	14.25	17.00	23.50	16.70	15.10	12.95	5.60	3.90	6.70	8.30	9.71	10.40
22	14.30	17.05	23.30	16.65	14.95	12.85	5.40	3.90	6.75	8.30	9.75	10.47
23	14.35	17.15	23.15	16.60	14.70	12.80	5.25	3.90	6.80	8.30	9.78	10.53
24	14.40	17.30	23.05	16.65	14.65	12.75	5.10	3.90	6.80	8.35	9.87	10.50
25	14.55	17.25	22.90	16.70	14.60	12.70	5.10	3.95	7.60	8.40	9.91	10.59
26	14.55	17.45	22.85	16.75	14.50	12.55	5.05	4.00	7.65	8.40	9.99	10.62
27	14.75	17.50	22.75	16.70	14.30	12.50	5.10	4.00	8.60	8.45	10.01	10.67
28	14.80	17.55	22.65	16.65	14.30	12.45	5.05	4.00	8.40	8.55	9.26	10.74
29	14.90	17.55	22.50	16.65	---	12.45	4.95	4.00	8.30	8.66	9.30	10.74
30	16.25	17.55	22.40	16.65	---	12.40	4.80	3.95	7.90	8.73	9.34	10.82
31	16.40	---	22.55	16.65	---	12.35	---	3.90	---	8.85	9.42	---
MAX	16.40	23.00	24.65	22.80	17.15	14.25	12.50	7.40	8.60	8.85	10.01	10.82

CAL YR 1997 LOW 24.65  
WTR YR 1998 LOW 24.65



**GROUND-WATER RECORDS**  
**Madison County**

267

**395740083255700. LOCAL NUMBER, M-3**

LOCATION.--Lat 39°57'40", long 83°25'57", Hydrologic Unit 05060002, 5.2 mi north of London.

Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in., depth 290 ft, cased to 145 ft.

INSTRUMENTATION.--Periodic measurement with chalked tape by Ohio Department of Natural Resources personnel.

DATUM.--Elevation of land-surface datum is 1,020 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.--November 1974 to September 1982 continuous, periodic thereafter.

EXTREMES FOR PERIOD OF RECORD.--Maximum measured low, 12.01 ft below land-surface datum, Dec. 18, 1991;  
minimum daily low, 3.93 ft below land-surface datum, Feb. 25, 1975.

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

DATE	WATER LEVEL
Oct. 24, 1997	9.10
Apr. 15, 1998	5.83
June 17, 1998	5.98

**GROUND-WATER RECORDS**  
**Mahoning County**

**410042080453800. LOCAL NUMBER, MA-1**

LOCATION.--Lat 41°00'42", long 80°45'38", Hydrologic Unit, 05030103, in county fairgrounds at south edge of Canfield.  
Owner: Canfield Water Department.

AQUIFER.--Sandstone of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 170 ft, cased to 99.5 ft.

INSTRUMENTATION.--Periodic measurement with chalked tape by Ohio Department of Natural Resources personnel.

DATUM.--Elevation of land-surface datum is 1,160 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter at land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water. Influenced by seasonal water demand at county fairgrounds.

PERIOD OF RECORD.--May 1946 to September 1982 continuous, periodic thereafter.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 110.75 ft below land-surface datum, Sept. 18, 1946;  
minimum measured low, 29.42 ft below land-surface datum, Apr. 1, 1993.

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

DATE	WATER LEVEL
Oct. 31, 1997	34.31
Apr. 16, 1998	31.45

**GROUND-WATER RECORDS**  
**Marion County**

**403413083170500. LOCAL NUMBER, MN-4**

LOCATION.--Lat 40°34'13", long 83°17'05", Hydrologic Unit 05060001, 1.9 mi southeast of New Bloomington.

Owner: State of Ohio.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in., depth drilled 290 ft, present depth 286 ft, cased to 33 ft.

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

DATUM.--Elevation of land-surface datum is 915.96 ft above sea level.

Measuring point: Floor of shelter 3.00 ft above land-surface datum.

REMARKS.--Influenced by seasonal water demand for nearby wildlife refuge.

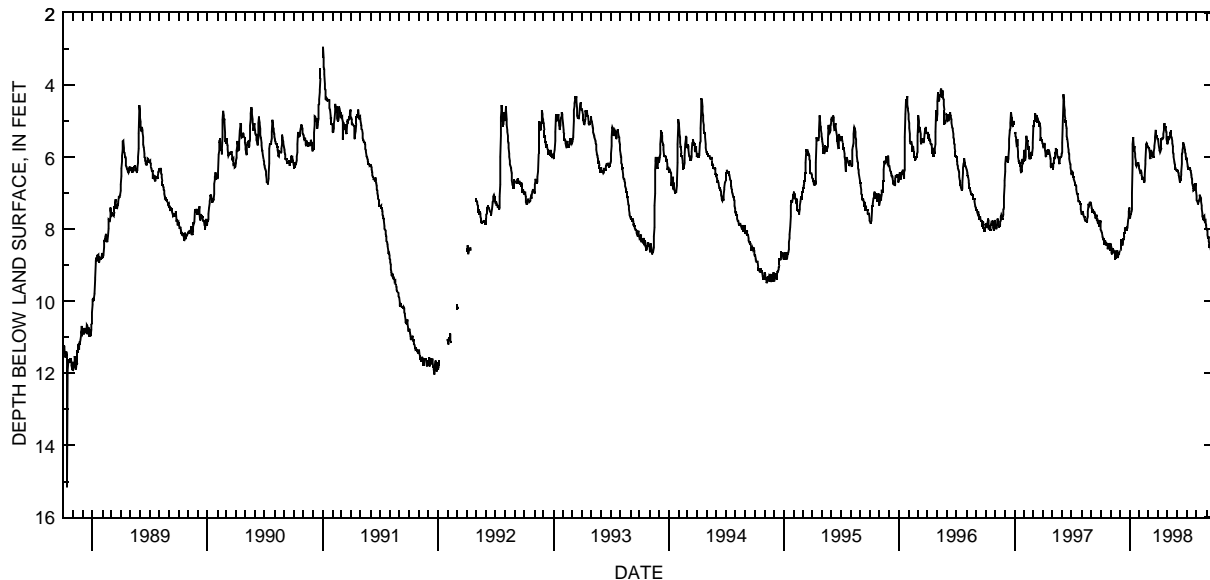
PERIOD OF RECORD.--January 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 32.57 ft below land-surface datum, Aug. 14, 1983;  
minimum daily low, 0.61 ft below land-surface datum, Mar. 18, 1974.

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	8.05	8.40	8.60	7.70	6.35	5.75	5.55	5.45	6.40	6.12	7.19	7.98
2	8.05	8.45	8.60	7.60	6.45	5.75	5.70	5.45	6.35	6.23	7.22	7.97
3	8.10	8.50	8.55	7.55	6.45	5.80	5.70	5.50	6.40	6.26	7.26	8.04
4	8.10	8.65	8.30	7.55	6.45	5.90	5.80	5.50	6.45	6.29	7.31	8.17
5	8.10	8.70	8.30	7.55	6.35	6.00	5.80	5.50	6.50	6.32	7.32	8.27
6	8.20	8.70	8.30	7.50	6.45	6.00	5.85	5.50	6.55	6.32	7.23	8.24
7	8.25	8.60	8.45	7.45	6.50	6.05	5.85	5.45	6.60	6.33	7.22	8.21
8	8.30	8.55	8.45	7.00	6.55	6.00	5.80	5.30	6.70	6.30	7.19	8.33
9	8.25	8.55	8.35	6.20	6.60	5.80	5.80	5.35	6.70	6.27	7.14	8.41
10	8.35	8.60	8.30	5.65	6.60	6.00	5.75	5.25	6.60	6.32	7.05	8.48
11	8.40	8.65	8.25	5.45	6.60	6.00	5.50	5.30	6.65	6.35	7.06	8.48
12	8.40	8.65	8.30	5.50	6.55	5.95	5.50	5.40	6.50	6.36	7.10	8.46
13	8.30	8.65	8.20	5.75	6.60	5.90	5.50	5.45	6.40	6.41	7.11	8.51
14	8.30	8.60	8.10	5.85	6.70	5.85	5.45	5.55	6.20	6.50	7.13	8.56
15	8.35	8.65	8.10	5.70	6.70	6.00	5.50	5.60	5.90	6.54	7.25	8.66
16	8.45	8.80	8.05	5.80	6.65	6.00	5.45	5.70	5.85	6.59	7.34	8.72
17	8.45	8.80	7.95	5.90	6.50	5.95	5.35	5.80	5.80	6.65	7.43	8.73
18	8.40	8.75	8.00	6.00	6.20	5.85	5.25	5.85	5.70	6.71	7.55	8.73
19	8.40	8.70	8.00	6.10	6.10	5.75	5.10	5.90	5.58	6.78	7.64	8.72
20	8.40	8.70	8.00	6.20	5.75	5.70	5.05	6.00	5.63	6.86	7.69	8.72
21	8.45	8.60	8.00	6.25	5.65	5.55	5.10	6.10	5.66	6.94	7.73	8.72
22	8.45	8.65	8.00	6.25	5.65	5.45	5.15	6.20	5.72	6.93	7.74	8.81
23	8.55	8.70	7.95	6.20	5.60	5.25	5.15	6.25	5.73	6.81	7.65	8.85
24	8.50	8.80	7.95	6.20	5.65	5.40	5.15	6.30	5.81	6.76	7.64	8.82
25	8.40	8.70	7.75	6.15	5.70	5.40	5.25	6.30	5.85	6.76	7.65	8.76
26	8.50	8.65	7.75	6.15	5.70	5.40	5.30	6.30	5.90	6.76	7.74	8.79
27	8.50	8.70	7.65	6.15	5.70	5.40	5.50	6.35	5.97	6.74	7.79	8.78
28	8.40	8.65	7.60	6.15	5.70	5.45	5.60	6.35	6.05	6.74	7.77	8.84
29	8.55	8.60	7.50	6.25	---	5.50	5.65	6.40	6.08	6.84	7.81	8.84
30	8.55	---	7.40	6.30	---	5.50	5.60	6.40	6.02	6.93	7.88	8.82
31	8.45	---	7.65	6.35	---	5.50	---	---	---	7.08	7.95	---
MAX	8.55	8.80	8.60	7.70	6.70	6.05	5.85	6.40	6.70	7.08	7.95	8.85

CAL YR 1997   LOW 8.80  
WTR YR 1998   LOW 8.85



**GROUND-WATER RECORDS**  
**Marion County**

**403443083230400. LOCAL NUMBER, MN-1**

LOCATION.--Lat 40°34'43, long 83°23'04", Hydrologic Unit 05060001, SR 37 at Baptist Church in LaRue.

Owner: Village of LaRue.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 4 in., depth 100 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 930 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 3.30 ft above land-surface datum.

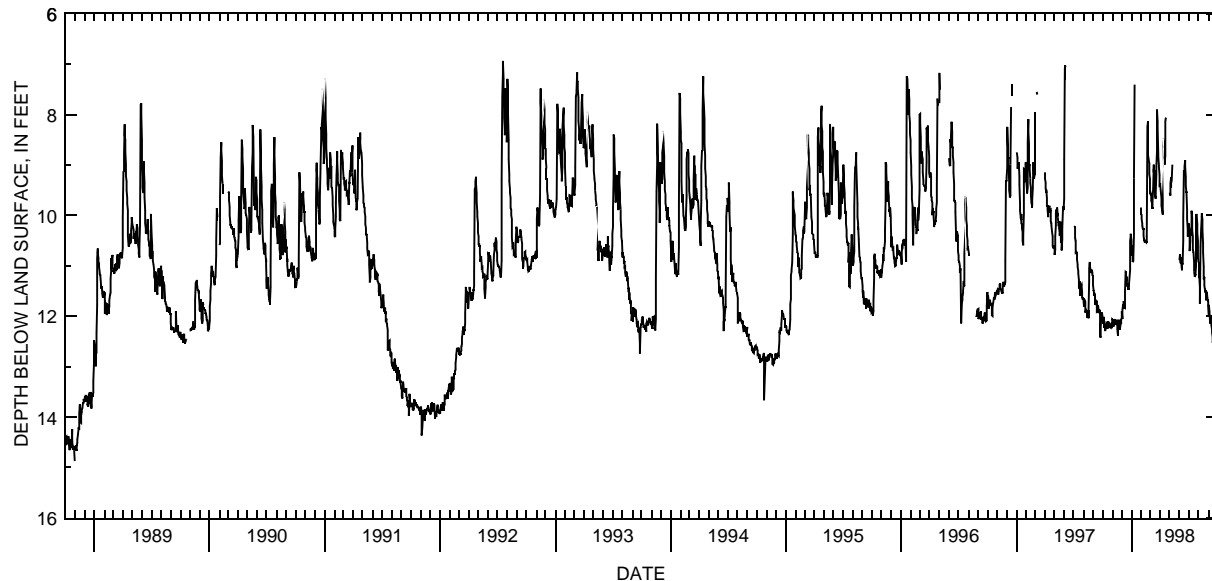
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--March 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 14.87 ft below land-surface datum, Oct. 29, 1988;  
minimum daily low, 5.67 ft below land-surface datum, Jan. 23, 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	12.10	12.06	12.05	10.60	10.07	9.56	9.40	9.55	10.89	10.20	11.21	11.99
2	12.16	12.07	11.88	10.75	10.16	9.60	9.53	9.60	10.77	10.35	11.22	11.78
3	12.02	12.06	11.76	10.87	10.20	9.69	9.53	9.36	10.78	10.71	11.42	11.90
4	12.01	12.20	11.85	10.92	10.27	9.75	9.67	9.25	10.95	10.52	11.54	11.91
5	12.20	12.11	11.71	10.90	10.27	9.85	9.81	9.45	10.83	10.29	11.75	12.15
6	12.20	12.07	11.70	10.86	10.26	9.85	9.90	9.35	10.91	10.40	10.92	12.15
7	12.22	12.12	11.85	10.39	10.40	9.84	9.90	9.30	10.95	10.40	10.62	12.00
8	12.30	12.05	11.81	9.27	10.50	9.72	9.99	9.00	11.09	10.19	10.26	12.14
9	12.22	12.12	11.83	7.40	10.46	9.47	9.70	---	10.93	9.91	10.01	12.11
10	12.17	12.17	11.65	---	10.54	9.00	8.44	---	10.97	10.05	10.02	12.18
11	12.24	12.15	11.50	---	10.50	9.15	8.47	---	10.97	10.29	9.96	12.27
12	12.13	12.15	11.12	---	10.53	9.08	8.64	---	10.50	10.41	10.09	12.33
13	12.15	12.10	11.13	---	10.52	9.11	8.85	---	10.03	10.67	10.28	12.41
14	12.23	12.06	11.26	---	10.53	9.34	8.96	---	9.20	10.73	10.56	12.53
15	12.15	12.09	11.26	---	10.52	9.60	9.00	---	9.11	10.74	10.73	12.45
16	12.10	12.25	11.22	---	10.52	9.67	8.82	---	9.19	10.94	11.01	12.62
17	12.24	12.38	11.40	---	10.41	9.65	8.12	---	9.03	11.04	11.27	12.48
18	12.12	12.27	11.34	---	9.62	9.55	8.05	---	8.91	11.12	11.21	12.48
19	12.10	12.18	11.40	---	8.25	9.20	---	---	9.03	11.21	11.39	12.53
20	12.16	12.13	11.45	---	8.13	9.03	---	---	9.23	11.17	11.48	12.53
21	12.18	12.07	11.45	---	8.24	8.73	---	---	9.41	11.19	11.45	12.44
22	12.17	12.20	11.34	---	8.80	7.90	---	---	9.56	11.00	11.54	12.51
23	12.23	12.18	11.40	---	8.90	8.15	---	---	9.53	10.56	11.48	12.59
24	12.20	12.27	11.24	---	8.97	8.27	---	---	9.89	9.99	11.69	12.41
25	12.18	12.17	11.09	---	9.18	8.78	---	---	10.08	9.99	11.51	12.36
26	12.20	12.08	10.51	---	9.27	8.83	---	---	10.28	10.17	11.54	12.36
27	12.14	12.16	10.40	---	9.30	9.01	---	---	10.41	10.34	11.54	12.51
28	12.13	12.07	10.36	---	9.58	9.05	---	---	10.38	10.50	11.66	12.54
29	12.23	12.05	10.38	9.84	---	9.20	---	---	10.38	10.71	11.69	12.56
30	12.18	11.90	10.49	9.97	---	9.41	9.57	---	10.16	10.85	11.69	12.51
31	12.05	---	10.80	9.98	---	9.40	---	---	---	10.94	11.79	---
MAX	12.30	12.38	12.05	10.92	10.54	9.85	9.99	9.60	11.09	11.21	11.79	12.62
CAL YR 1997	LOW 12.42											
WTR YR 1998	LOW 12.62											



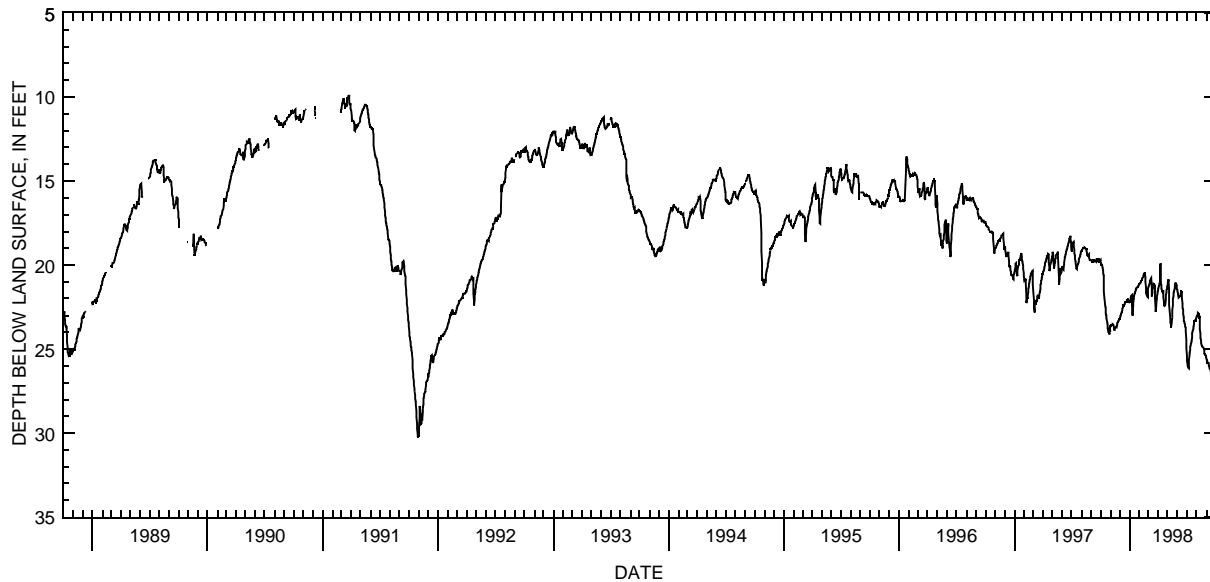
**GROUND-WATER RECORDS**  
**Marion County**

**403601083110400. LOCAL NUMBER, MN-2**

LOCATION.--Lat 40°36'01", long 83°11'04", Hydrologic Unit 05060001, water treatment plant 2 mi west of Marion.  
 Owner: Marion Water Department.  
 AQUIFER.--Limestone of Silurian Age.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in., depth 67 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 910 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.--May 1959 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 49.50 ft below land-surface datum, Feb. 11, 1956;  
 minimum daily low, 7.00 ft below land-surface datum, July 12, 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	19.88	23.60	23.06	22.15	21.13	21.25	21.35	21.03	21.54	25.73	23.04	25.58
2	19.96	23.63	23.00	22.05	21.09	21.17	21.25	20.92	21.68	25.92	22.98	25.65
3	19.96	23.52	22.96	22.00	21.08	21.14	21.20	20.85	21.77	25.98	22.91	25.73
4	19.93	23.55	22.89	21.95	21.04	21.05	21.12	21.45	21.87	26.01	22.86	25.80
5	19.94	23.56	22.84	21.91	20.96	21.00	21.08	21.80	21.95	26.08	22.82	25.80
6	20.11	23.55	22.77	21.85	20.93	20.96	21.00	22.35	21.89	26.13	22.85	25.77
7	20.30	23.53	22.67	21.79	20.89	20.90	19.95	22.83	21.83	25.65	23.10	25.83
8	20.48	23.52	22.60	22.40	20.86	20.83	19.88	23.21	21.84	25.35	23.09	25.93
9	20.62	23.53	22.55	23.00	20.81	20.75	21.00	23.38	21.87	25.22	23.01	26.01
10	20.93	23.55	22.45	22.88	20.77	21.20	21.23	23.50	21.85	25.02	23.46	26.08
11	21.55	23.69	22.38	22.44	20.72	21.69	21.38	23.63	21.70	24.84	23.82	26.16
12	22.00	23.82	22.39	22.17	20.63	21.88	21.48	23.73	21.60	24.74	24.09	26.19
13	22.31	23.87	22.38	22.00	20.61	21.64	21.55	23.48	21.56	24.63	24.30	26.22
14	22.35	23.78	22.36	21.84	20.56	21.40	21.61	23.13	21.56	24.56	24.47	26.30
15	22.50	23.72	22.33	21.73	20.54	21.33	21.58	22.67	21.95	24.51	24.60	26.37
16	22.67	23.75	22.26	21.68	20.50	21.26	21.50	22.38	22.27	24.30	24.75	26.43
17	22.84	---	22.20	21.61	20.41	21.17	21.89	22.15	22.50	24.21	24.81	26.49
18	22.99	---	22.15	21.55	20.73	21.09	22.16	21.99	22.65	24.05	24.80	26.55
19	23.12	23.77	22.15	21.49	20.98	21.12	22.37	21.83	22.89	23.88	24.83	26.61
20	23.30	23.62	22.15	21.44	21.33	21.13	22.44	21.65	23.10	23.76	24.86	26.63
21	23.49	23.54	22.15	21.42	21.54	21.20	22.43	21.50	23.30	23.67	24.87	26.70
22	23.62	23.48	22.13	21.37	21.65	22.03	22.41	21.36	23.36	23.52	24.90	26.76
23	23.74	23.43	22.09	21.32	21.74	22.58	22.41	21.27	23.43	23.40	24.93	26.81
24	23.85	23.39	22.08	21.32	21.78	22.78	22.04	21.18	23.52	23.31	25.05	26.83
25	23.96	23.37	22.00	21.31	21.87	22.43	21.76	21.07	23.61	23.31	25.25	26.88
26	24.02	23.32	22.02	21.31	21.90	22.30	21.58	21.01	23.69	23.30	25.29	26.91
27	24.11	23.27	22.11	21.31	21.55	22.02	21.45	21.11	23.91	23.28	25.25	26.88
28	23.95	23.22	22.20	21.23	21.38	21.83	21.36	21.18	24.44	23.25	25.35	26.96
29	23.82	23.18	22.24	21.19	---	21.67	21.25	21.30	24.97	23.24	25.44	26.99
30	23.85	23.13	22.13	21.15	---	21.56	21.13	21.37	25.41	23.16	25.43	27.03
31	23.63	---	22.15	21.13	---	21.43	---	21.45	---	23.09	25.53	---
MAX	24.11	23.87	23.06	23.00	21.90	22.78	22.44	23.73	25.41	26.13	25.53	27.03
CAL YR 1997	LOW	24.11										
WTR YR 1998	LOW	27.03										





**GROUND-WATER RECORDS**  
**Medina County**

**410120081431800. LOCAL NUMBER, MD-3**

LOCATION.--Lat 41°01'20", long 81°43'18", Hydrologic Unit 05040001, Auble Street at water treatment plant in Wadsworth.

Owner: Wadsworth Water Department.

AQUIFER.--Sandstone of Mississippian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in., depth 275 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 1180 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 1.00 ft above land-surface datum.

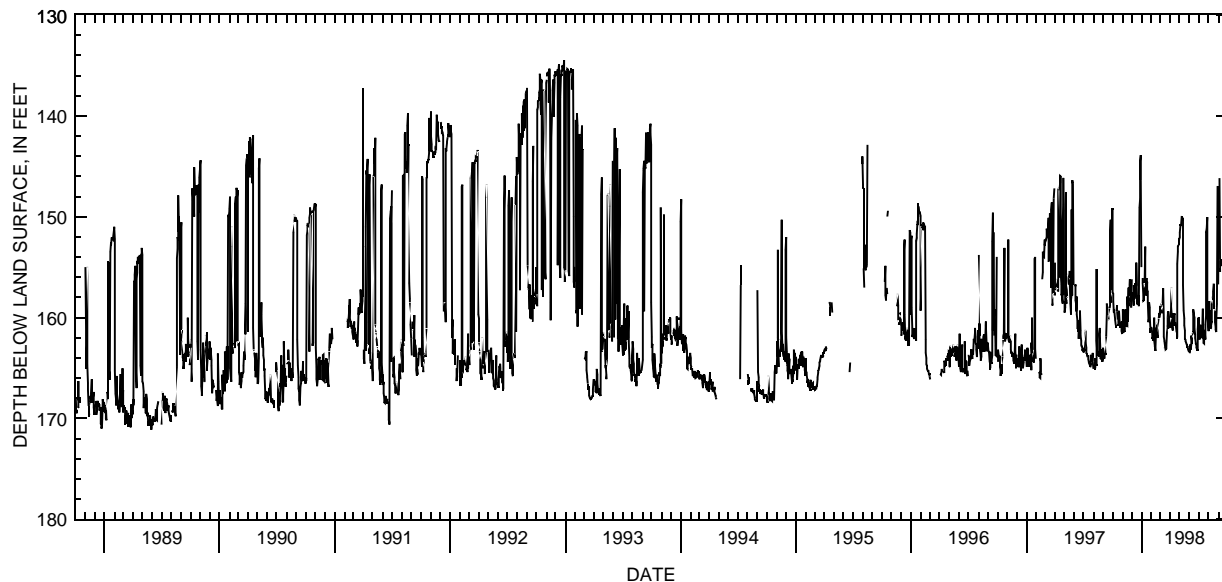
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--December 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 186.74 ft below land-surface datum, Jan. 21, 1975;  
minimum daily low, 134.50 ft below land-surface datum, Dec. 26, 1992.

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	157.60	161.20	157.50	---	161.10	---	161.00	151.60	163.50	160.59	160.16	147.15
2	158.40	159.20	157.60	156.10	161.70	158.60	153.80	150.90	163.40	161.81	158.39	---
3	159.50	160.90	158.20	156.30	162.10	154.00	160.00	150.80	162.80	162.18	160.65	---
4	159.50	161.50	158.10	156.60	161.90	159.60	157.00	150.80	162.60	160.70	160.80	146.21
5	159.20	161.00	158.80	157.80	162.30	159.50	153.20	150.80	163.20	161.04	159.24	155.43
6	159.60	161.30	156.80	158.40	161.50	152.20	160.20	150.80	162.70	161.52	159.84	147.56
7	160.20	161.40	157.10	158.30	162.30	158.60	160.90	150.00	161.80	161.92	161.10	154.22
8	160.30	160.50	158.20	157.40	160.00	158.80	161.30	150.00	162.30	161.10	160.79	154.86
9	160.80	159.20	157.80	150.20	162.30	157.10	159.60	150.30	162.60	161.33	160.42	---
10	161.00	160.00	156.60	156.60	162.80	160.10	160.50	150.30	154.80	161.51	160.47	154.64
11	---	160.80	157.40	153.00	162.90	161.30	160.60	150.10	161.40	162.06	158.66	154.36
12	159.40	160.90	157.20	157.70	163.30	161.90	160.80	156.80	161.50	159.14	150.23	154.54
13	158.80	160.70	156.80	151.20	163.00	162.30	159.70	159.30	159.20	161.60	157.92	145.53
14	159.40	160.70	154.60	157.80	161.10	162.40	159.60	160.10	159.60	162.20	158.24	154.89
15	160.20	160.80	157.80	156.10	154.80	162.90	160.60	160.80	159.70	162.51	157.44	154.97
16	---	157.90	158.20	157.80	160.50	163.20	160.80	161.30	160.00	162.53	156.63	154.53
17	160.70	159.60	158.40	156.50	161.50	163.20	160.50	161.80	161.10	162.38	159.03	154.79
18	160.70	160.40	158.70	157.20	162.00	163.20	160.90	162.10	161.70	161.21	159.01	154.25
19	159.50	157.00	158.20	157.40	161.80	163.10	160.90	162.20	162.08	161.41	150.30	154.23
20	159.30	158.90	157.80	158.50	162.00	162.80	161.50	162.30	162.47	162.15	159.47	143.92
21	160.40	154.00	157.90	160.20	161.90	161.50	162.00	162.50	162.50	160.70	160.46	154.66
22	160.50	157.80	158.40	160.50	155.40	153.40	162.00	162.70	162.71	159.84	160.98	154.08
23	160.50	156.20	158.90	160.00	160.10	159.50	154.70	162.80	162.98	152.29	161.19	154.14
24	160.70	156.70	149.10	158.50	159.60	160.80	153.50	162.90	163.16	151.54	161.39	154.22
25	160.90	158.30	148.20	159.00	160.00	161.10	152.90	162.90	163.20	151.20	160.31	145.13
26	160.90	158.40	144.50	159.80	159.30	159.40	152.80	162.80	163.22	150.04	158.69	152.79
27	160.40	158.20	143.90	161.00	158.90	160.20	152.20	163.10	161.17	159.35	158.60	142.79
28	160.80	159.00	145.30	161.50	159.70	160.60	152.20	163.30	160.01	160.47	147.01	153.91
29	161.30	156.20	146.40	---	---	160.00	152.20	163.30	160.65	160.64	155.92	145.07
30	161.60	---	155.00	160.90	---	160.00	152.00	163.40	159.96	160.36	---	143.45
31	161.10	---	---	161.00	---	160.60	---	---	---	161.36	156.74	---
MAX	161.60	161.50	158.90	161.50	163.30	163.20	162.00	163.40	163.50	162.53	161.39	155.43
CAL YR 1997	LOW	166.00										
WTR YR 1998	LOW	163.50										



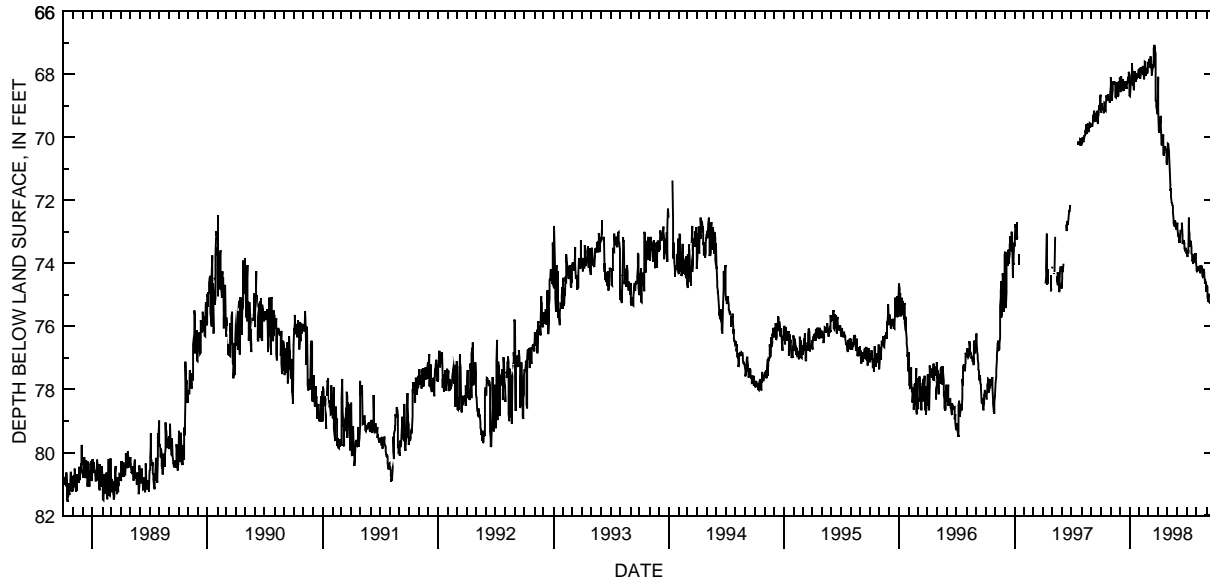
**GROUND-WATER RECORDS**  
**Mercer County**

**402833084375200. LOCAL NUMBER, MR-2**

LOCATION.--Lat 40°28'33", long 84°37'52", Hydrologic Unit 05120101, at AVCO Mfg. Co. building in Coldwater.  
 Owner: New Idea Farm Equipment Co.  
 AQUIFER.--Limestone of Silurian Age.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 253 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land-surface datum is 915 ft above sea level, from topographic map.  
 Measuring point: Top of platform 1.2 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--February 1967 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 81.60 ft below land-surface datum, Sept. 15, 1988;  
 minimum daily low, 60.13 ft below land-surface datum, Feb. 14, 1967.

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	69.22	68.36	68.46	68.68	67.98	67.62	69.13	70.19	72.90	73.72	74.21	74.84
2	69.18	68.09	68.57	68.34	68.14	67.61	69.78	70.22	73.08	73.79	74.27	74.68
3	68.91	68.48	68.38	68.25	68.14	67.52	69.79	70.30	73.12	73.71	74.11	74.74
4	69.06	68.80	68.06	68.32	67.97	67.69	69.84	70.45	73.09	73.58	74.24	75.07
5	69.07	68.84	68.21	68.23	67.78	67.79	69.85	70.57	73.31	73.68	74.11	75.21
6	69.10	68.72	68.25	68.12	67.92	67.79	69.56	70.57	73.31	72.55	74.11	75.11
7	69.12	68.49	68.45	67.93	67.92	67.72	69.59	70.99	73.30	72.90	74.21	74.96
8	69.12	68.32	68.45	67.65	67.93	67.43	69.33	71.52	73.30	73.07	74.17	75.21
9	69.12	68.22	68.17	68.11	67.96	67.55	69.58	71.69	73.19	73.22	74.09	75.22
10	69.23	68.26	68.16	68.30	67.99	68.03	70.06	71.62	72.99	73.47	74.10	75.21
11	69.16	68.32	68.46	68.34	67.74	68.05	70.21	71.64	72.93	73.35	74.07	75.21
12	68.89	68.28	68.52	68.24	67.95	68.05	70.25	71.90	73.01	73.29	74.30	75.20
13	68.92	68.22	68.39	68.50	67.99	67.85	70.02	72.05	73.01	73.31	74.31	75.22
14	69.13	68.22	68.41	68.49	68.16	67.68	69.95	72.10	72.92	73.51	74.10	75.24
15	69.16	68.36	68.41	67.96	68.13	67.79	69.96	72.15	72.72	73.69	74.06	75.42
16	69.08	68.70	68.30	67.89	67.92	67.74	69.91	72.16	73.11	73.71	74.10	75.46
17	68.93	68.73	68.26	68.01	67.59	67.55	70.52	72.37	73.35	73.79	74.16	75.58
18	68.80	68.59	68.26	68.06	67.61	67.18	70.58	72.39	73.32	73.92	74.16	75.54
19	68.67	68.34	68.27	68.08	67.75	67.07	70.30	72.59	73.35	73.93	74.39	75.44
20	68.81	68.32	68.42	68.19	67.85	67.06	70.39	72.70	73.38	73.78	74.44	75.53
21	68.80	68.24	68.42	68.18	68.04	67.15	70.36	72.79	73.26	73.94	74.44	75.60
22	68.83	68.35	68.21	68.07	68.04	67.25	70.27	72.79	73.36	73.96	74.44	75.69
23	68.78	68.48	68.30	67.95	67.83	67.34	70.31	72.69	73.50	73.70	74.17	75.78
24	68.62	68.72	68.27	68.04	67.86	68.82	70.37	72.64	73.59	73.98	74.29	75.72
25	68.79	68.66	68.08	68.13	67.99	68.85	70.38	72.68	73.58	73.94	74.38	75.52
26	68.73	68.33	68.18	68.11	67.78	69.01	70.47	72.79	73.57	73.88	74.58	75.59
27	68.79	68.44	68.14	68.08	67.62	69.12	70.81	72.90	73.50	73.70	74.65	75.54
28	68.88	68.24	68.11	67.87	67.63	69.16	70.86	72.89	73.59	73.71	74.59	75.66
29	68.76	68.24	67.92	67.85	---	69.27	70.61	72.93	73.68	73.69	74.59	75.67
30	68.76	68.09	68.00	67.98	---	69.15	70.48	72.90	73.59	73.94	74.67	75.57
31	68.59	---	68.67	68.06	---	68.08	---	72.71	---	74.16	74.85	---
MAX	69.23	68.84	68.67	68.68	68.16	69.27	70.86	72.93	73.68	74.16	74.85	75.78
CAL YR 1997	LOW	74.90										
WTR YR 1998	LOW	75.78										



**GROUND-WATER RECORDS**  
**Miami County**

**395848084085500. LOCAL NUMBER, MI-3**

LOCATION.--Lat 39°58'48", long 84°08'55", Hydrologic Unit 05080001, 2.0 mi northeast of Tipp City.

Owner: Fulton Fruit Farms.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water table well, diameter 5 in., depth 48 ft, cased.

INSTRUMENTATION.--Periodic measurement with chalked tape by Ohio Department of Natural Resources personnel.

DATUM.--Elevation of land-surface datum is 804.78 ft above sea level. (Levels by Miami Conservancy District.)

Measuring point: Floor of shelter 3.50 ft above land-surface datum.

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

PERIOD OF RECORD.--October 1966 to September 1982 continuous, periodic thereafter.

EXTREMES FOR PERIOD OF RECORD---Maximum daily low, 15.61 ft below land-surface datum, Feb. 4, 1971;  
minimum daily low, 7.53 ft below land-surface datum, Feb. 25, 1975.

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

DATE	WATER LEVEL
Oct. 17, 1997	11.89
Apr. 13, 1998	9.68

**GROUND-WATER RECORDS**  
**Miami County**

**400208084112900. LOCAL NUMBER, MI-44**

LOCATION.--Lat 40°02'08", long 84°11'29", Hydrologic Unit 05080001, on left bank of Great Miami River 0.7 mi east of city hall in Troy.  
Owner: City of Troy.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled public supply water-table well, diameter 26 in, depth 105 ft, screened below 89 ft.

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

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)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	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)	BICAR- BONATE IT-FLD AS (MG/L HCO3) (99440)	ANC CARBON- ATE IT-FLD AS (MG/L - CAC03) (99430)
NOV 05...	1345	672	7.4	14.0	13.0	<10	81	30	23	2.5	347	284
APR 15...	1430	764	7.1	14.0	13.5	<10	88	33	27	2.6	--	--

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)	SILICA, DIS- SOLVED (MG/L) AS SIO2 (00955)	SOLIDS, RESIDUE AT 180 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)	PHOS- PHORUS ORTHO, DIS- SOLVED (MG/L) AS P (00671)	ARSENIC TOTAL (UG/L) AS AS (01002)	ARSENIC DIS- SOLVED (UG/L) AS AS (01000)
NOV 05...	62	40	.93	12	448	.030	<.050	.352	.023	1	1
APR 15...	67	40	.85	13	464	<.010	<.050	.362	.011	--	--

DATE	CHRO- MIUM, DIS- SOLVED (UG/L) AS CR (01030)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L) AS CR (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L) AS CU (01042)	COPPER, DIS- SOLVED (UG/L) AS CU (01040)	IRON, DIS- SOLVED (UG/L) AS FE (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L) AS PB (01051)	LEAD, DIS- SOLVED (UG/L) AS PB (01049)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN (01056)	ZINC, TOTAL RECOV- ERABLE (UG/L) AS ZN (01092)	ZINC, DIS- SOLVED (UG/L) AS ZN (01090)	CARBON, ORGANIC TOTAL (MG/L) AS C (00680)
NOV 05...	<1.0	<1	<1	<1.0	1500	<1	<1.0	48	<10	<3.0	.80
APR 15...	--	--	--	--	1500	--	--	51	--	--	.70

**GROUND-WATER RECORDS**  
**Montgomery County**

**393757084173600. LOCAL NUMBER MT-928**

LOCATION.--Lat 39°37'57", long 84°17'36", Hydrologic Unit 05080002, on right bank of Great Miami River 0.2 mi south of Linden Ave. bridge, Miamisburg.

Owner: City of Miamisburg.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled municipal supply water-table well, diameter 20 in., depth 95 ft, screened below 70 ft.

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

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)	OXYGEN DEMAND, CHEM- ICAL (HIGH LEVEL) (MG/L) (00340)	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)	BICAR- BONATE IT-FLD (MG/L) AS HCO3 (99440)	ANC CARBON- ATE IT-FLD (MG/L - CAC03) (99430)
NOV 05...	1200	793	7.4	12.0	14.6	<10	87	31	47	4.0	327	268
APR 15...	1300	833	7.2	15.8	16.0	<10	85	30	49	4.0	--	--

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)	SILICA, DIS- SOLVED (MG/L) AS SIO2 (00955)	SOLIDS, RESIDUE AT 180 DEG. C DIS- SOLVED (MG/L) (70300)	NITRO- GEN, 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)	ARSENIC TOTAL (UG/L) AS AS (01002)	ARSENIC DIS- SOLVED (UG/L) AS AS (01000)
NOV 05...	63	91	.34	8.3	524	.058	1.82	<.020	.038	2	1
APR 15...	62	63	.34	8.8	488	.114	4.38	.023	.037	--	--

DATE	CHRO- MIUM, DIS- SOLVED (UG/L) AS CR (01030)	CHRO- MIUM, TOTAL RECOV- ERABLE (UG/L) AS CR (01034)	COPPER, TOTAL RECOV- ERABLE (UG/L) AS CU (01042)	COPPER, DIS- SOLVED (UG/L) AS CU (01040)	IRON, DIS- SOLVED (UG/L) AS FE (01046)	LEAD, TOTAL RECOV- ERABLE (UG/L) AS PB (01051)	LEAD, DIS- SOLVED (UG/L) AS PB (01049)	MANGA- NESE, DIS- SOLVED (UG/L) AS MN (01056)	ZINC, TOTAL RECOV- ERABLE (UG/L) AS ZN (01092)	ZINC, DIS- SOLVED (UG/L) AS ZN (01090)	CARBON, ORGANIC TOTAL (MG/L) AS C (00680)
NOV 05...	<1.0	<1	3	2.4	<3.0	<1	<1.0	178	<10	<3.0	--
APR 15...	--	--	--	--	<10	--	--	191	--	--	1.1

**GROUND-WATER RECORDS**  
**Montgomery County**

**394012084151700. LOCAL NUMBER, MT-55**

LOCATION.--Lat 39°40'12", long 84°15'17", Hydrologic Unit 05080002, Elm Street in West Carrollton.

Owner: Oxford Paper Company.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water table well, diameter 12 in., depth 84 ft, cased.

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

DATUM.--Elevation of land-surface datum is 717.6 ft above sea level.

Measuring point: Floor of instrument shelter 0.30 ft above land-surface datum.

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

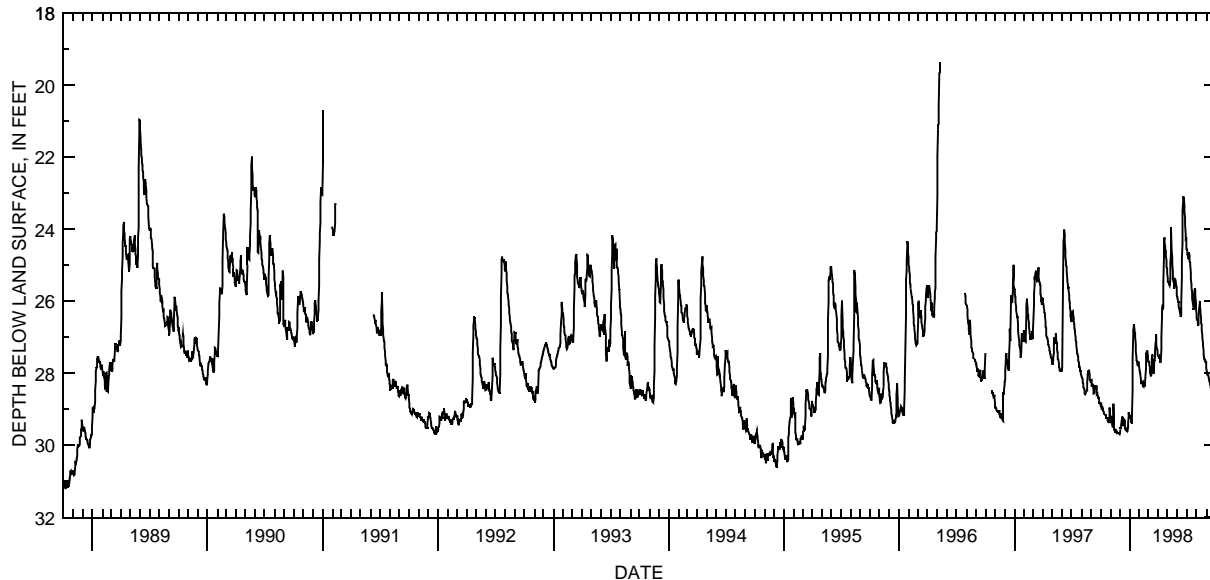
PERIOD OF RECORD.--April 1970 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 58.57 ft below land-surface datum, Nov. 24, 1974;

minimum daily low, 19.35 ft below land-surface datum, May 9, 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	28.86	29.38	29.57	29.20	27.92	27.66	27.53	25.46	25.90	24.54	26.47	27.94
2	28.94	29.18	29.53	29.25	27.99	27.67	27.50	25.48	25.99	24.73	26.51	27.96
3	29.01	29.29	29.52	29.20	28.05	27.76	27.59	25.45	26.01	24.68	26.51	28.04
4	29.01	29.21	29.45	29.23	28.16	27.82	27.53	25.49	26.01	24.82	26.59	28.01
5	29.00	29.21	29.31	29.38	28.25	27.93	27.53	25.54	26.15	24.83	26.68	28.04
6	28.96	29.42	29.32	29.37	28.30	27.97	27.60	25.52	26.19	24.74	26.64	28.03
7	29.03	29.48	29.29	29.36	28.23	28.02	27.67	25.57	26.22	24.64	26.46	28.11
8	29.05	29.51	29.20	29.16	28.24	28.03	27.67	25.38	26.32	24.73	26.21	28.12
9	29.06	29.36	29.48	28.50	28.26	28.09	27.67	24.96	26.31	24.89	26.06	28.20
10	29.10	28.84	29.40	27.59	28.25	27.95	27.34	24.66	26.41	24.92	26.00	28.21
11	29.11	29.50	29.23	26.97	28.35	27.66	26.99	24.58	26.44	24.99	26.20	28.28
12	29.13	29.57	29.26	26.81	28.36	27.59	26.40	23.94	26.38	25.20	26.21	28.30
13	29.16	29.59	29.27	26.68	28.34	27.48	26.19	24.58	26.05	25.38	26.32	28.28
14	29.15	29.61	29.29	26.64	28.28	27.57	26.10	24.79	25.34	25.53	26.47	28.41
15	29.17	29.61	29.32	26.78	28.29	27.71	26.20	24.96	24.84	25.64	26.60	28.44
16	29.16	29.60	29.41	26.83	28.36	27.81	26.19	25.20	24.40	25.72	26.64	28.52
17	29.20	29.60	29.52	26.88	28.34	27.88	25.49	25.23	23.48	25.88	26.80	28.57
18	29.21	29.58	29.57	27.01	28.13	28.02	24.78	25.38	23.23	25.93	26.97	28.59
19	29.23	29.60	29.59	27.20	28.09	27.63	24.28	25.47	23.09	26.04	27.03	28.62
20	29.23	29.65	29.57	27.41	27.88	27.66	24.23	25.61	23.13	26.18	27.15	28.63
21	29.25	29.68	29.54	27.55	27.53	27.56	24.39	25.61	23.11	26.20	27.23	28.69
22	29.27	29.67	29.60	27.65	27.44	27.39	24.48	25.54	23.36	26.20	27.38	28.72
23	29.32	29.65	29.60	27.66	27.40	27.13	24.56	25.41	23.54	26.13	27.50	28.66
24	29.34	29.65	29.61	27.70	27.39	26.94	24.60	25.38	23.68	25.81	27.57	28.69
25	29.35	29.67	29.51	27.76	27.38	26.95	24.76	25.41	23.87	25.66	27.61	28.69
26	29.36	29.67	29.36	27.79	27.51	27.22	24.87	25.41	24.15	25.67	27.65	28.75
27	29.34	29.67	29.19	27.72	27.60	27.31	25.05	25.54	24.30	25.88	27.61	28.76
28	29.36	29.67	29.07	27.68	27.70	27.32	25.09	25.63	24.28	26.02	27.67	28.81
29	28.95	29.68	29.14	27.78	---	27.35	25.22	25.72	24.55	26.13	27.71	28.84
30	29.17	29.68	29.19	27.80	---	27.49	25.37	25.82	24.57	26.19	27.68	28.88
31	29.32	---	29.16	27.93	---	27.52	---	25.87	---	26.37	27.85	---
MAX	29.36	29.68	29.61	29.38	28.36	28.09	27.67	25.87	26.44	26.37	27.85	28.88
CAL YR 1997	LOW	29.68										
WTR YR 1998	LOW	29.68										



## GROUND-WATER RECORDS

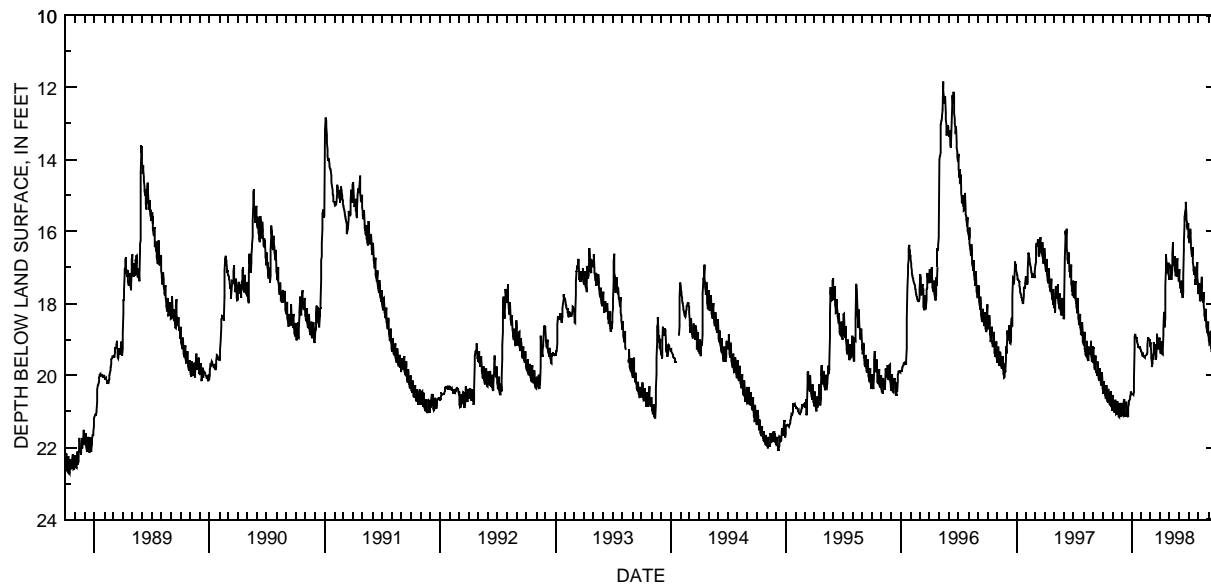
### Montgomery County

**394025084162800. LOCAL NUMBER, MT-49**

LOCATION.--Lat 39°40'25", long 84°16'28", Hydrologic Unit 05080002, 1.2 mi west of city hall in West Carrollton.  
 Owner: Metal Shredders, Inc.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled test water table well, diameter 6 in., depth 220 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land-surface datum is 714.61 ft above sea level. (Levels by Miami Conservancy District.)  
 Measuring point: Floor of shelter 2.50 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--November 1947 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 36.30 ft below land-surface datum, Dec. 8, 1974;  
 minimum daily low, 10.58 ft below land-surface datum, Jan. 23, 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	20.40	20.93	21.00	20.51	19.34	19.08	19.34	17.29	17.35	16.22	17.73	18.94
2	20.46	20.55	21.06	20.50	19.40	19.39	19.38	17.28	17.46	16.31	17.44	19.02
3	20.46	20.88	21.09	20.51	19.43	19.52	19.38	16.91	17.54	16.13	17.84	19.08
4	20.45	20.95	21.10	20.52	19.41	19.63	19.29	17.17	17.57	16.05	17.93	19.14
5	20.16	20.98	21.03	20.53	19.44	19.69	19.05	17.25	17.66	15.93	17.93	19.13
6	20.43	21.00	20.70	20.52	19.45	19.76	19.34	17.31	17.67	16.27	17.90	18.81
7	20.52	21.02	20.65	20.46	19.45	19.66	19.38	17.31	17.37	16.43	17.71	18.78
8	20.55	21.02	20.93	20.06	19.46	19.41	19.40	17.01	17.72	16.52	17.63	19.16
9	20.60	20.66	21.04	19.26	19.47	19.57	19.31	16.62	17.74	16.59	17.25	19.25
10	20.65	20.94	21.05	18.91	19.50	19.31	18.87	16.29	17.84	16.68	17.60	19.31
11	20.65	21.04	21.09	18.84	19.47	19.11	18.69	16.63	17.85	16.68	17.72	19.34
12	20.26	21.07	21.10	18.85	19.48	19.07	18.23	16.69	17.70	16.44	17.83	19.05
13	20.61	21.06	21.04	18.92	19.45	19.33	18.51	16.79	17.23	16.86	17.90	19.01
14	20.69	21.07	20.73	18.95	19.45	19.23	18.61	16.86	16.51	16.97	17.96	19.39
15	20.72	21.02	20.98	18.94	19.45	19.13	18.66	16.94	16.29	17.06	17.96	19.51
16	20.73	20.70	21.03	18.98	19.42	19.48	18.39	16.95	15.82	17.15	17.69	19.60
17	20.73	20.94	21.09	19.03	19.38	19.53	17.50	16.69	15.61	17.20	18.08	19.66
18	20.73	21.00	21.10	19.06	19.35	19.54	17.05	17.07	15.46	17.05	18.18	19.72
19	20.37	21.07	21.14	19.12	19.16	19.47	16.63	17.19	15.44	16.97	18.30	19.71
20	20.68	21.13	20.85	19.17	18.97	19.37	16.88	17.21	15.35	17.32	18.39	19.38
21	20.76	21.14	20.79	19.18	18.94	19.20	16.95	17.19	15.17	17.43	18.48	19.65
22	20.79	21.08	20.72	19.20	18.93	18.83	17.01	17.23	15.55	17.43	18.45	19.78
23	20.80	20.75	20.71	19.23	18.97	19.03	17.08	17.25	15.65	17.20	18.14	19.84
24	20.81	21.04	20.69	19.20	18.99	19.11	17.15	16.86	15.74	17.10	18.51	19.87
25	20.68	21.09	20.63	19.19	19.01	19.15	17.16	16.74	15.85	17.09	18.63	19.89
26	20.44	21.14	20.58	19.22	19.01	19.22	16.86	17.06	15.96	16.84	18.71	19.72
27	20.72	20.91	20.50	19.23	19.20	19.26	17.19	17.21	15.81	17.29	18.78	19.53
28	20.78	21.09	20.47	19.26	19.15	19.18	17.24	17.29	15.77	17.41	18.81	19.90
29	20.85	21.09	20.43	19.29	---	18.94	17.31	17.38	16.15	17.52	18.81	19.97
30	20.90	20.76	20.48	19.31	---	19.20	17.31	17.37	16.14	17.62	18.50	20.05
31	20.93	---	20.52	19.33	---	19.30	---	17.04	---	17.72	18.86	---
MAX	20.93	21.14	21.14	20.53	19.50	19.76	19.40	17.38	17.85	17.72	18.86	20.05
CAL YR 1997	LOW	21.14										
WTR YR 1998	LOW	21.14										



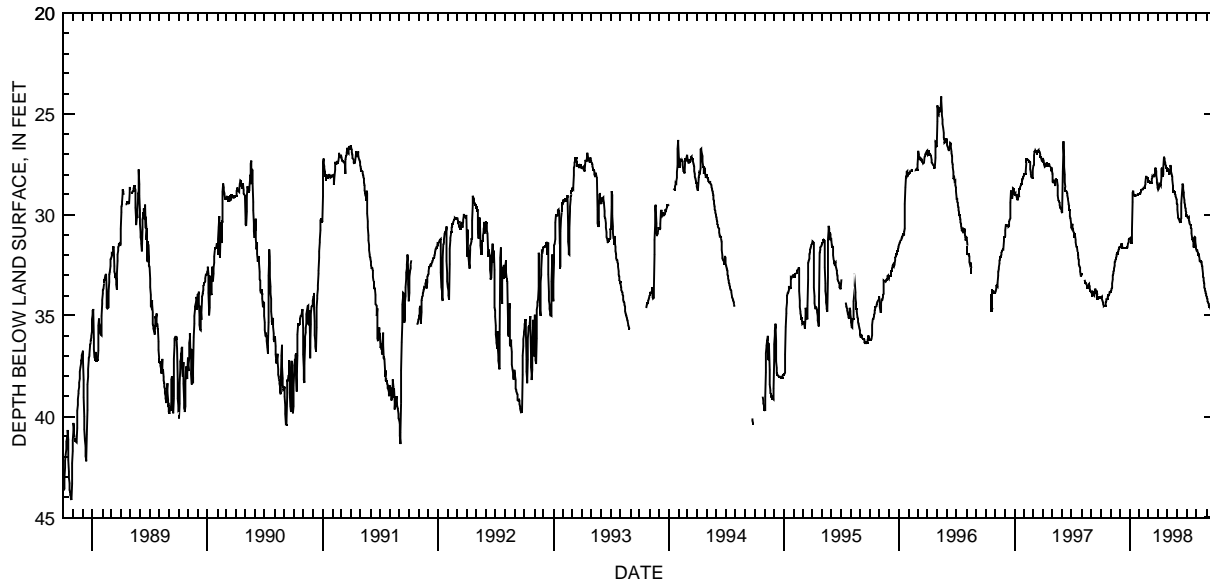
**GROUND-WATER RECORDS**  
**Montgomery County**

**394425084113200. LOCAL NUMBER, MT-3**

LOCATION.--Lat 39°44'25", long 84°11'32", Hydrologic Unit 05080002, Patterson Blvd. at Stewart St., in Dayton.  
 Owner: State of Ohio.  
 AQUIFER.--Sand and gravel of Pleistocene age.  
 WELL CHARACTERISTICS.--Drilled test water table well, diameter 6 in., depth 80 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land-surface datum is 744 ft above sea level, from topographic map.  
 Measuring point: Floor of instrument shelter 1.20 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--May 1945 to June 1974. Reactivated June 1980.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low 79.45 ft below land-surface datum, Apr. 6, 1971;  
 minimum daily low, 24.13 ft below land-surface datum, May 12, 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	34.10	33.81	31.59	31.17	28.94	28.36	28.73	27.77	29.76	30.01	31.76	34.04
2	34.10	33.80	31.59	31.15	28.91	28.35	28.68	27.77	30.06	30.11	31.76	34.11
3	34.08	33.74	31.51	31.14	28.91	28.32	28.62	27.75	30.13	30.13	31.87	34.16
4	34.12	33.67	31.46	31.18	28.87	28.37	28.49	27.75	30.16	30.15	31.93	34.29
5	34.18	33.58	31.41	31.25	28.78	28.41	28.47	27.80	30.20	30.15	31.99	34.32
6	34.28	33.42	31.45	31.37	28.77	28.41	28.48	27.93	30.23	30.14	31.99	34.36
7	34.36	33.20	31.61	31.37	28.76	28.42	28.48	27.95	30.27	30.27	31.91	34.38
8	34.43	32.99	31.63	30.76	28.75	28.42	28.54	27.86	30.34	30.36	32.08	34.48
9	34.49	32.90	31.63	29.38	28.73	28.41	28.54	27.52	30.36	30.42	32.25	34.50
10	34.53	32.79	31.63	28.90	28.73	28.41	28.15	27.62	30.35	30.50	32.33	34.53
11	34.53	32.74	31.67	28.79	28.73	28.27	27.73	27.71	30.28	30.50	32.30	34.55
12	34.50	32.64	31.67	28.88	28.68	28.19	27.65	27.84	30.18	30.50	32.33	34.58
13	34.51	32.51	31.67	29.03	28.68	28.14	27.81	27.97	29.45	30.65	32.31	34.63
14	34.52	32.35	31.66	29.04	28.66	28.09	27.96	28.10	28.99	30.69	32.28	34.68
15	34.52	32.33	31.66	29.04	28.66	28.10	28.03	28.27	28.98	30.94	32.29	34.73
16	34.42	32.26	31.66	29.04	28.63	28.09	28.03	28.56	28.55	31.15	32.33	34.77
17	34.33	32.22	31.66	29.04	28.59	28.07	27.64	28.73	28.46	31.19	32.44	34.83
18	34.26	32.13	31.66	29.05	28.50	28.05	27.15	28.82	28.53	31.23	32.53	34.83
19	34.21	32.05	31.66	29.05	28.40	28.06	27.10	28.83	28.75	31.24	32.64	34.87
20	34.15	31.99	31.66	29.05	28.11	28.06	27.23	28.87	28.89	31.31	32.91	34.91
21	34.15	31.95	31.66	29.05	28.10	27.93	27.32	28.86	29.08	31.56	33.06	34.96
22	34.13	31.91	31.63	29.05	28.10	27.75	27.40	28.88	29.29	31.62	33.12	35.02
23	34.09	31.90	31.59	29.03	28.11	27.67	27.48	28.91	29.36	31.59	33.26	35.02
24	34.01	31.85	31.59	29.01	28.13	27.77	27.56	28.96	29.49	31.14	33.41	35.02
25	33.99	31.81	31.42	29.01	28.15	27.81	27.67	28.99	29.60	31.09	33.58	35.03
26	33.99	31.71	31.42	28.98	28.18	28.04	27.67	29.07	29.70	31.12	33.67	35.12
27	33.90	31.67	31.34	28.97	28.34	28.28	27.68	29.15	29.79	31.35	33.73	35.16
28	33.90	31.62	31.27	28.96	28.36	28.40	27.71	29.26	29.91	31.55	33.80	35.17
29	33.84	31.61	31.21	28.96	---	28.51	27.77	29.36	30.00	31.62	33.87	35.17
30	33.81	31.61	31.16	28.96	---	28.64	27.77	29.43	30.00	31.67	33.92	35.17
31	33.81	---	31.17	28.96	---	28.73	---	29.48	---	31.76	34.00	---
MAX	34.53	33.81	31.67	31.37	28.94	28.73	28.73	29.48	30.36	31.76	34.00	35.17
CAL YR 1997	LOW	34.53										
WTR YR 1998	LOW	35.17										





**GROUND-WATER RECORDS**  
**Montgomery County**

**394533084113800. LOCAL NUMBER, MT-6**

LOCATION.--Lat 39°45'33", long 84°11'38", Hydrologic Unit 05080002, 3rd and Ludlow Sts., Dayton.

Owner: City of Dayton

AQUIFER.--Sand and gravel of Pleistocene age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 60 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 13.00 ft below land-surface datum.

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

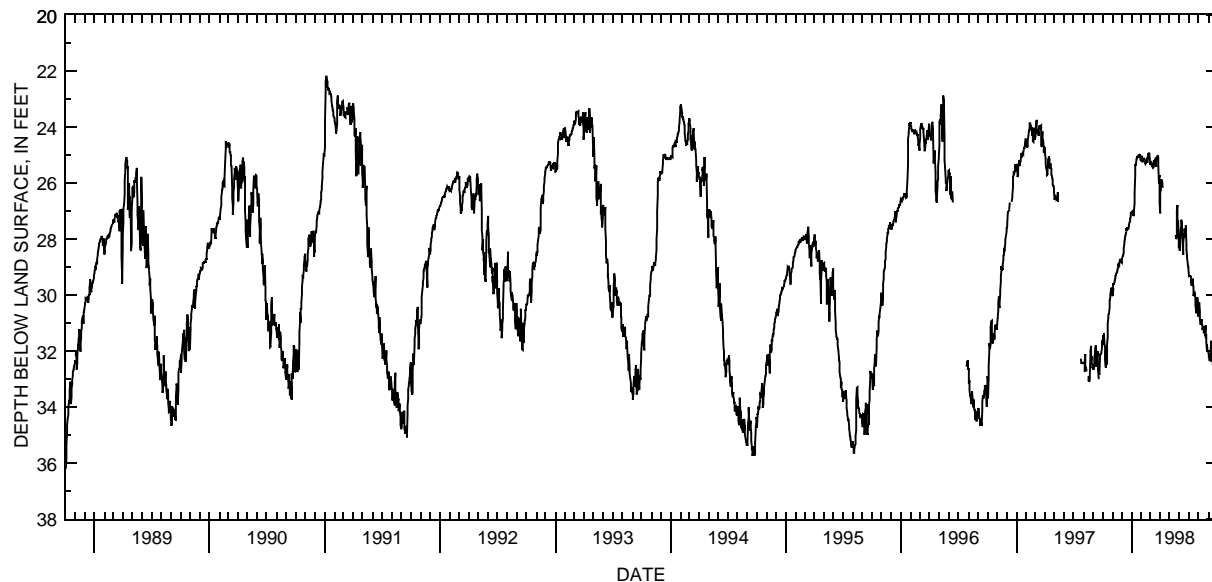
PERIOD OF RECORD.--February 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 60.20 ft below land-surface datum, Oct. 2, 1970;  
minimum daily low, 21.23 ft below land-surface datum, Feb. 26, 1982.

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	31.65	30.03	28.63	27.03	25.02	25.31	26.38	---	28.35	29.31	30.51	32.15
2	31.44	29.96	28.63	27.02	25.20	25.28	26.25	---	28.40	29.31	30.26	32.24
3	31.44	29.76	28.62	27.06	25.25	25.32	26.19	---	28.15	29.31	30.56	32.09
4	31.46	29.60	28.56	27.08	25.19	25.35	25.97	---	27.78	29.31	30.57	32.35
5	31.35	29.61	28.47	27.13	25.14	25.32	25.86	---	27.69	29.29	30.88	32.19
6	31.77	29.58	28.32	27.18	25.19	25.38	26.03	---	27.49	29.34	30.96	32.28
7	31.92	29.49	28.18	27.12	25.14	25.37	25.93	---	27.30	29.55	31.07	32.37
8	32.31	29.45	28.08	26.99	25.10	25.29	26.16	---	27.48	29.62	30.93	31.86
9	32.58	29.37	27.98	26.73	25.19	25.46	---	---	27.50	29.67	30.86	31.63
10	32.45	29.31	27.98	26.34	25.23	25.44	---	---	28.01	29.59	30.87	31.97
11	31.98	29.30	27.92	25.74	25.23	25.37	---	---	28.10	29.55	31.01	32.06
12	31.80	29.25	27.83	25.33	25.31	25.35	---	---	28.57	29.41	31.08	32.10
13	32.48	29.24	27.72	25.37	25.31	25.23	---	---	28.14	29.64	31.23	31.68
14	31.74	29.19	27.66	25.32	25.25	25.19	---	---	27.87	29.67	31.14	32.43
15	31.50	29.15	27.65	25.16	25.19	25.19	---	---	27.78	30.03	31.23	32.63
16	31.17	29.10	27.62	25.13	25.13	25.16	---	---	27.85	29.91	31.20	32.60
17	31.01	29.03	27.62	25.11	25.14	25.10	---	---	27.64	29.88	31.35	32.35
18	30.81	28.97	27.60	25.08	25.28	25.32	---	---	27.81	29.99	31.28	32.87
19	30.69	28.86	27.66	25.04	25.20	25.41	---	---	27.94	29.93	31.10	32.73
20	30.65	29.01	27.63	25.04	25.11	25.32	---	27.85	27.75	30.15	31.35	32.94
21	30.45	28.95	27.56	25.02	25.05	25.13	---	27.99	27.52	30.35	31.44	32.64
22	30.24	28.83	27.51	25.05	24.96	25.08	---	27.93	28.20	30.57	31.08	33.03
23	30.18	28.76	27.50	25.05	24.96	24.99	---	27.24	28.39	30.65	31.50	32.43
24	30.09	28.70	27.40	25.02	24.92	25.04	---	26.97	28.59	30.48	31.47	32.25
25	30.00	28.77	27.33	24.97	24.99	25.05	---	26.79	28.71	30.33	31.68	32.70
26	29.83	28.82	27.26	25.08	25.13	25.37	---	27.40	28.85	30.29	31.95	32.91
27	29.76	28.73	27.21	25.08	25.29	26.01	---	27.33	28.89	30.09	31.77	32.97
28	29.72	28.82	27.15	25.17	25.35	25.74	---	27.90	28.98	30.42	31.98	32.88
29	29.81	28.83	27.08	25.19	---	25.74	---	28.23	29.05	30.39	31.97	33.12
30	29.85	28.71	27.06	25.19	---	26.70	---	28.27	29.31	30.75	32.03	32.96
31	29.97	---	27.09	25.13	---	27.09	---	28.25	---	30.29	32.01	---
MAX	32.58	30.03	28.63	27.18	25.35	27.09	26.38	28.27	29.31	30.75	32.03	33.12

CAL YR 1997 LOW 33.08  
WTR YR 1998 LOW 33.12



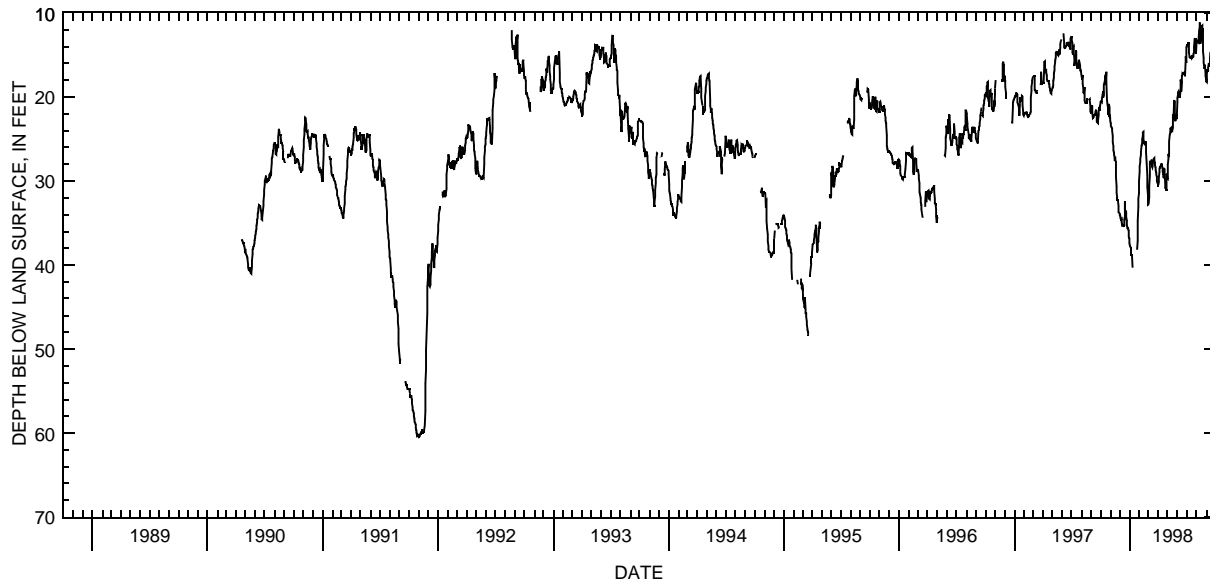
**GROUND-WATER RECORDS**  
**Montgomery County**

**394811084095000. LOCAL NUMBER, MT-74**

LOCATION.--Lat 39°48'11", long 84°09'50", Hydrologic Unit 05080002, Miami Well Field in Dayton.  
 Owner: City of Dayton.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled test water table well, diameter 8 in., depth 100 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 750 ft above sea level, from topographic map.  
 Measuring point: Floor of instrument shelter 4.0 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--April 18, 1990 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 60.50 ft below land-surface datum, Oct. 31-Nov. 1, 1991;  
 minimum daily low, 11.13 ft below land-surface datum, Aug. 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	20.52	23.09	34.17	37.68	28.23	32.79	30.39	28.02	20.09	13.80	13.23	18.24
2	20.51	23.37	34.34	37.89	27.74	31.95	30.09	27.33	19.62	13.80	13.28	16.68
3	20.58	23.51	34.55	38.67	27.35	30.57	29.54	26.70	19.47	13.79	13.55	16.89
4	20.57	23.55	34.62	38.72	26.91	29.40	28.92	27.13	19.26	13.64	13.59	17.00
5	20.18	23.66	34.56	38.70	26.51	28.15	28.49	25.90	19.26	13.53	13.44	16.92
6	19.74	23.97	34.88	38.70	25.80	27.75	28.29	25.29	19.62	13.51	13.46	16.45
7	19.28	24.59	35.19	38.73	25.77	27.83	28.32	24.57	19.95	14.73	13.23	15.99
8	20.04	25.41	35.25	38.79	25.47	27.81	28.29	24.08	19.95	15.17	12.06	16.02
9	19.72	25.83	35.19	40.31	25.02	27.56	28.14	23.79	19.90	15.23	11.58	16.04
10	18.90	26.25	35.15	---	24.60	27.40	27.98	23.69	19.23	15.30	11.40	16.34
11	18.53	26.57	35.30	---	24.22	27.80	27.92	23.88	17.88	15.32	11.13	16.28
12	18.30	26.83	35.35	---	24.17	28.17	28.01	24.22	18.11	15.30	13.25	15.81
13	17.91	27.13	35.35	---	25.04	28.32	28.20	24.15	19.34	15.18	13.65	14.64
14	17.58	27.40	34.60	---	25.44	28.32	28.47	24.00	18.05	15.32	12.38	15.84
15	17.28	27.36	34.20	---	25.56	27.77	28.83	23.84	17.43	15.27	13.23	17.07
16	18.47	27.48	32.35	---	25.31	27.48	29.16	23.64	17.28	15.09	11.70	17.45
17	18.38	27.69	33.33	---	25.19	27.50	29.49	22.91	17.10	15.10	11.58	17.78
18	16.98	29.46	33.51	---	25.50	27.33	29.54	22.01	17.22	15.30	11.54	18.03
19	18.21	30.63	33.59	---	25.73	27.30	28.43	22.23	17.30	15.29	12.20	16.83
20	20.37	31.40	34.28	---	25.29	27.54	28.59	22.17	17.03	15.21	11.79	16.34
21	21.09	32.00	34.67	---	25.52	27.84	29.00	20.31	17.13	14.85	14.58	15.90
22	21.90	32.21	34.88	---	26.58	28.11	30.32	20.55	17.19	14.65	15.36	17.15
23	21.90	32.19	35.22	38.15	27.92	28.38	30.78	22.46	17.01	14.45	15.92	17.20
24	21.90	32.31	35.60	38.16	29.34	28.68	30.88	22.62	17.54	14.01	16.36	18.03
25	21.20	32.96	35.58	37.08	30.72	28.95	30.99	22.82	17.30	13.00	16.59	18.60
26	20.82	33.69	35.63	34.71	31.70	29.19	30.99	22.85	15.53	13.02	16.38	18.78
27	21.24	33.74	35.88	33.06	32.55	29.51	29.13	22.05	15.20	13.04	16.14	17.28
28	22.37	33.77	36.28	32.07	32.85	29.94	29.52	22.31	15.92	13.02	17.31	18.54
29	22.10	33.80	36.54	31.43	---	30.26	29.61	22.62	14.12	14.43	17.46	19.15
30	22.46	34.02	36.84	30.00	---	30.45	29.68	22.50	13.82	14.88	17.82	19.68
31	22.77	---	37.32	28.85	---	30.47	---	20.57	---	13.41	18.15	---
MAX	22.77	34.02	37.32	40.31	32.85	32.79	30.99	28.02	20.09	15.32	18.15	19.68
CAL YR 1997	LOW	37.32										
WTR YR 1998	LOW	40.31										



**GROUND-WATER RECORDS**  
**Muskingum County**

**395804081593200. LOCAL NUMBER, MU-1A**

LOCATION.--Lat 39°58'04", long 81°59'32", Hydrologic Unit 05040004, 2.2 mi northeast of the "Y" bridge in Zanesville.

Owner: Zanesville Water Department.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled unused water table well, diameter 6 in., depth 109 ft, cased.

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

DATUM.--Elevation of land-surface datum is 700 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 4.48 ft above land-surface datum.

REMARKS.--Water level affected by nearby municipal wells and by stage of the Muskingum River. Prior to water year 1978, well depth reported as 132 ft.

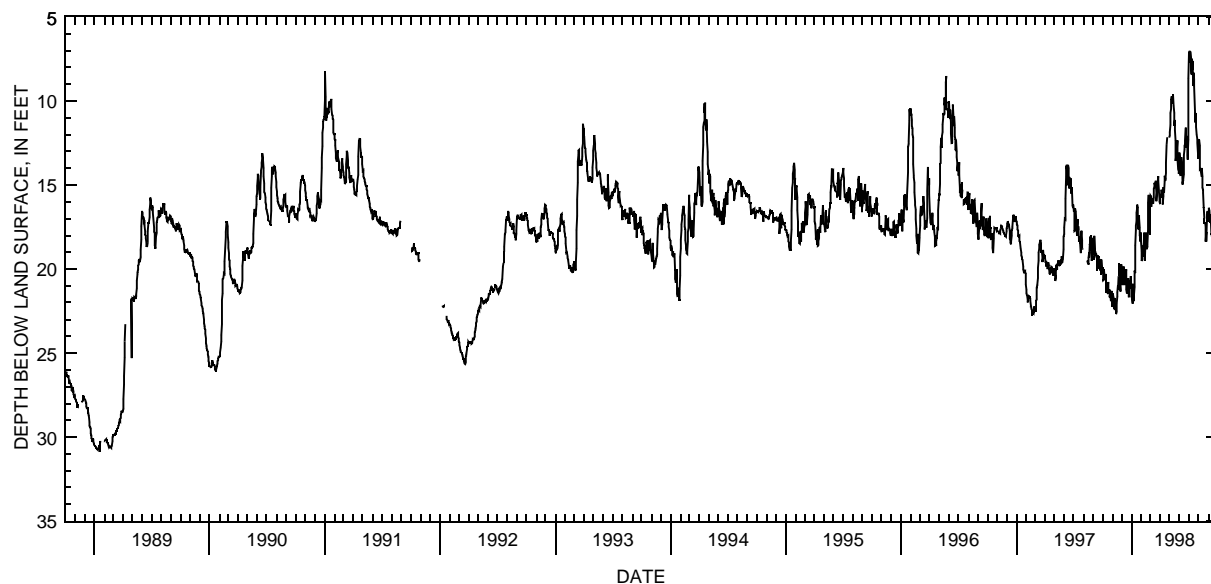
PERIOD OF RECORD.--May 1942 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 37.25 ft below land-surface datum, Aug. 1-2, 1954;  
minimum daily low, 7.01 ft below land-surface datum, July 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	20.01	22.17	20.84	21.71	19.50	15.62	15.60	11.87	13.08	7.31	12.35	17.18
2	20.70	21.47	20.94	22.05	19.40	15.71	15.60	11.45	13.62	7.01	12.36	16.34
3	20.63	21.68	20.64	21.17	19.35	16.32	15.60	10.73	14.25	7.76	12.65	16.55
4	20.60	22.14	20.51	20.90	18.66	15.78	15.36	10.47	14.43	7.43	12.96	16.56
5	20.01	22.35	20.25	21.48	19.29	15.87	15.27	10.29	14.37	7.04	14.10	17.27
6	20.39	21.89	19.85	21.68	18.60	15.90	15.51	9.90	14.04	7.46	14.06	17.25
7	20.67	21.72	20.75	21.92	18.78	15.96	15.75	9.71	13.32	7.69	13.98	16.75
8	20.61	22.43	20.96	21.57	17.85	15.80	15.56	10.17	13.77	8.40	14.25	16.97
9	20.31	22.16	20.31	21.08	18.56	16.13	16.17	10.02	13.67	7.47	14.52	17.95
10	20.75	22.11	20.54	20.10	19.14	15.72	15.65	10.05	14.97	7.59	14.43	17.86
11	21.32	22.47	20.85	20.25	19.50	15.48	15.12	9.98	14.84	8.17	13.97	18.14
12	21.32	22.67	20.19	18.59	18.40	15.21	15.38	9.62	14.72	7.64	14.49	18.08
13	21.38	22.53	20.01	17.67	18.12	15.09	15.47	10.28	14.67	8.43	15.14	17.56
14	21.20	22.07	21.22	17.42	17.85	14.87	14.79	10.73	14.35	9.09	15.30	18.74
15	21.39	21.65	21.47	17.16	18.57	14.97	14.43	11.46	13.22	8.33	15.47	19.52
16	21.33	21.38	21.45	16.67	18.81	14.90	14.60	11.13	12.87	8.69	16.36	18.05
17	20.91	20.94	21.11	16.35	18.61	14.76	14.76	11.40	12.67	9.14	16.32	17.85
18	20.76	21.24	20.82	16.14	18.69	14.99	14.30	11.75	12.53	9.15	17.00	17.63
19	21.30	20.43	21.22	16.34	18.54	15.38	13.67	12.36	12.35	10.35	17.28	17.82
20	21.44	19.68	20.54	17.13	17.69	15.98	12.60	13.56	11.60	11.27	17.25	17.65
21	21.24	19.71	21.36	17.63	17.09	15.45	12.60	13.28	12.56	10.73	17.24	17.47
22	21.44	19.89	21.68	17.27	16.04	15.14	12.15	13.14	12.77	10.79	17.43	17.56
23	21.68	20.54	21.38	16.79	15.57	15.33	---	12.90	12.36	10.98	18.36	17.58
24	21.42	20.82	20.66	16.94	16.52	14.84	---	12.96	12.09	11.55	17.79	17.33
25	21.57	21.35	21.12	17.54	17.33	14.48	---	12.36	12.29	11.99	18.36	17.09
26	21.90	20.20	21.15	17.97	17.95	14.76	---	13.44	13.50	12.26	17.07	17.56
27	21.29	19.89	21.03	18.08	16.32	15.33	---	14.03	13.23	12.50	16.71	17.46
28	21.92	19.71	20.42	18.38	15.93	15.39	---	14.13	12.32	13.11	16.52	17.45
29	21.62	19.88	20.67	17.84	---	15.87	12.14	14.16	8.64	13.43	16.55	17.06
30	21.99	20.18	21.20	18.38	---	15.98	12.03	14.33	7.10	12.53	16.72	17.45
31	22.17	---	21.59	18.95	---	16.11	---	14.04	---	12.51	16.74	---
MAX	22.17	22.67	21.68	22.05	19.50	16.32	16.17	14.33	14.97	13.43	18.36	19.52

CAL YR 1997   LOW 22.68  
WTR YR 1998   LOW 22.67



**GROUND-WATER RECORDS**  
**Pickaway County**

**393327082571600. LOCAL NUMBER, PK-7**

LOCATION.--Lat 39°33'27", long 82°57'16", Hydrologic Unit 05060002, 3.1 mi south of Circleville.

Owner: State of Ohio.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test artesian well, diameter 6 in., depth drilled 172 ft, present depth 169 ft, cased to 164 ft.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 705 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.

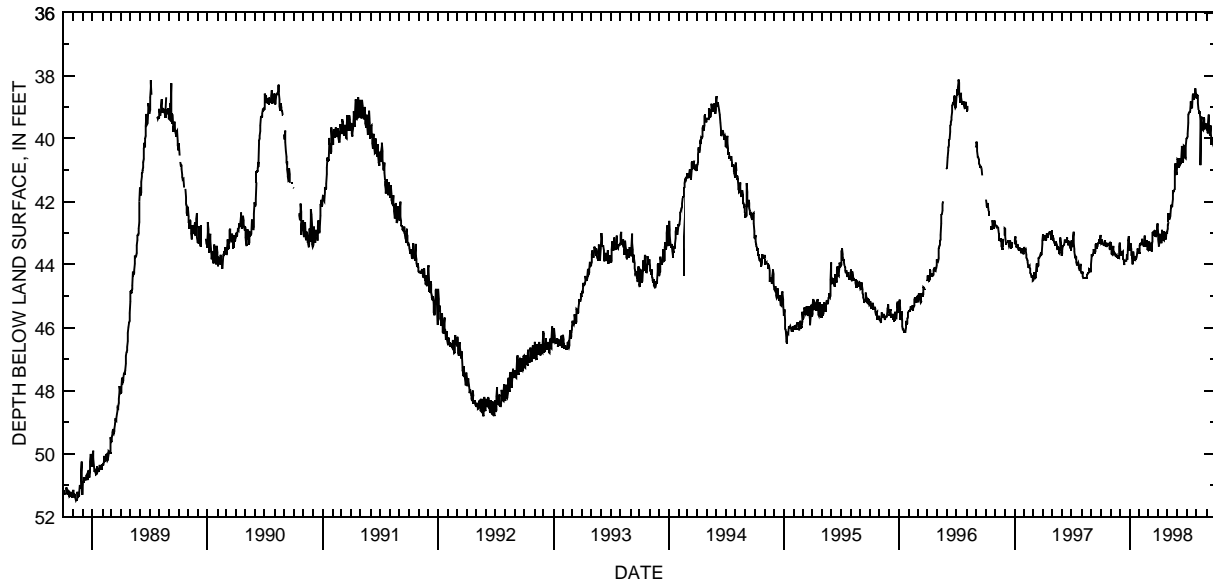
PERIOD OF RECORD.--July 1972 to September 1982 continuous, October 1982 to April 1985 periodic, continuous thereafter.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 54.80 ft below land-surface datum, Sept. 15, 1977;  
minimum daily low, 38.13 ft below land-surface datum, July 7, 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	43.34	43.34	43.62	43.53	43.38	43.31	43.22	42.74	40.63	39.96	38.73	39.71
2	43.34	43.29	43.70	43.35	43.32	43.27	43.39	42.66	40.67	39.94	38.60	39.71
3	43.33	43.48	43.70	43.33	43.36	43.37	43.42	42.38	40.73	39.84	38.63	39.72
4	43.20	43.65	43.57	43.36	43.30	43.47	43.31	42.39	40.75	39.50	38.77	39.80
5	43.20	43.66	43.66	43.51	43.33	43.56	43.08	42.57	40.86	39.25	38.88	39.82
6	43.28	43.57	43.65	43.69	43.37	43.53	43.02	42.57	40.87	39.18	39.09	39.54
7	43.34	43.55	43.63	43.71	43.38	43.49	43.13	42.53	40.63	39.17	39.17	39.24
8	43.35	43.50	43.60	43.79	43.18	43.30	43.18	42.44	40.65	39.13	39.18	39.51
9	43.35	43.41	43.59	43.99	43.20	43.35	43.15	42.45	40.70	39.13	39.18	39.73
10	43.40	43.53	43.65	43.99	43.30	43.58	43.33	42.19	40.78	39.14	39.14	39.80
11	43.40	43.62	43.80	43.76	43.30	43.57	43.33	42.11	40.79	39.12	39.20	39.90
12	43.33	43.67	43.84	43.59	43.39	43.40	43.14	42.17	40.72	38.81	39.40	39.92
13	43.22	43.65	44.01	43.85	43.39	43.27	42.89	42.18	40.63	38.87	40.85	39.58
14	43.37	43.64	43.91	43.88	43.39	42.99	43.04	42.17	40.29	39.00	39.43	39.83
15	43.39	43.65	43.89	43.78	43.23	42.98	43.13	42.10	40.24	39.03	39.40	39.98
16	43.39	43.71	43.85	43.82	43.07	42.96	43.07	41.92	40.55	38.99	39.29	40.18
17	43.40	43.73	43.86	43.84	43.11	43.01	43.21	41.70	40.72	39.02	39.40	40.17
18	43.40	43.72	43.88	43.75	43.31	43.04	43.22	41.64	40.72	39.00	39.58	40.09
19	43.35	43.71	43.88	43.75	43.39	43.05	42.94	41.67	40.62	38.60	39.71	40.07
20	43.32	43.75	43.87	43.81	43.43	43.06	43.02	41.68	40.60	38.58	39.72	39.96
21	43.35	43.75	43.77	43.82	43.42	43.00	43.10	41.64	40.21	38.66	39.67	39.98
22	43.40	43.73	43.70	43.75	43.34	42.91	43.12	41.62	40.24	38.78	39.57	40.20
23	43.40	43.73	43.81	43.67	43.23	42.99	43.12	41.52	40.44	38.74	39.36	40.26
24	43.39	43.78	43.81	43.65	43.41	43.12	43.18	41.02	40.56	38.72	39.35	40.26
25	43.34	43.78	43.33	43.48	43.51	43.09	43.20	40.79	40.61	38.68	39.49	40.22
26	43.34	43.75	43.23	43.50	43.52	43.02	42.95	40.94	40.62	38.40	39.62	40.22
27	43.33	43.77	43.13	43.54	43.47	42.94	42.98	41.04	40.26	38.40	39.68	40.00
28	43.46	43.43	43.11	43.54	43.49	42.88	43.02	41.15	40.03	38.57	39.67	39.99
29	43.49	43.30	43.16	43.61	---	42.69	42.94	41.15	40.01	38.58	39.66	40.08
30	43.52	43.34	43.42	43.64	---	42.72	42.85	41.08	40.00	38.58	39.52	40.17
31	43.46	---	43.53	43.63	---	43.02	---	40.74	---	38.70	39.60	---
MAX	43.52	43.78	44.01	43.99	43.52	43.58	43.42	42.74	40.87	39.96	40.85	40.26

CAL YR 1997   LOW 44.52  
WTR YR 1998   LOW 44.01



**GROUND-WATER RECORDS**  
**Pickaway County**

**393402082572500. LOCAL NUMBER, PK-4**

LOCATION.--Lat 39°34'02", long 82°57'25", Hydrologic Unit 05060002, 2 mi south of Circleville.

Owner: E. I. DuPont DeNemours.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water table well, diameter 6 in., depth 136 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 707 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 3.50 ft above land-surface datum.

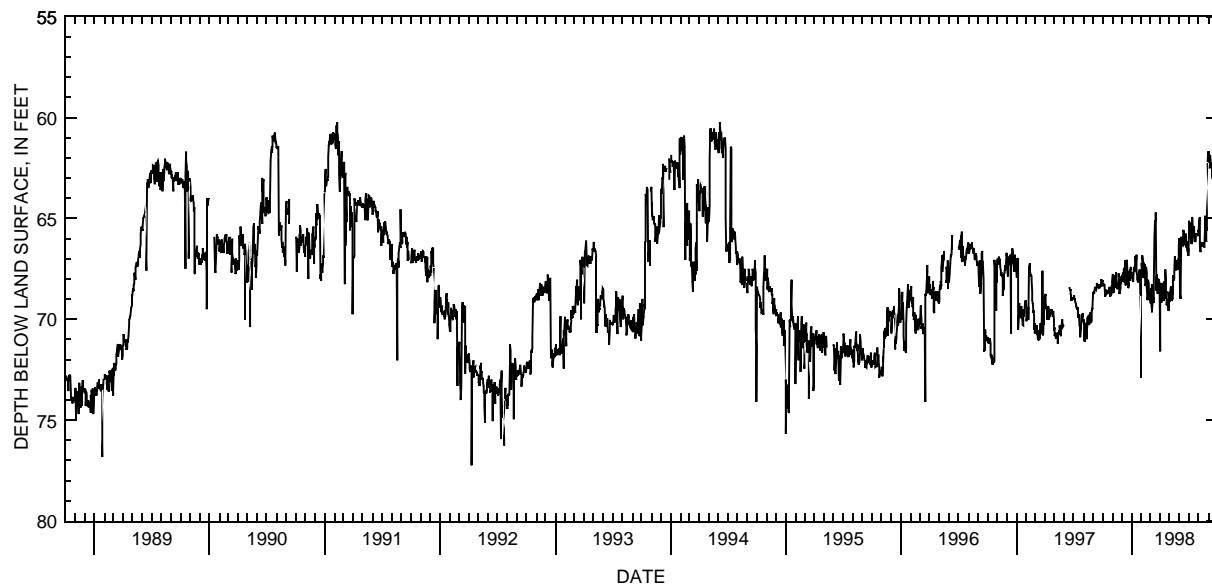
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--January 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 80.15 ft below land-surface datum, Nov. 3, 1972;  
minimum daily low, 47.40 ft below land-surface datum, Feb. 25, 1960.

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	68.35	67.74	67.80	67.78	67.22	69.23	68.52	68.84	66.39	65.11	65.66	61.66
2	68.20	68.26	67.88	67.72	67.66	68.45	69.07	68.90	68.97	65.34	65.02	61.98
3	68.30	68.42	68.11	67.70	66.85	69.04	68.20	68.52	68.77	65.53	64.94	62.27
4	68.35	68.70	67.68	68.06	67.11	69.47	69.19	68.35	69.00	65.23	65.43	62.50
5	68.30	67.98	68.15	68.13	67.88	68.25	68.67	69.08	68.25	65.36	66.32	62.46
6	68.30	67.94	67.52	67.96	67.93	69.66	69.06	68.78	66.38	66.11	66.69	61.84
7	68.90	68.09	67.47	67.42	67.19	69.23	68.70	69.10	65.90	66.25	66.40	62.31
8	68.60	68.27	67.43	67.64	67.29	69.07	68.49	68.92	66.21	65.69	66.22	62.31
9	68.50	67.83	67.51	67.42	67.47	68.92	68.50	69.02	66.29	66.27	66.16	62.52
10	68.70	68.42	67.08	67.62	67.28	69.03	68.71	68.76	66.33	66.17	66.39	62.24
11	68.80	67.67	67.74	67.22	67.85	69.17	68.19	67.93	66.18	64.93	66.42	62.51
12	68.70	68.47	68.32	66.88	68.35	68.21	69.08	67.81	65.94	65.61	66.19	62.79
13	68.65	68.26	67.57	67.20	68.32	66.05	68.14	68.06	65.55	65.93	66.20	63.07
14	68.75	68.26	67.66	67.35	68.11	65.95	68.43	67.97	65.63	65.69	66.36	62.62
15	68.60	68.28	68.26	66.79	67.41	65.08	68.46	67.58	66.00	65.40	66.33	61.97
16	68.65	68.50	67.76	67.62	67.69	65.16	68.02	66.86	66.04	65.90	66.20	62.29
17	68.55	68.26	67.06	67.80	68.39	64.72	67.54	66.91	66.29	65.40	66.20	62.18
18	68.60	68.22	67.89	68.02	69.05	65.26	68.20	67.27	66.25	65.88	66.47	61.80
19	68.60	68.01	68.22	68.08	69.03	68.57	69.00	67.60	66.25	66.15	66.45	62.02
20	68.50	67.71	68.46	68.18	68.83	68.14	68.60	67.37	65.79	65.84	65.47	62.39
21	68.40	68.36	68.31	68.11	68.79	67.78	69.30	67.13	65.77	66.16	64.88	62.23
22	68.45	68.74	67.75	67.83	68.04	67.78	69.00	67.49	66.45	65.72	64.94	62.11
23	68.60	68.66	67.94	68.18	68.20	68.74	69.18	67.11	66.21	---	65.84	62.37
24	68.55	68.72	67.60	67.62	69.07	67.96	69.32	67.29	66.12	---	66.18	62.14
25	68.80	68.46	68.11	67.53	68.62	68.63	69.32	67.05	66.50	---	65.44	61.81
26	68.80	68.14	67.56	67.67	68.78	68.26	69.22	67.57	66.65	---	65.64	62.13
27	68.70	68.18	67.52	68.82	68.91	68.74	69.59	67.25	66.61	---	64.68	61.81
28	68.31	67.90	67.42	67.91	68.60	68.02	68.64	66.97	66.57	---	61.68	62.17
29	68.44	68.12	67.66	72.90	---	68.36	69.14	67.01	66.88	65.76	62.23	61.49
30	68.45	67.94	67.98	67.96	---	68.40	69.11	66.40	65.67	65.88	61.70	61.55
31	68.12	---	67.66	67.51	---	71.60	---	65.99	---	65.55	61.98	---
MAX	68.90	68.74	68.46	72.90	69.07	71.60	69.59	69.10	69.00	66.27	66.69	63.07
CAL YR 1997	LOW	71.20										
WTR YR 1998	LOW	72.90										



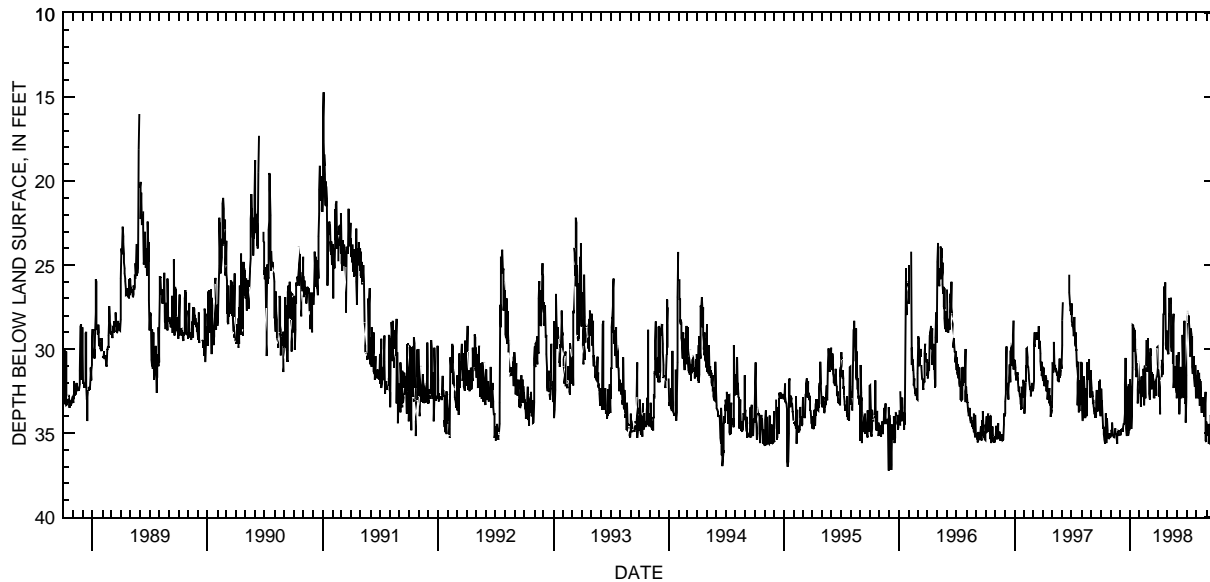
**GROUND-WATER RECORDS**  
**Pickaway County**

**393638082572300. LOCAL NUMBER, PK-6**

LOCATION.--Lat 39°36'38", long 82°57'23", Hydrologic Unit 05060002, water works plant 1 mi northwest of Circleville.  
 Owner: Circleville Water Dept.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled unused water table well, diameter 6 in., depth 120 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 672 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.--July 1966 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 37.32 ft below land-surface datum, Feb. 24, 1977;  
 minimum daily low, 14.50 ft below land-surface datum, Feb. 2, 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	33.23	35.21	34.86	31.79	32.63	31.07	31.22	30.10	30.49	24.79	32.79	34.50
2	32.37	35.13	35.13	32.87	31.88	31.31	31.65	30.29	31.67	27.73	32.13	34.50
3	33.72	34.89	34.82	33.74	32.42	32.67	32.78	30.05	31.24	27.86	31.26	35.16
4	33.48	34.78	34.80	32.22	33.38	32.99	32.79	27.89	30.17	28.28	31.41	34.83
5	33.09	34.95	34.80	33.21	33.41	32.38	31.85	28.10	32.14	28.45	32.91	34.71
6	33.98	34.37	34.80	34.77	31.63	30.21	33.54	27.02	33.65	28.00	31.50	32.96
7	34.77	35.18	34.73	33.69	32.69	30.38	33.87	27.00	33.87	28.34	31.56	35.64
8	34.62	35.09	34.85	33.24	32.72	29.94	30.43	27.00	32.90	28.84	31.41	35.48
9	34.63	35.13	34.88	31.08	31.61	31.41	30.69	27.29	32.96	29.03	33.32	34.44
10	34.71	35.15	34.89	28.56	32.53	32.10	31.04	26.95	31.96	29.95	33.39	35.16
11	35.07	35.24	34.68	28.59	32.01	32.38	31.67	29.44	31.07	30.43	31.77	34.55
12	35.38	35.27	34.43	28.59	32.55	31.37	30.65	29.86	32.94	30.16	33.06	34.59
13	35.64	35.13	34.43	29.79	31.18	31.65	30.77	30.14	32.94	28.76	31.90	35.70
14	35.63	35.03	34.40	28.74	32.58	31.47	31.10	29.83	31.55	29.11	33.36	33.93
15	35.12	34.71	33.85	30.15	33.36	31.70	31.52	29.84	30.00	29.68	33.12	34.03
16	33.85	34.97	32.87	28.85	31.26	31.89	29.24	30.02	32.25	29.25	33.78	32.84
17	35.00	35.03	32.07	29.43	30.98	32.61	27.94	30.86	29.14	30.98	33.60	34.10
18	35.03	35.07	30.54	29.85	32.93	32.85	27.82	28.60	31.22	31.05	32.93	35.38
19	35.58	35.07	32.35	31.02	31.49	32.88	26.33	27.89	32.74	31.49	33.23	36.05
20	34.11	35.28	34.73	31.25	29.18	32.93	26.30	32.33	32.87	30.55	32.88	34.68
21	34.83	35.63	35.15	30.81	30.96	31.89	27.80	31.69	30.38	31.37	33.50	34.62
22	35.10	35.03	34.98	31.68	30.98	32.31	26.02	32.12	28.33	31.59	33.50	33.50
23	32.60	34.88	32.25	30.05	29.45	32.01	26.08	31.02	29.14	30.42	33.59	34.65
24	35.07	34.89	33.13	28.58	31.37	28.59	29.80	31.84	33.17	31.71	34.02	34.63
25	35.25	35.16	33.32	32.43	31.37	31.56	29.62	31.87	33.19	32.15	33.72	33.68
26	35.30	34.86	35.12	33.21	29.34	32.78	30.04	32.00	33.25	32.15	33.44	34.62
27	35.12	34.89	34.92	30.54	30.48	29.88	28.88	32.30	34.37	30.96	33.38	35.99
28	35.00	34.89	32.07	30.72	30.95	29.91	30.08	32.63	32.84	32.93	32.53	36.13
29	35.10	34.88	32.49	31.85	---	29.87	29.74	30.38	31.54	31.56	35.42	34.43
30	35.28	34.86	34.85	32.12	---	31.59	29.21	32.92	26.47	32.50	35.53	34.77
31	35.24	---	33.41	32.40	---	31.65	---	31.84	---	32.52	34.31	---
MAX	35.64	35.63	35.15	34.77	33.41	32.99	33.87	32.92	34.37	32.93	35.53	36.13
CAL YR 1997	LOW	35.64										
WTR YR 1998	LOW	36.13										



**GROUND-WATER RECORDS**  
**Pickaway County**

**393438083072200. LOCAL NUMBER, PK-8**

LOCATION.--Lat 39°34'38", long 83°07'22", Hydrologic Unit 05060002, 0.5 mi south of Williamsport.

Owner: Village of Williamsport.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water table well, diameter 10 in., depth 18 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 723 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 0.9 ft above land-surface datum.

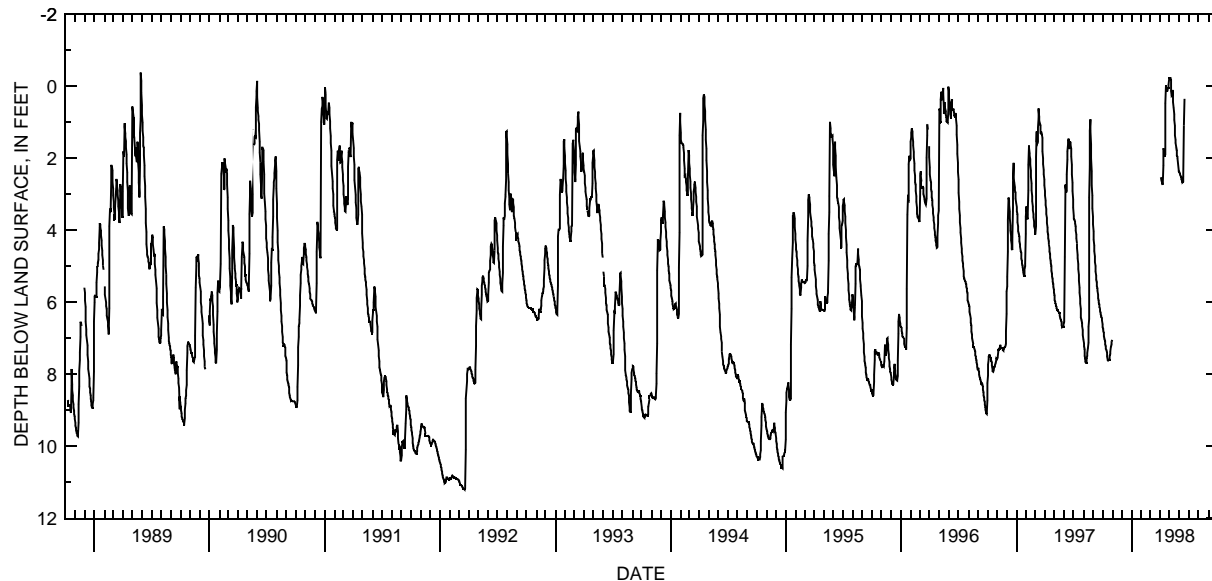
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low 12.38 ft below land-surface datum, Jan. 9, 13-14, 1988;  
minimum recorded daily low, 0.24 ft above land-surface datum, Apr. 30 and May 1, 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	6.74	---	---	---	---	---	---	-.24	2.40	---	---	---
2	6.79	---	---	---	---	---	---	-.23	2.42	---	---	---
3	6.85	---	---	---	---	---	2.52	-.23	2.45	---	---	---
4	6.88	---	---	---	---	---	2.57	-.18	2.48	---	---	---
5	6.93	---	---	---	---	---	2.61	-.05	2.49	---	---	---
6	7.02	---	---	---	---	---	2.66	.15	2.53	---	---	---
7	7.08	---	---	---	---	---	2.70	.28	2.57	---	---	---
8	7.16	---	---	---	---	---	2.73	.27	2.61	---	---	---
9	7.22	---	---	---	---	---	2.73	.11	2.64	---	---	---
10	7.25	---	---	---	---	---	2.21	.15	2.67	---	---	---
11	7.28	---	---	---	---	---	1.73	.27	2.69	---	---	---
12	7.32	---	---	---	---	---	1.76	.44	2.67	---	---	---
13	7.39	---	---	---	---	---	1.80	.60	2.51	---	---	---
14	7.50	---	---	---	---	---	1.86	.78	1.44	---	---	---
15	7.57	---	---	---	---	---	1.92	.95	1.11	---	---	---
16	7.58	---	---	---	---	---	1.92	1.10	.36	---	---	---
17	7.61	---	---	---	---	---	.48	1.23	---	---	---	---
18	7.63	---	---	---	---	---	-.02	1.37	---	---	---	---
19	7.63	---	---	---	---	---	-.02	1.49	---	---	---	---
20	7.60	---	---	---	---	---	.08	1.59	---	---	---	---
21	7.60	---	---	---	---	---	.12	1.68	---	---	---	---
22	7.57	---	---	---	---	---	.12	1.78	---	---	---	---
23	7.49	---	---	---	---	---	.12	1.86	---	---	---	---
24	7.43	---	---	---	---	---	.08	1.92	---	---	---	---
25	7.37	---	---	---	---	---	.05	1.95	---	---	---	---
26	7.24	---	---	---	---	---	.05	2.01	---	---	---	---
27	7.17	---	---	---	---	---	-.03	2.19	---	---	---	---
28	7.15	---	---	---	---	---	-.20	2.34	---	---	---	---
29	7.10	---	---	---	---	---	-.23	2.37	---	---	---	---
30	7.04	---	---	---	---	---	-.24	2.37	---	---	---	---
31	---	---	---	---	---	---	---	2.38	---	---	---	---
MAX	7.63	---	---	---	---	---	2.73	2.38	2.69	---	---	---
CAL YR 1997	LOW 7.68											
WTR YR 1998	LOW 7.63											



**GROUND-WATER RECORDS**  
**Pickaway County**

**394742083094800. LOCAL NUMBER, PK-9**

LOCATION.--Lat 39°47'42", long 83°09'48", Hydrologic Unit 05060002, at Pickaway Correctional Institute near Orient, Ohio.  
 Owner: State of Ohio.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water table well, diameter 8 in., depth 45 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 770 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 4.00 ft above land-surface datum.

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

PERIOD OF RECORD.--October 1986 to current year.

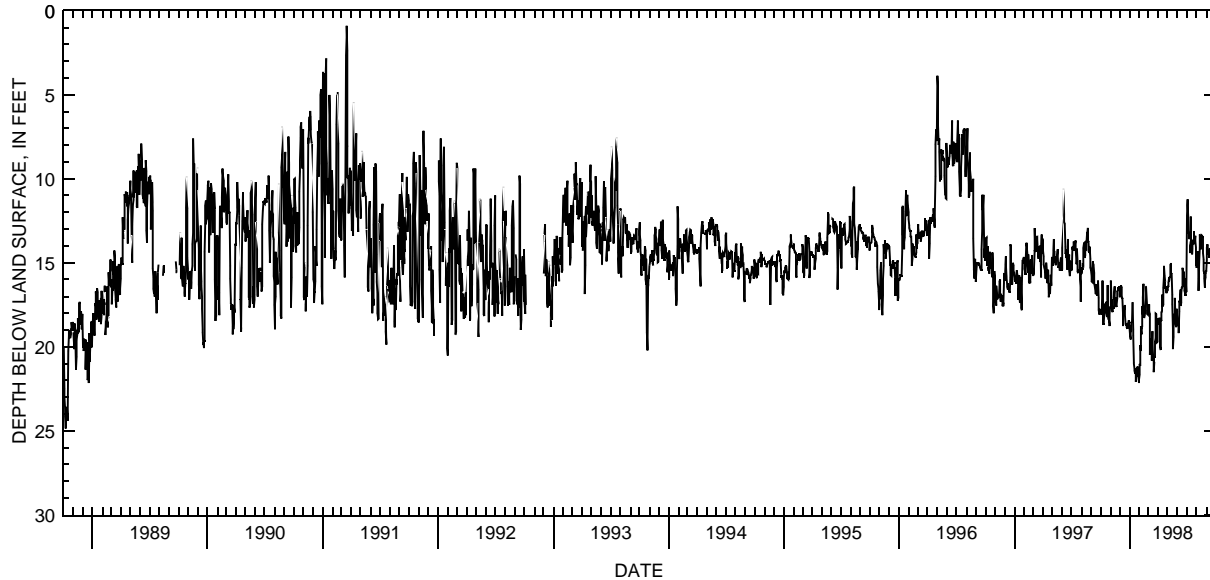
REVISIONS.--Water levels published for the period July 2, 1993, to September 30, 1994, are in error. Depth to water surface values are 1 ft less than reported.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 26.10 ft below land-surface datum, Dec. 23, 1987;  
 minimum daily low, 0.90 ft below land-surface datum, Mar. 17, 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	17.90	17.64	16.55	19.31	21.02	17.45	18.48	16.38	18.53	12.18	15.29	14.84
2	18.08	16.04	16.45	19.56	21.11	17.45	18.56	16.44	18.40	11.22	14.60	14.07
3	17.93	17.06	16.32	19.22	19.90	17.90	18.69	16.16	18.65	11.55	15.27	13.90
4	17.93	17.36	16.35	19.10	20.24	18.03	18.27	15.87	18.39	12.29	15.21	13.94
5	17.63	17.15	16.43	19.05	18.75	19.77	18.56	16.08	19.20	13.11	14.30	14.26
6	16.04	17.84	16.97	18.50	19.26	20.47	18.63	16.08	17.88	13.22	15.96	14.39
7	17.56	17.93	17.11	18.56	18.93	19.53	19.97	15.87	17.24	13.59	16.67	14.49
8	18.59	17.58	17.10	18.54	18.75	19.74	20.16	15.84	17.36	13.40	15.01	14.63
9	18.60	17.64	18.06	17.36	17.60	19.61	18.31	15.12	17.27	12.17	14.10	14.63
10	18.48	17.65	18.75	17.39	18.08	19.88	18.45	15.03	16.61	14.42	13.77	14.40
11	18.51	17.65	18.06	18.97	17.06	20.60	17.91	15.38	17.56	13.77	13.31	14.24
12	17.95	16.91	17.86	19.35	16.25	20.82	17.84	15.62	17.34	12.26	13.70	14.12
13	17.75	16.40	17.72	20.94	17.15	19.06	16.88	15.62	16.83	13.32	14.19	14.18
14	17.50	17.10	17.69	21.00	17.97	19.74	17.56	16.88	16.43	13.94	14.03	14.22
15	17.39	17.27	17.52	21.30	18.29	20.51	17.60	17.45	16.47	13.94	14.15	14.19
16	17.52	17.10	17.72	21.38	18.08	20.87	17.46	18.90	16.45	14.12	13.38	14.94
17	17.88	17.07	18.11	21.59	17.78	21.45	16.47	19.72	15.30	14.42	13.35	15.15
18	17.31	17.50	18.59	21.27	17.79	21.51	15.81	20.15	15.57	14.49	13.41	14.75
19	18.00	17.64	18.74	21.60	18.03	20.88	15.20	19.41	15.71	13.64	13.44	14.35
20	18.22	17.50	18.60	22.08	17.10	20.58	15.75	18.02	16.00	13.89	13.44	14.26
21	17.39	17.11	18.78	21.63	16.88	20.61	15.75	18.40	15.51	13.62	14.42	14.25
22	16.34	16.72	18.89	21.78	16.41	19.67	16.13	18.61	16.11	13.88	14.81	14.24
23	17.15	16.68	18.80	21.22	17.20	19.47	16.43	18.06	16.62	13.13	15.44	14.25
24	17.72	16.50	18.92	21.22	17.82	18.00	16.43	17.07	16.80	13.37	15.59	15.83
25	18.30	16.50	18.61	21.18	18.05	18.03	16.64	18.35	16.88	13.86	15.95	15.90
26	18.38	16.43	18.61	21.29	18.09	18.66	16.79	18.60	16.88	13.41	16.49	16.17
27	18.60	16.45	18.51	21.44	18.09	19.36	16.79	18.81	15.93	13.70	16.10	15.83
28	18.77	16.40	18.44	21.75	17.45	19.74	16.59	18.70	16.75	14.09	15.89	16.26
29	18.00	17.04	18.56	22.14	---	19.70	16.68	18.12	16.65	15.20	15.59	16.94
30	17.63	16.86	18.72	21.97	---	18.56	16.58	17.72	14.28	14.79	15.45	15.95
31	17.64	---	18.80	21.66	---	18.30	---	18.53	---	15.10	15.51	---
MAX	18.77	17.93	18.92	22.14	21.11	21.51	20.16	20.15	19.20	15.20	16.67	16.94

CAL YR 1997    LOW 18.92  
 WTR YR 1998    LOW 22.14





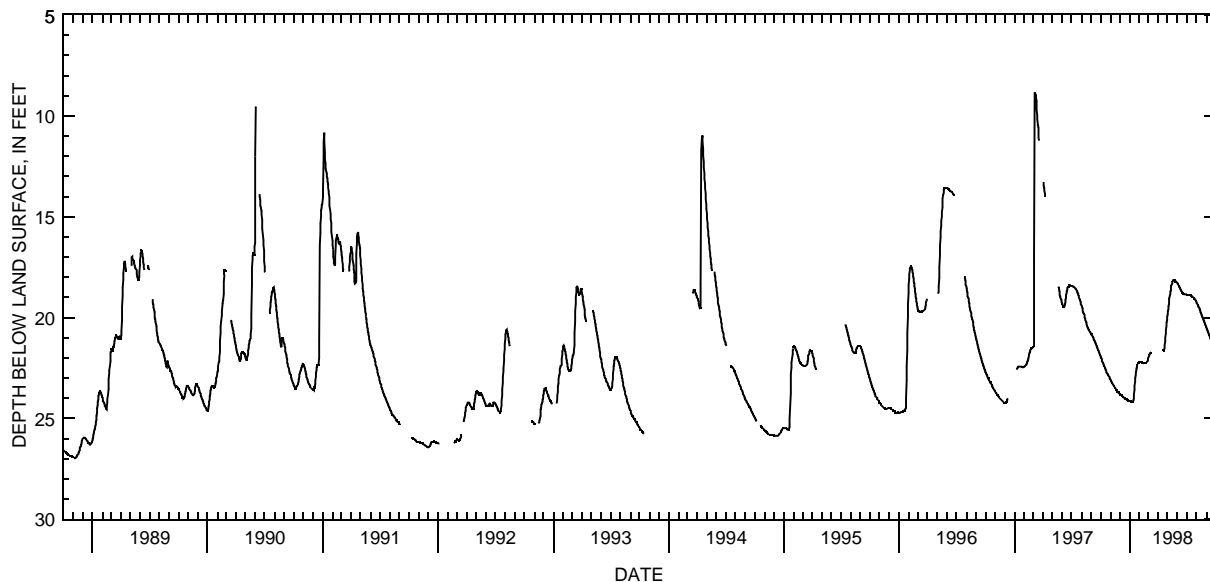
**GROUND-WATER RECORDS**  
**Pike County**

**390359083015100. LOCAL NUMBER, PI-2**

LOCATION.--Lat 39°03'59", long 83°01'51", Hydrologic Unit 05060002, 1 mi west of Piketon.  
 Owner: Goodyear Atomic Corporation.  
 AQUIFER.--Sand and gravel of Quaternary Age.  
 WELL CHARACTERISTICS.--Drilled test water table well, diameter 6 in., depth 60 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land-surface datum is 550 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 1969 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 27.46 ft below land-surface datum, Feb. 15, 1977;  
 minimum daily low, 8.85 ft below land-surface datum, Mar. 6, 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	21.97	23.09	23.80	24.14	22.20	21.95	---	19.70	18.30	18.87	19.27	20.53
2	22.02	23.12	23.82	24.14	22.20	21.90	---	19.57	18.32	18.87	19.30	20.57
3	22.06	23.16	23.83	24.16	22.20	21.87	---	19.44	18.36	18.87	19.33	20.61
4	22.11	23.18	23.85	24.16	22.20	21.83	---	19.32	18.39	18.87	19.36	20.65
5	22.15	23.22	23.86	24.16	22.21	21.80	---	19.19	18.41	18.88	19.39	20.69
6	22.19	23.24	23.88	24.16	22.21	21.78	---	19.06	18.44	18.88	19.43	20.74
7	22.22	23.27	23.89	24.17	22.22	21.76	---	18.93	18.48	18.88	19.47	20.78
8	22.28	23.30	23.90	24.17	22.22	21.75	---	18.82	18.51	18.88	19.51	20.82
9	22.31	23.33	23.92	24.17	22.23	21.73	---	18.71	18.55	18.88	19.55	20.86
10	22.35	23.35	23.93	24.17	22.24	21.72	---	18.61	18.58	18.88	19.59	20.90
11	22.39	23.38	23.95	24.16	22.25	---	---	18.51	18.62	18.88	19.63	20.94
12	22.43	23.41	23.96	24.11	22.26	---	---	18.43	18.66	18.88	19.67	20.99
13	22.47	23.43	23.97	24.00	22.26	---	---	18.36	18.69	18.89	19.71	21.03
14	22.51	23.46	23.98	23.82	22.26	---	---	18.30	18.72	18.89	19.75	21.07
15	22.55	23.49	23.99	23.61	22.26	---	---	18.24	18.76	18.91	19.79	21.11
16	22.59	23.51	24.01	23.38	22.27	---	21.66	18.20	18.78	18.92	19.84	21.16
17	22.62	23.53	24.02	23.18	22.27	---	21.64	18.18	18.79	18.93	19.89	21.20
18	22.66	23.56	24.02	23.00	22.27	---	21.62	18.16	18.81	18.95	19.93	21.24
19	22.71	23.58	24.03	22.83	22.27	---	21.59	18.15	18.81	18.96	19.97	21.29
20	22.73	23.61	24.04	22.70	22.26	---	21.51	18.14	18.82	18.98	20.01	21.33
21	22.77	23.62	24.05	22.58	22.26	---	21.37	18.14	18.83	18.99	20.05	21.36
22	22.79	23.65	24.06	22.50	22.25	---	21.20	18.15	18.83	19.01	20.10	21.39
23	22.79	23.66	24.07	22.42	22.23	---	21.00	18.15	18.83	19.03	20.14	21.44
24	22.83	23.69	24.08	22.36	22.20	---	20.80	18.17	18.83	19.05	20.18	21.48
25	22.87	23.70	24.09	22.32	22.16	---	20.60	18.17	18.83	19.07	20.23	21.52
26	22.90	23.72	24.10	22.28	22.11	---	20.42	18.19	18.83	19.09	20.27	21.56
27	22.94	23.74	24.11	22.26	22.06	---	20.25	18.20	18.84	19.12	20.31	21.60
28	22.97	23.76	24.11	22.24	22.00	---	20.10	18.22	18.84	19.15	20.36	21.64
29	22.99	23.77	24.12	22.22	---	---	19.95	18.24	18.85	19.17	20.40	21.68
30	23.03	23.79	24.13	22.21	---	---	19.83	18.25	18.86	19.20	20.44	21.71
31	23.06	---	24.14	22.20	---	---	---	18.27	---	19.23	20.48	---
MAX	23.06	23.79	24.14	24.17	22.27	21.95	21.66	19.70	18.86	19.23	20.48	21.71
CAL YR 1997	LOW	24.14										
WTR YR 1998	LOW	24.17										



**GROUND-WATER RECORDS**  
**Portage County**

**411401081025000. LOCAL NUMBER, PO-1**

LOCATION.--Lat 41°14'01", long 81°02'50" Hydrologic Unit 05030103. Bauer Street in Windham.  
Owner: Christopher Minter.

AQUIFER.--Sandstone of Pennsylvanian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 55 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 980 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 0.60 ft above land-surface datum.

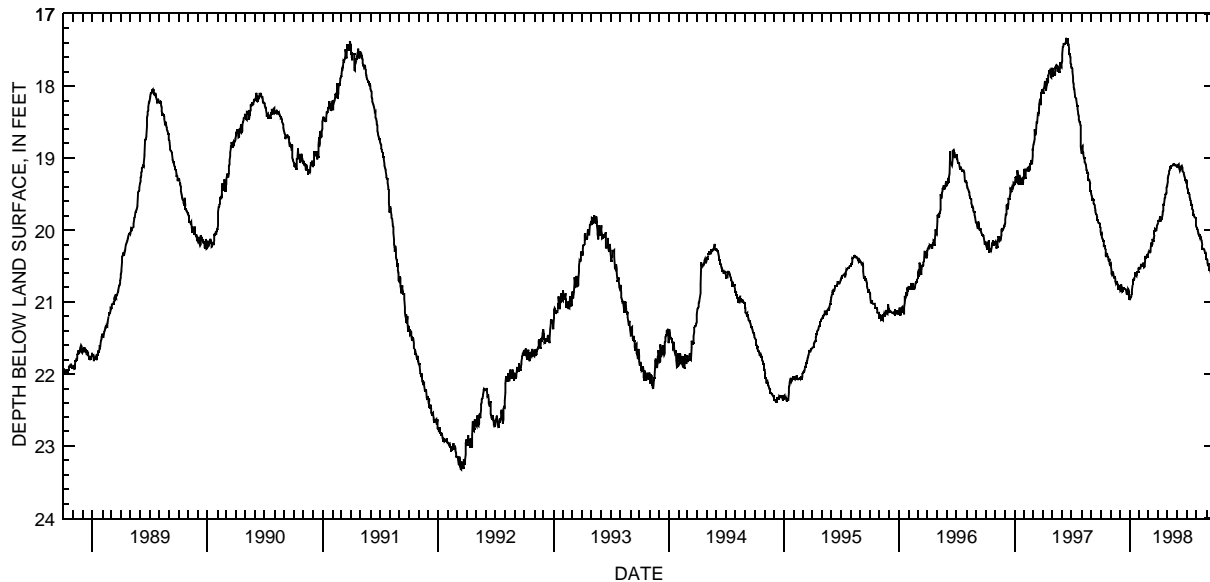
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--May 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 23.32 ft below land-surface datum, Mar. 13, 1992;  
minimum daily low, 14.59 ft below land-surface datum, June 24, 1947.

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	20.06	20.47	20.84	20.96	20.53	20.31	19.87	19.28	19.13	19.40	19.98	20.40
2	20.06	20.49	20.85	20.93	20.53	20.30	19.87	19.23	19.10	19.43	19.98	20.40
3	20.05	20.56	20.84	20.92	20.53	20.29	19.87	19.23	19.10	19.43	20.00	20.41
4	20.07	20.60	20.75	20.93	20.50	20.30	19.86	19.22	19.09	19.44	20.00	20.45
5	20.10	20.62	20.79	20.93	20.47	20.32	19.86	19.19	19.10	19.48	20.01	20.50
6	20.12	20.62	20.80	20.90	20.50	20.32	19.81	19.18	19.12	19.48	20.04	20.48
7	20.13	20.60	20.85	20.89	20.50	20.30	19.83	19.16	19.14	19.49	20.05	20.46
8	20.15	20.58	20.86	20.83	20.49	20.28	19.88	19.12	19.17	19.50	20.08	20.50
9	20.15	20.60	20.85	20.76	20.50	20.17	19.83	19.13	19.17	19.53	20.08	20.53
10	20.20	20.62	20.83	20.70	20.50	20.23	19.84	19.13	19.14	19.56	20.06	20.55
11	20.22	20.65	20.80	20.70	20.48	20.23	19.85	19.10	19.16	19.58	20.08	20.55
12	20.21	20.65	20.80	20.69	20.45	20.21	19.84	19.11	19.15	19.59	20.11	20.55
13	20.21	20.67	20.80	20.68	20.48	20.19	19.82	19.12	19.12	19.61	20.12	20.57
14	20.25	20.64	20.81	20.70	20.51	20.12	19.77	19.11	19.11	19.63	20.11	20.59
15	20.26	20.67	20.82	20.66	20.52	20.15	19.75	19.11	19.11	19.65	20.12	20.60
16	20.27	20.71	20.82	20.60	20.51	20.15	19.74	19.09	19.13	19.65	20.15	20.63
17	20.35	20.73	20.81	20.60	20.49	20.14	19.63	19.11	19.18	19.66	20.16	20.64
18	20.37	20.73	20.82	20.62	20.36	20.11	19.66	19.10	19.19	19.70	20.21	20.64
19	20.34	20.71	20.83	20.62	20.39	20.07	19.65	19.08	19.19	19.71	20.25	20.64
20	20.32	20.73	20.84	20.63	20.39	20.02	19.57	19.07	19.20	19.75	20.25	20.66
21	20.37	20.73	20.89	20.64	20.38	20.01	19.56	19.09	19.22	19.78	20.25	20.68
22	20.37	20.74	20.89	20.63	20.39	19.98	19.55	19.11	19.25	19.78	20.25	20.72
23	20.37	20.76	20.85	20.60	20.38	19.99	19.51	19.10	19.25	19.77	20.25	20.76
24	20.37	20.82	20.87	20.57	20.33	20.00	19.50	19.10	19.28	19.80	20.26	20.76
25	20.40	20.82	20.81	20.58	20.37	20.01	19.51	19.08	19.30	19.82	20.27	20.76
26	20.43	20.76	20.82	20.58	20.37	20.00	19.48	19.10	19.30	19.83	20.30	20.77
27	20.40	20.83	20.83	20.57	20.33	19.95	19.41	19.11	19.31	19.83	20.31	20.77
28	20.46	20.81	20.83	20.53	20.33	19.94	19.40	19.11	19.34	19.83	20.31	20.81
29	20.46	20.79	20.83	20.51	---	19.92	19.38	19.10	19.34	19.90	20.31	20.82
30	20.50	20.78	20.87	20.53	---	19.92	19.33	19.11	19.33	19.93	20.33	20.82
31	20.48	---	20.96	20.53	---	19.89	---	19.11	---	19.96	20.40	---
MAX	20.50	20.83	20.96	20.96	20.53	20.32	19.88	19.28	19.34	19.96	20.40	20.82
CAL YR 1997	LOW	20.96										
WTR YR 1998	LOW	20.96										



**GROUND-WATER RECORDS**  
**Preble County**

**394438084335900. LOCAL NUMBER, PR-2**

LOCATION.--Lat 39°44'38", long 84°33'59", Hydrologic Unit 05080002, Stover Rd 4 mi east of Eaton.

Owner: Eaton Water Department.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 78.5 ft, cased.

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

DATUM.--Elevation of land-surface datum is 900 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.

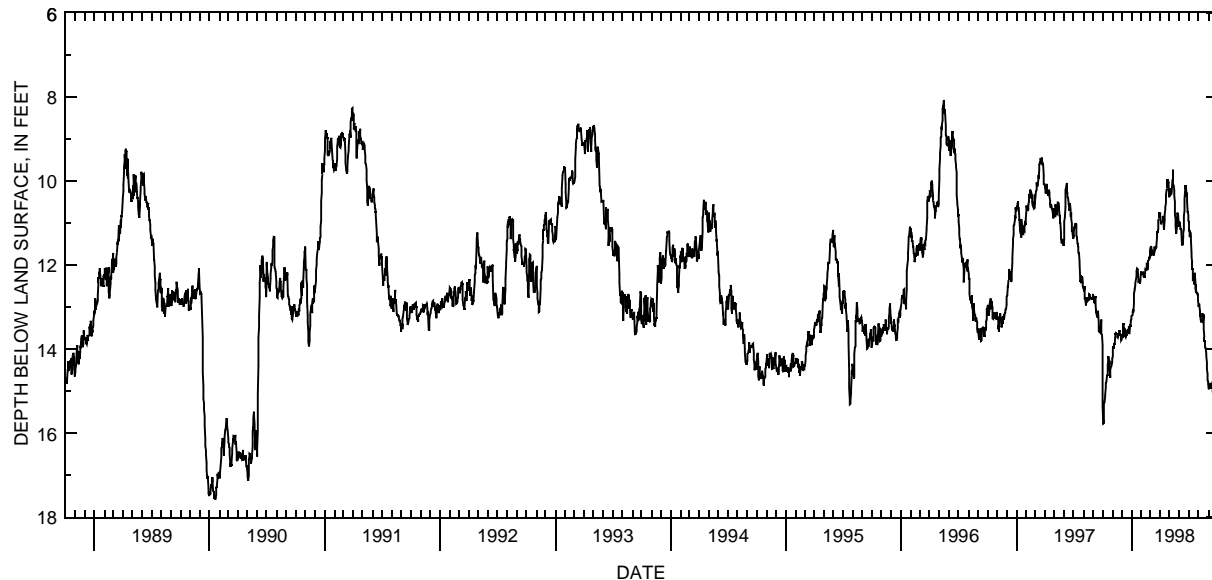
PERIOD OF RECORD.--May 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 17.58 ft below land-surface datum, Jan. 18, 1990;  
minimum daily low, 7.94 ft below land-surface datum, May 4, 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	15.76	14.16	13.69	13.21	12.22	11.57	10.84	10.35	10.96	11.19	12.98	14.96
2	15.78	13.97	13.71	13.17	12.22	11.54	11.00	10.30	11.00	11.17	12.92	14.90
3	15.76	13.94	13.71	13.15	12.23	11.57	11.02	10.30	11.04	11.33	13.09	14.84
4	15.66	13.97	13.41	13.10	12.19	11.66	10.95	10.25	11.17	11.30	13.14	14.81
5	15.29	13.97	13.40	13.05	12.16	11.70	10.96	10.24	11.11	11.21	13.20	14.83
6	15.26	13.87	13.49	13.13	12.20	11.75	10.96	10.32	11.15	11.34	13.21	14.84
7	15.13	13.87	13.56	12.91	12.28	11.74	10.96	10.24	11.19	11.39	13.27	14.81
8	15.10	13.86	13.50	12.67	12.25	11.72	10.96	10.01	11.53	11.73	13.34	14.92
9	14.92	13.65	13.59	12.59	12.28	11.63	10.83	9.99	11.32	11.81	13.34	14.92
10	14.81	13.63	13.64	12.57	12.28	11.70	10.90	9.92	11.43	11.94	13.34	14.89
11	14.81	13.63	13.68	12.48	12.23	11.78	10.99	9.73	11.53	12.09	13.33	14.84
12	14.76	13.62	13.71	12.45	12.09	11.73	11.16	10.06	11.33	12.10	13.34	14.84
13	14.62	13.63	13.63	12.35	12.10	11.69	11.13	10.10	11.20	12.35	13.14	14.88
14	14.61	13.65	13.59	12.35	12.11	11.56	10.94	10.22	11.15	12.34	13.31	15.01
15	14.63	13.61	13.68	12.26	12.12	11.62	10.79	10.36	10.83	12.37	13.33	15.13
16	14.64	13.71	13.62	12.12	12.03	11.59	10.66	10.49	10.70	12.28	13.17	15.23
17	14.38	13.73	13.57	12.09	11.97	11.56	10.61	10.64	10.43	12.46	13.53	15.24
18	14.26	13.72	13.54	12.08	11.99	11.60	10.52	10.79	10.20	12.37	13.73	15.27
19	14.16	13.62	13.55	12.10	12.12	11.57	10.33	10.91	10.09	12.19	13.80	15.28
20	14.32	13.67	13.55	12.13	11.99	11.55	10.22	11.08	10.19	12.40	13.80	15.27
21	14.27	13.58	13.53	12.33	11.99	11.34	10.20	11.26	10.09	12.55	13.94	15.15
22	14.29	13.56	13.46	12.39	11.91	11.20	10.18	11.13	10.28	12.66	13.97	15.26
23	14.49	13.56	13.61	12.38	11.90	11.20	9.97	11.06	10.34	12.46	13.98	15.23
24	14.69	13.68	13.61	12.40	11.81	11.17	9.98	10.96	10.32	12.60	14.11	15.23
25	14.47	13.63	13.45	12.40	11.87	11.16	10.08	10.76	10.49	12.66	14.16	15.22
26	14.42	13.64	13.43	12.42	11.77	10.93	10.00	10.77	10.76	12.68	14.32	15.35
27	14.41	13.79	13.43	12.42	11.71	10.89	10.06	10.79	10.72	12.65	14.47	15.42
28	14.33	13.79	13.43	12.37	11.65	10.77	10.38	11.03	10.82	12.73	14.60	15.44
29	14.35	13.76	13.32	12.15	---	10.77	10.31	11.09	10.94	12.77	14.73	15.51
30	14.30	13.65	13.28	12.18	---	10.88	10.18	10.99	10.96	12.82	14.78	15.51
31	14.22	---	13.22	12.22	---	10.76	---	11.02	---	12.99	14.84	---
MAX	15.78	14.16	13.71	13.21	12.28	11.78	11.16	11.26	11.53	12.99	14.84	15.51

CAL YR 1997 LOW 15.78  
WTR YR 1998 LOW 15.78



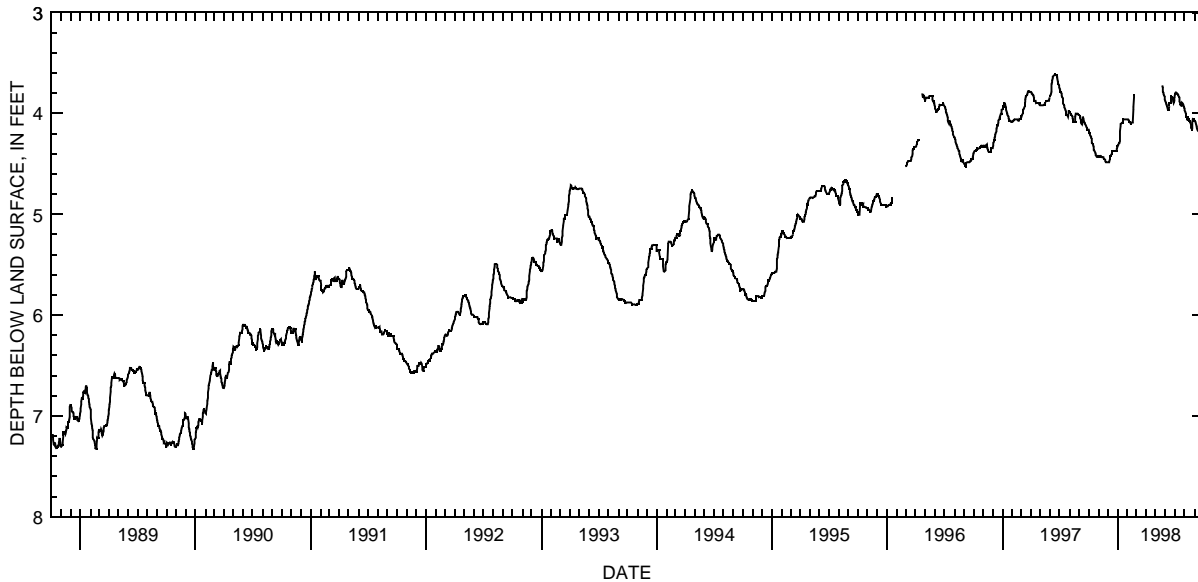
**GROUND-WATER RECORDS**  
**Richland County**

**404625082305100. LOCAL NUMBER, R-4**

LOCATION.--Lat 40°46'25", long 82°30'51", Hydrologic Unit 05040002, at Ohio Brass Plant in Mansfield.  
 Owner: Ohio Brass Company  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 14 in., depth 127 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land-surface datum is 1150 ft above sea level, from topographic map.  
 Measuring point: Top of platform 5.00 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--May 1942 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 60.10 ft below land-surface datum, Oct. 12, 13, 19, 20, 1962;  
 minimum daily low, 3.61 ft below land-surface datum, June 15-20, 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	4.18	4.43	4.48	4.32	4.06	---	---	---	3.88	3.80	3.97	4.07
2	4.19	4.43	4.48	4.30	4.06	---	---	---	3.89	3.79	3.98	4.07
3	4.19	4.43	4.48	4.29	4.06	---	---	---	3.90	3.79	4.00	4.08
4	4.20	4.43	4.48	4.29	4.07	---	---	---	3.91	3.79	4.03	4.08
5	4.21	4.43	4.46	4.29	4.08	---	---	---	3.92	3.79	4.03	4.11
6	4.22	4.42	4.42	4.29	4.08	---	---	---	3.93	3.80	4.03	4.11
7	4.23	4.42	4.42	4.27	4.08	---	---	---	3.94	3.80	4.05	4.13
8	4.24	4.42	4.42	4.18	4.08	---	---	---	3.96	3.80	4.05	4.14
9	4.25	4.43	4.42	4.13	4.09	---	---	---	3.97	3.80	4.07	4.15
10	4.27	4.43	4.41	4.11	4.10	---	---	---	3.97	3.81	4.06	4.16
11	4.29	4.43	4.41	4.10	4.10	---	---	---	3.96	3.82	4.03	4.17
12	4.30	4.43	4.40	4.10	4.10	---	---	---	3.93	3.83	4.03	4.17
13	4.30	4.43	4.40	4.09	4.09	---	---	---	3.90	3.83	4.05	4.18
14	4.31	4.43	4.37	4.09	4.09	---	---	---	3.90	3.84	4.05	4.18
15	4.33	4.43	4.37	4.09	4.09	---	---	---	3.90	3.88	4.07	4.18
16	4.35	4.43	4.37	4.08	4.09	---	---	---	3.90	3.89	4.07	4.19
17	4.36	4.45	4.37	4.08	4.09	---	---	---	3.83	3.90	4.08	4.19
18	4.37	4.45	4.37	4.06	3.96	---	---	---	3.83	3.91	4.08	4.19
19	4.37	4.45	4.37	4.06	3.94	---	---	---	3.84	3.92	4.09	4.20
20	4.38	4.45	4.37	4.06	3.84	---	---	---	3.83	3.92	4.11	4.20
21	4.39	4.46	4.37	4.06	3.82	---	---	3.72	3.84	3.93	4.14	4.19
22	4.39	4.47	4.37	4.06	3.81	---	---	3.74	3.86	3.91	4.15	4.19
23	4.41	4.48	4.37	4.06	---	---	---	3.76	3.84	3.89	4.16	4.19
24	4.42	4.48	4.37	4.06	---	---	---	3.78	3.85	3.89	4.16	4.20
25	4.42	4.48	4.37	4.06	---	---	---	3.79	3.87	3.90	4.09	4.20
26	4.43	4.48	4.37	4.06	---	---	---	3.80	3.89	3.91	4.05	4.21
27	4.43	4.48	4.37	4.06	---	---	---	3.82	3.89	3.92	4.05	4.21
28	4.43	4.48	4.36	4.06	---	---	---	3.83	3.87	3.93	4.05	4.23
29	4.42	4.48	4.35	4.06	---	---	---	3.84	3.84	3.93	4.05	4.25
30	4.42	4.48	4.33	4.06	---	---	---	3.86	3.81	3.94	4.05	4.27
31	4.42	---	4.32	4.06	---	---	---	3.88	---	3.95	4.07	---
MAX	4.43	4.48	4.48	4.32	4.10	---	---	3.88	3.97	3.95	4.16	4.27
CAL YR 1997	LOW	4.48										
WTR YR 1998	LOW	4.48										



## GROUND-WATER RECORDS

### Richland County

**405753082360800. LOCAL NUMBER, R-3**

LOCATION.--Lat 40°57'53", long 82°36'08", Hydrologic Unit 05040002, Voisard plant in Shiloh.

Owner: Voisard Corp.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 150 ft, cased.

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

DATUM.--Elevation of land-surface datum is 1080 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 3.17 ft above land-surface datum.

REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water. Published in WDR OH Vol. 2 prior to 1995 water year.

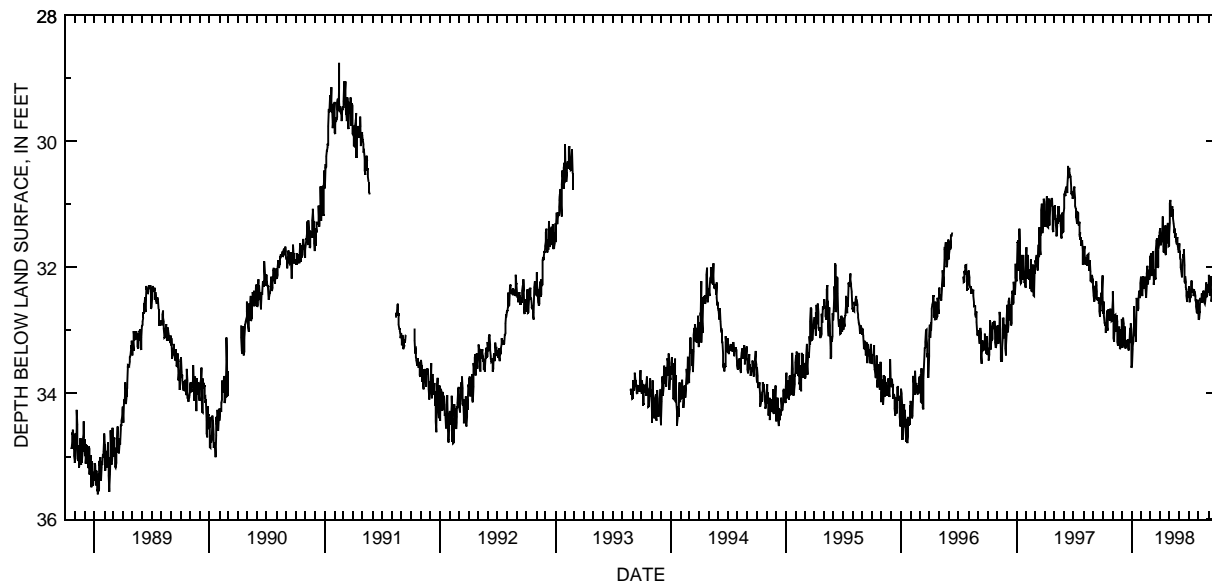
PERIOD OF RECORD.--April 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 35.90 ft below land-surface datum, Feb. 12, 1981;  
minimum daily low, 23.68 ft below land-surface datum, June 15, 23, 1947.

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	32.74	32.51	33.20	33.55	32.30	31.82	31.40	30.98	31.72	32.46	32.83	32.30
2	32.69	32.38	33.28	33.30	32.44	31.77	31.65	30.93	31.74	32.53	32.81	32.12
3	32.54	32.76	33.17	33.27	32.45	31.79	31.62	30.98	31.85	32.56	32.70	32.15
4	32.64	33.12	32.80	33.26	32.25	31.97	31.58	31.07	31.88	32.45	32.72	32.37
5	32.77	33.19	32.89	33.18	32.14	32.14	31.57	31.20	32.00	32.48	32.60	32.45
6	32.87	33.11	32.94	33.11	32.24	32.11	31.53	31.20	32.04	32.45	32.48	32.35
7	32.91	32.95	33.20	32.98	32.19	32.00	31.52	31.16	32.07	32.36	32.51	32.14
8	32.93	32.77	33.22	32.62	32.23	31.79	31.23	31.03	32.16	32.21	32.55	32.31
9	32.88	32.76	33.07	32.95	32.31	31.75	31.20	31.16	32.16	32.22	32.55	32.46
10	33.04	32.90	32.94	33.07	32.31	32.22	31.67	31.14	31.97	32.39	32.41	32.54
11	32.98	32.96	33.25	33.06	32.15	32.28	31.75	31.08	31.97	32.39	32.50	32.47
12	32.85	33.00	33.29	32.98	32.25	32.25	31.76	31.22	31.85	32.36	32.56	32.37
13	32.69	33.00	33.15	33.16	32.32	32.16	31.58	31.31	31.81	32.34	32.53	32.36
14	32.95	32.76	33.27	33.18	32.49	32.04	31.45	31.40	31.81	32.42	32.45	32.40
15	33.00	32.86	33.24	32.64	32.49	32.16	31.49	31.46	31.71	32.46	32.37	32.49
16	32.95	33.19	33.21	32.48	32.30	32.19	31.34	31.39	31.97	32.42	32.39	32.50
17	32.85	33.25	33.18	32.50	32.10	32.04	31.78	31.50	32.22	32.35	32.37	32.51
18	32.70	33.19	33.15	32.52	31.98	31.75	31.81	31.53	32.25	32.37	32.53	32.49
19	32.67	33.04	33.16	32.54	32.10	31.62	31.63	31.46	32.14	32.38	32.56	32.39
20	32.81	33.00	33.29	32.69	32.07	31.58	31.61	31.47	32.23	32.45	32.57	32.36
21	32.81	32.94	33.32	32.65	32.27	31.54	31.60	31.58	32.31	32.52	32.57	32.40
22	32.85	32.95	33.14	32.53	32.27	31.60	31.51	31.63	32.35	32.54	32.49	32.63
23	32.77	33.06	33.18	32.38	32.04	31.79	31.37	31.55	32.45	32.50	32.38	32.73
24	32.66	33.30	33.18	32.37	32.08	32.01	31.30	31.54	32.54	32.63	32.24	32.69
25	32.80	33.27	32.96	32.47	32.20	31.99	31.36	31.52	32.38	32.70	32.27	32.59
26	32.77	33.02	33.04	32.48	32.09	31.72	31.39	31.63	32.38	32.73	32.44	32.62
27	32.79	33.15	32.99	32.43	31.83	31.66	31.67	31.70	32.41	32.61	32.47	32.52
28	32.84	33.00	33.04	32.25	31.84	31.50	31.66	31.74	32.46	32.52	32.41	32.69
29	32.86	32.99	32.89	32.15	---	31.56	31.50	31.76	32.48	32.55	32.28	32.69
30	32.85	32.82	32.98	32.27	---	31.45	31.30	31.77	32.30	32.60	32.28	32.59
31	32.70	---	33.59	32.35	---	31.38	---	31.62	---	32.80	32.31	---
MAX	33.04	33.30	33.59	33.55	32.49	32.28	31.81	31.77	32.54	32.80	32.83	32.73

CAL YR 1997 LOW 33.59  
WTR YR 1998 LOW 33.59



**GROUND-WATER RECORDS**  
**Ross County**

**391341083172200. LOCAL NUMBER, RO-7**

LOCATION.--Lat 39°13'41", long 83°17'22", Hydrologic Unit 05060003, Highland County well field, 1 mi west of Bainbridge.

Owner: Highland County Water Company.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled test water table well, diameter 6 in., depth 67 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 3.00 ft above land-surface datum.

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

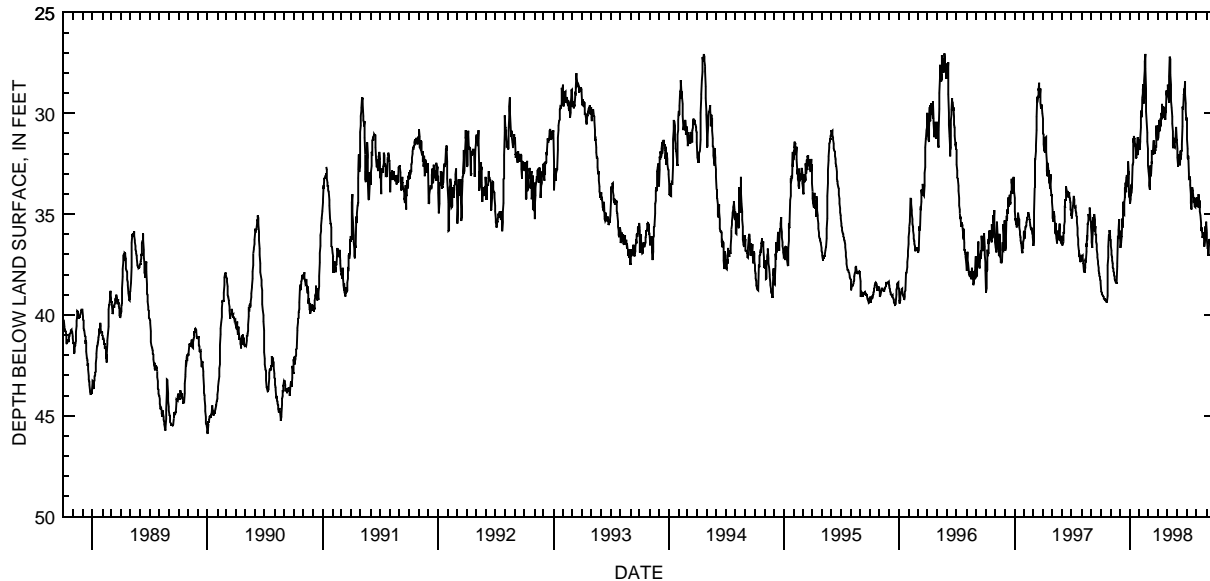
PERIOD OF RECORD.--February 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 45.88 ft below land-surface datum, Dec. 31, 1989;  
minimum daily low, 20.93 ft below land-surface datum, Feb. 28, 1971.

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	38.83	36.27	36.63	34.48	31.81	32.89	31.24	28.58	32.20	31.29	34.17	35.89
2	38.83	36.57	36.69	34.26	31.40	33.25	30.71	28.99	32.57	31.74	34.38	36.25
3	38.85	36.79	36.40	33.68	31.20	33.59	30.82	29.22	32.63	32.19	34.50	36.56
4	38.88	37.00	36.46	34.11	30.70	33.77	30.33	29.43	32.41	32.27	34.65	36.67
5	38.96	37.12	36.10	33.53	30.15	33.43	30.90	29.48	32.24	32.09	34.45	36.71
6	39.00	37.27	36.12	33.96	29.85	33.44	30.60	28.18	32.05	32.98	34.69	36.99
7	39.04	37.42	35.20	33.46	30.20	32.57	30.70	27.19	32.21	33.26	34.00	36.98
8	39.06	37.62	35.56	33.61	29.60	33.10	30.23	27.30	32.18	33.21	34.62	36.74
9	39.09	37.69	35.61	32.59	29.25	32.94	30.65	28.07	32.57	33.12	34.66	36.23
10	39.18	37.80	35.65	32.53	29.03	32.40	30.05	28.59	31.85	33.30	34.33	36.45
11	39.19	37.88	34.40	32.41	28.79	32.49	29.97	28.97	32.29	33.55	34.86	36.22
12	39.20	38.01	35.00	31.23	28.53	31.82	30.29	29.36	32.04	34.02	35.04	36.25
13	39.22	38.06	35.02	31.47	29.54	31.92	29.52	29.73	31.83	34.46	35.06	36.30
14	39.24	38.18	34.42	31.12	29.28	31.91	30.20	30.17	31.88	34.76	35.43	36.39
15	39.26	38.25	34.16	31.29	28.38	32.04	30.09	30.51	31.52	34.78	35.78	36.69
16	39.28	38.28	33.69	31.26	27.86	31.35	29.69	30.89	30.65	33.66	35.80	36.80
17	39.29	38.37	34.19	31.63	27.44	31.77	29.65	31.25	29.67	33.87	35.65	36.39
18	39.35	38.37	33.42	31.50	27.06	31.81	30.23	31.58	29.82	33.67	35.96	36.44
19	39.35	38.39	33.90	31.87	27.77	31.84	29.75	31.70	29.77	33.83	36.17	36.35
20	39.35	38.41	33.44	32.23	28.77	31.88	29.75	31.22	29.07	34.19	36.07	36.23
21	39.07	37.59	33.06	32.16	29.43	32.01	30.00	31.67	29.08	34.37	36.07	35.61
22	38.04	37.43	33.66	32.21	29.91	31.77	30.25	31.68	28.78	34.35	35.95	36.17
23	37.54	36.22	33.16	31.68	30.45	31.85	30.31	31.38	29.00	34.40	35.90	36.53
24	37.15	36.08	33.59	32.01	30.95	31.60	29.89	31.42	28.42	34.17	36.38	36.36
25	36.61	36.19	33.24	31.18	31.40	31.69	29.95	31.39	29.05	34.61	36.62	36.09
26	36.00	35.79	32.39	32.06	31.76	30.60	28.86	31.25	29.49	34.65	36.28	36.50
27	36.28	35.26	33.06	31.78	32.21	31.29	29.02	30.68	29.90	34.24	36.31	36.79
28	35.78	35.94	32.88	31.55	32.58	31.06	29.17	31.28	30.37	34.60	35.58	36.47
29	35.87	35.99	33.60	31.71	---	31.34	29.07	31.33	30.21	34.27	35.94	36.71
30	36.09	35.83	34.17	31.27	---	31.27	29.08	31.27	30.28	34.45	35.37	36.71
31	36.24	---	33.88	31.47	---	30.59	---	31.74	---	34.57	35.42	---
MAX	39.35	38.41	36.69	34.48	32.58	33.77	31.24	31.74	32.63	34.78	36.62	36.99

CAL YR 1997    LOW 39.35  
WTR YR 1998    LOW 39.35



**GROUND-WATER RECORDS**  
**Shelby County**

**401707084103100. LOCAL NUMBER, SH-5**

LOCATION.--Lat 40°17'07", long 84°10'31", Hydrologic Unit 05080001, at Sidney.

Owner: Stolle Corporation.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 300 ft, cased to 130 ft.

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

DATUM.--Elevation of land-surface datum is 1,028 ft above sea level, from topographic map.

Measuring point: Top of platform 1.7 ft above land-surface datum.

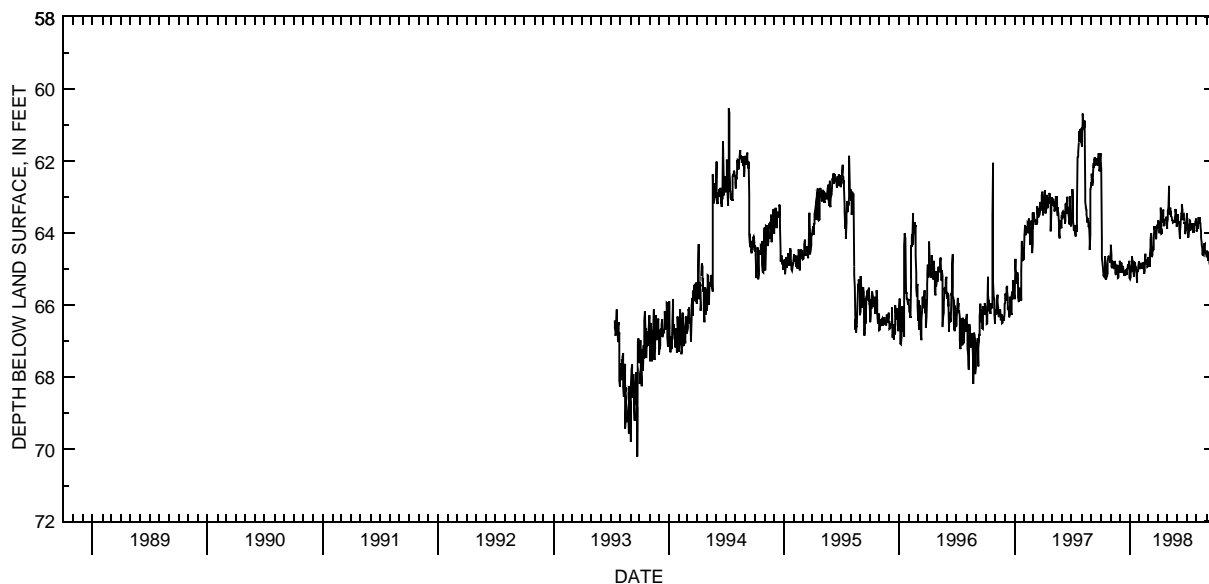
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--July 1993 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 70.22 ft below land-surface datum, Sept. 23, 1993;  
minimum daily low, 59.79 ft below land-surface datum, Apr. 10, 1995.

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	62.22	64.51	65.03	65.27	64.94	64.70	63.65	63.38	63.51	63.66	63.95	64.66
2	63.09	64.32	65.08	65.21	64.94	64.71	63.86	63.29	63.48	63.80	63.87	64.48
3	64.19	64.61	65.07	65.11	65.00	64.69	63.85	63.30	63.67	63.90	63.84	64.52
4	64.50	64.91	64.81	65.08	64.89	64.84	63.94	62.70	63.68	63.78	63.88	64.59
5	64.68	64.96	64.85	65.03	64.82	64.92	64.00	63.38	63.67	64.13	63.70	64.77
6	64.86	64.96	64.93	64.94	64.90	64.61	63.87	63.47	63.81	63.90	63.60	64.70
7	65.02	64.88	65.09	64.84	64.91	64.38	63.79	63.44	63.90	63.80	63.57	64.53
8	65.07	64.79	65.09	64.64	64.93	64.18	63.57	63.30	64.17	63.77	63.68	64.58
9	65.19	64.80	64.96	64.80	64.97	64.01	63.29	63.46	63.99	63.64	63.66	64.71
10	65.14	64.83	64.91	65.02	64.97	64.51	63.85	63.44	63.76	63.65	63.56	64.81
11	65.20	64.94	64.91	65.05	64.89	64.67	64.03	63.43	63.71	63.93	63.62	64.89
12	65.22	64.96	65.10	65.05	64.81	64.67	64.01	63.52	63.52	63.83	63.74	64.80
13	64.98	64.95	65.09	65.18	64.96	64.59	62.59	63.54	63.45	63.83	63.80	64.76
14	64.64	64.76	65.14	65.21	65.08	64.36	63.73	63.66	63.40	63.82	63.96	64.81
15	64.94	64.86	65.15	64.94	65.13	64.48	63.50	63.67	63.21	63.76	64.13	64.88
16	65.25	65.10	65.08	64.80	65.03	64.47	63.35	63.64	63.36	63.73	64.27	64.97
17	65.29	65.17	65.02	64.82	64.82	64.35	63.67	63.70	63.60	63.83	64.33	64.95
18	65.26	65.17	65.05	64.90	64.58	64.11	63.81	63.70	63.64	63.85	64.43	64.90
19	65.16	65.03	65.03	64.94	64.76	63.90	63.72	63.68	63.51	63.90	64.57	64.78
20	65.18	64.96	65.10	65.02	64.73	63.81	63.74	63.71	63.49	63.99	64.62	64.73
21	65.11	64.87	65.17	65.00	64.85	63.81	63.65	63.69	63.56	63.97	64.60	64.48
22	65.09	64.90	65.05	65.10	64.88	63.90	63.64	63.69	63.68	63.97	64.62	64.71
23	64.81	65.03	65.02	65.37	64.78	63.99	63.63	63.66	63.70	63.73	64.44	64.89
24	64.66	65.26	64.99	65.09	64.87	64.16	63.61	63.58	63.71	63.75	64.30	64.86
25	64.67	65.24	64.86	65.05	64.95	64.14	63.64	63.47	64.03	63.79	64.32	64.79
26	64.65	64.96	64.96	65.04	64.92	64.06	63.55	63.34	63.93	63.77	64.31	64.79
27	64.66	65.03	64.94	65.03	64.66	63.89	63.57	63.57	63.70	63.68	64.53	64.76
28	64.74	64.94	64.93	64.91	64.66	63.77	63.88	63.69	63.70	63.61	64.56	64.79
29	64.78	64.91	64.88	64.79	---	63.86	63.74	63.83	63.68	63.60	64.48	64.82
30	64.78	64.78	64.78	64.90	---	63.78	63.62	63.71	63.46	63.66	64.52	64.76
31	64.69	---	65.24	64.94	---	63.75	---	63.52	---	63.83	64.58	---
MAX	65.29	65.26	65.24	65.37	65.13	64.92	64.03	63.83	64.17	64.13	64.62	64.97
CAL YR 1997	LOW	65.90										
WTR YR 1998	LOW	65.37										



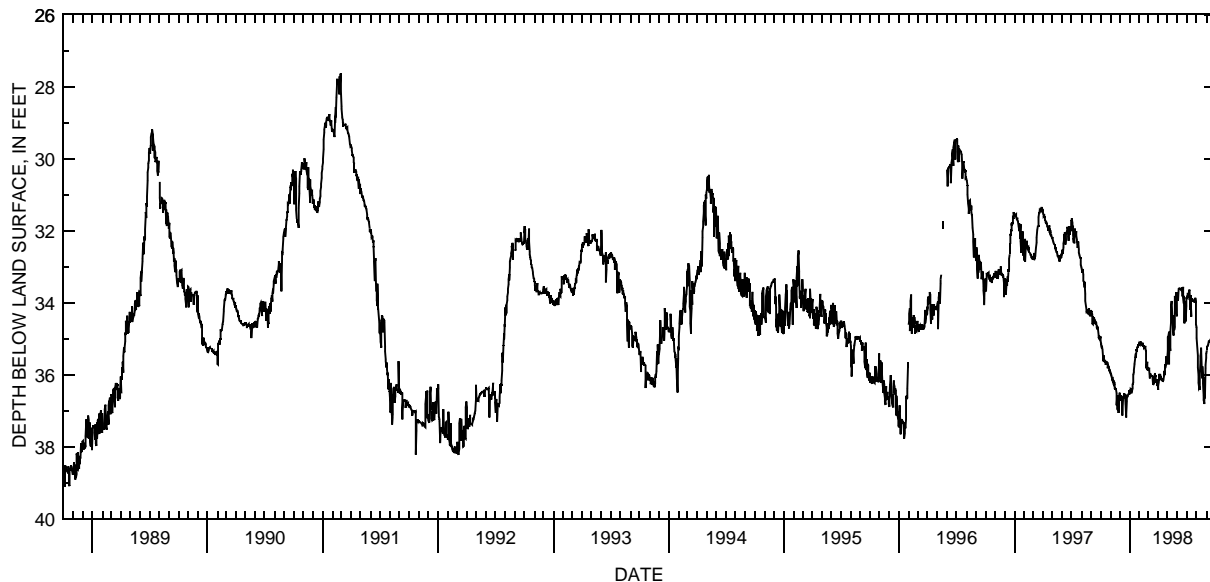
**GROUND-WATER RECORDS**  
**Stark County**

**404939081203800. LOCAL NUMBER, ST-5A**

LOCATION.--Lat 40°49'39", long 81°20'38", Hydrologic Unit 05040001, Northeast well field off Harrisburg Rd, Canton.  
 Owner: Canton Water Department.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled unused water table well, diameter 12 in., depth 132 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 1060 ft above sea level, from topographic map.  
 Measuring point: Floor of instrument shelter 1.00 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--June 1949 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 54.00 ft below land-surface datum, Feb. 10, 1956;  
 minimum daily low, 26.13 ft below land-surface datum, May 18, 1964.

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	35.13	35.97	36.65	36.51	35.10	35.83	36.28	34.96	33.69	33.84	34.97	35.31
2	35.18	35.95	36.72	36.40	35.12	35.80	36.19	34.94	33.80	33.85	35.22	35.22
3	35.25	36.00	36.60	36.45	35.10	35.88	36.14	34.90	33.94	33.77	35.46	35.22
4	35.27	36.05	36.56	36.38	35.07	36.09	35.97	34.80	33.61	33.78	35.68	35.19
5	35.19	36.07	36.62	36.40	35.14	36.10	36.11	35.71	33.60	33.74	35.79	35.15
6	35.30	36.13	36.63	36.50	35.15	36.04	36.12	35.45	33.60	33.69	36.00	35.16
7	35.55	36.11	37.12	36.41	35.16	35.95	35.98	35.15	33.57	33.66	36.23	35.06
8	35.61	36.18	37.10	36.43	35.12	36.02	36.11	35.33	33.60	33.63	36.36	35.07
9	35.45	36.18	36.70	36.37	35.17	36.00	36.02	34.80	33.60	33.68	36.33	35.07
10	35.60	36.23	36.63	36.26	35.11	36.00	36.12	34.55	33.62	34.03	36.42	35.03
11	35.64	36.20	36.65	36.20	35.16	36.03	36.15	34.40	33.62	34.19	36.00	35.06
12	35.60	36.27	36.59	35.99	35.20	36.03	36.12	34.07	33.64	33.78	35.63	35.03
13	35.65	36.26	36.61	35.92	35.18	36.02	36.12	33.95	33.62	34.05	35.48	35.00
14	35.58	36.36	36.55	35.86	35.25	36.05	36.12	34.35	33.62	34.37	35.35	35.03
15	35.65	36.40	36.55	35.71	35.26	36.27	36.18	34.53	33.58	33.92	35.25	35.03
16	35.73	36.37	36.55	35.68	35.24	36.20	36.13	34.41	33.78	33.92	35.78	35.38
17	35.64	36.39	36.52	35.55	35.25	36.13	36.15	34.50	33.83	33.90	35.84	35.73
18	35.65	36.40	36.80	35.54	35.19	36.26	36.05	34.62	33.55	33.88	36.10	35.24
19	35.63	36.50	37.18	35.41	35.27	36.08	35.93	34.90	33.80	33.92	35.76	35.21
20	35.63	36.84	37.12	35.52	35.34	36.02	35.88	34.33	34.02	33.92	36.09	35.16
21	35.66	36.58	36.73	35.34	35.42	35.95	36.00	34.75	33.80	33.93	36.24	35.21
22	35.71	36.94	36.67	35.32	35.81	36.03	35.71	34.66	34.50	33.95	36.57	35.25
23	35.82	36.97	36.58	35.32	35.75	36.02	35.81	34.02	34.57	33.95	36.69	35.24
24	35.75	36.58	36.59	35.25	35.63	36.13	35.68	33.81	34.02	33.98	36.78	35.30
25	35.75	36.70	36.54	35.21	35.87	36.20	35.66	33.90	33.96	33.95	36.80	35.30
26	35.78	37.05	36.55	35.23	35.78	36.22	35.47	34.27	33.98	33.98	36.06	35.30
27	35.90	36.56	36.50	35.15	35.87	36.12	35.60	33.69	34.52	33.85	36.65	35.24
28	35.86	36.57	36.50	35.18	35.86	36.29	35.70	34.32	34.08	34.00	35.82	35.27
29	35.85	36.49	36.46	35.18	---	36.13	35.59	34.37	33.84	34.00	35.73	35.31
30	35.93	36.52	36.45	35.14	---	36.24	35.33	33.85	33.87	34.59	35.53	35.34
31	35.90	---	36.50	35.15	---	36.42	---	33.76	---	34.67	35.40	---
MAX	35.93	37.05	37.18	36.51	35.87	36.42	36.28	35.71	34.57	34.67	36.80	35.73
CAL YR 1997	LOW	37.18										
WTR YR 1998	LOW	37.18										





**GROUND-WATER RECORDS**  
**Stark County**

**405211081253500. LOCAL NUMBER, ST-27**

LOCATION.--Lat 40°52'11", long 81°25'35", Hydrologic Unit 05040001, Dresler Rd near North Canton.

Owner: North Canton Water Department

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 55 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 1060 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 2.50 ft above land-surface datum.

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

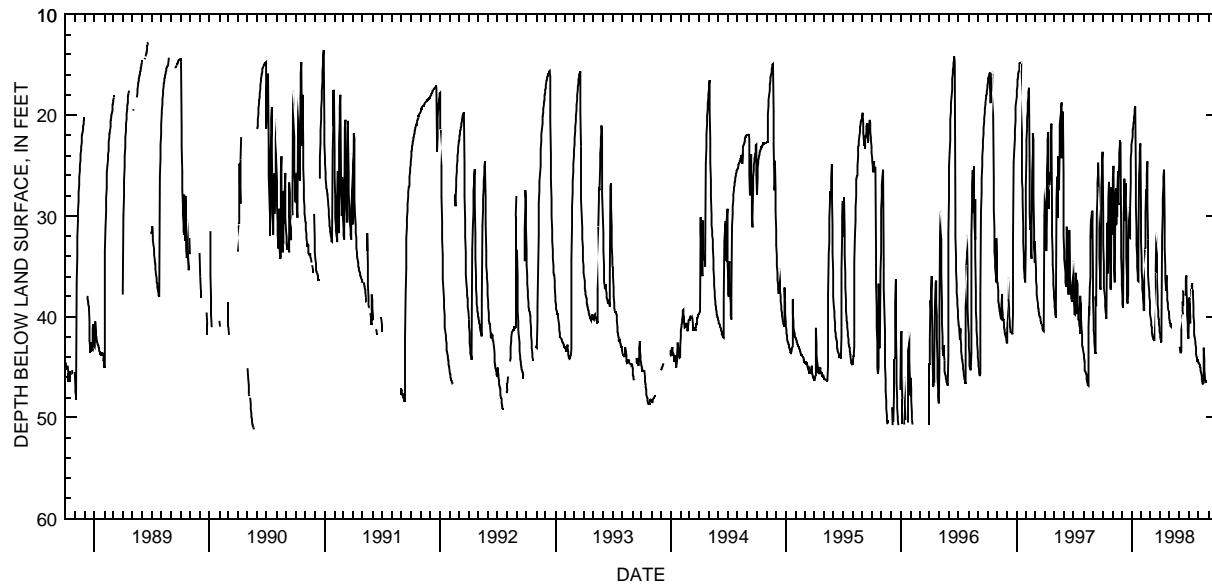
PERIOD OF RECORD.--April 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 51.10 ft below land-surface datum, May 20, 1990;  
minimum daily low, 7.10 ft below land-surface datum, June 15, 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	29.70	28.70	38.00	22.55	35.40	40.05	41.95	40.50	43.00	38.38	44.58	---
2	32.80	26.35	38.75	22.10	36.40	40.45	42.20	40.60	43.05	38.06	44.64	---
3	34.80	25.00	39.10	21.75	37.20	40.75	42.45	40.90	43.25	39.90	44.72	---
4	36.15	29.35	39.05	21.40	37.70	41.00	42.45	40.95	43.55	40.63	44.79	---
5	37.15	33.15	33.50	21.10	38.10	41.30	40.95	40.80	43.55	39.92	44.91	---
6	37.60	35.40	29.70	20.80	38.80	41.50	35.60	40.55	43.40	34.97	45.03	---
7	38.15	36.55	27.60	20.50	39.25	41.75	31.95	---	41.30	36.88	45.27	---
8	38.95	36.30	26.30	20.20	39.35	41.90	29.80	---	37.40	36.99	45.51	---
9	39.65	31.05	29.50	19.80	36.50	42.05	28.25	---	39.40	37.20	45.77	---
10	39.90	27.90	30.45	19.45	31.60	42.20	27.05	---	39.75	36.62	45.95	---
11	40.10	27.25	28.60	19.10	33.25	42.10	26.15	---	38.45	37.16	46.14	---
12	40.10	30.85	26.70	20.70	33.10	42.25	25.40	---	38.85	37.70	46.37	---
13	34.80	30.80	31.10	25.90	29.70	42.35	25.85	---	37.45	37.37	46.56	---
14	30.65	29.80	34.10	29.10	27.35	42.35	30.25	---	37.55	38.97	46.67	---
15	33.10	29.85	36.00	31.30	28.55	40.10	33.20	---	---	39.96	46.62	---
16	35.70	27.60	37.35	32.85	27.80	34.60	35.05	---	---	40.57	46.49	---
17	35.65	25.60	38.30	34.05	25.85	35.60	36.20	---	---	41.21	43.07	---
18	31.20	28.75	38.65	35.05	24.60	35.25	37.10	---	---	41.73	44.25	---
19	28.25	28.75	37.80	35.85	28.70	31.65	37.40	---	37.83	42.02	45.23	---
20	26.60	26.45	32.40	36.40	32.30	30.00	35.90	---	37.63	42.45	45.95	---
21	29.00	24.65	29.15	36.45	34.30	33.80	36.55	---	36.12	42.68	46.13	---
22	30.65	23.65	28.30	32.80	35.80	36.40	37.60	---	35.84	43.04	46.26	---
23	33.10	22.95	28.00	28.55	36.80	37.90	38.30	---	37.07	43.38	46.44	---
24	35.50	22.45	32.10	26.00	37.50	38.80	38.60	---	38.68	43.70	46.44	---
25	37.10	22.75	32.15	24.65	37.90	39.40	39.05	---	39.80	43.94	46.38	---
26	37.25	27.80	29.20	23.65	38.55	39.95	39.45	---	40.55	44.10	---	---
27	33.00	31.70	26.70	22.80	39.15	40.25	39.65	---	41.32	44.28	---	---
28	29.05	34.10	25.20	25.05	39.65	40.70	39.70	---	42.06	44.28	---	---
29	27.15	35.70	24.25	29.10	---	41.10	40.10	---	42.18	44.24	---	---
30	30.30	36.85	23.55	32.60	---	41.45	40.40	---	40.16	44.34	---	---
31	31.80	---	22.90	34.20	---	41.60	---	---	---	44.54	---	---
MAX	40.10	36.85	39.10	36.45	39.65	42.35	42.45	40.95	43.55	44.54	46.67	---

CAL YR 1997 LOW 46.80  
WTR YR 1998 LOW 46.67



**GROUND-WATER RECORDS**  
**Tuscarawas County**

297

**403207081293800. LOCAL NUMBER, TU-3**

LOCATION.--Lat 40°32'07", long 81°29'38", Hydrologic Unit 05040001, in the northwest part of Dover.

Owner: Dover City Water Department.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water table well, diameter 6 in., depth 62 ft, cased.

INSTRUMENTATION.--Monthly measurement with chalked tape by USGS personnel.

DATUM.--Elevation of land-surface datum is 880 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 3.00 ft above land-surface datum.

PERIOD OF RECORD.--May 1960 to September 1982 continuous, periodic thereafter.

REVISIONS.--The water level reported for Jan. 31, 1993, has been revised to 9.25 ft below land-surface datum.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 19.35 ft below land-surface datum, Nov. 29-30, Dec. 6-8, 1962;  
minimum daily low, 3.20 ft below land-surface datum, July 15, 1969.

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

DATE	WATER LEVEL
Nov. 3, 1997	12.95
Dec. 9, 1997	14.00
Jan. 5, 1998	13.68
Feb. 1, 1998	12.26
Mar. 2, 1998	11.13
Mar. 31, 1998	10.96
May 1, 1998	8.80
June 1, 1998	8.82
June 30, 1998	6.72
Aug. 3, 1998	9.08
Aug. 31, 1998	9.38
Sept. 29, 1998	10.80

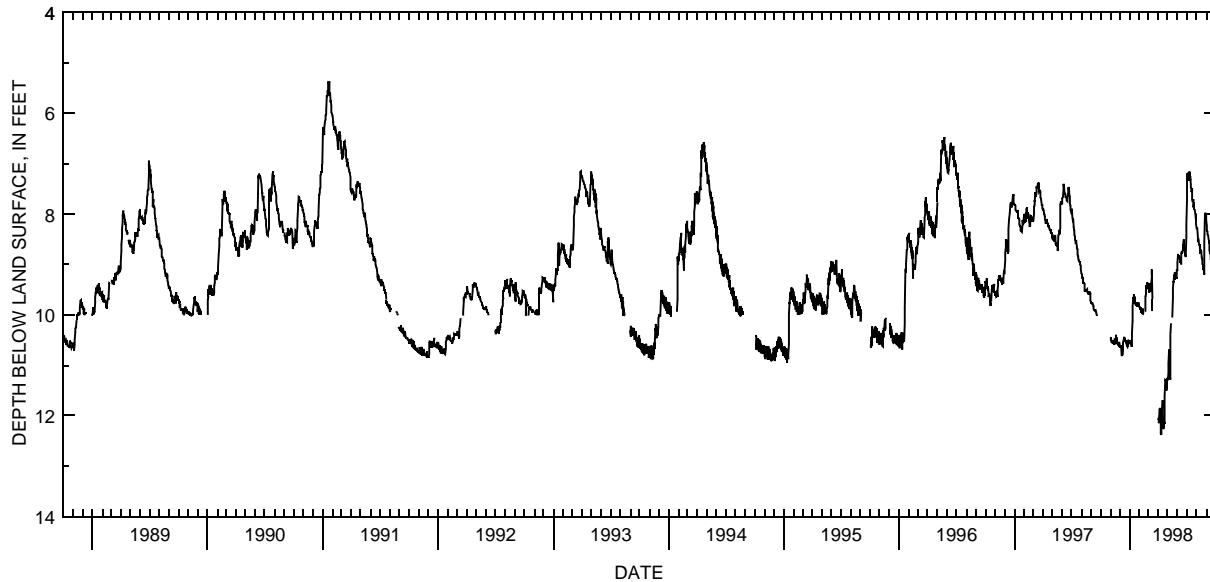
**GROUND-WATER RECORDS**  
**Tuscarawas County**

**403557081313600. LOCAL NUMBER, TU-4**

LOCATION.--Lat 40°35'57", long 81°31'36", Hydrologic Unit 05040001, near Fire Dept. building in Strasburg.  
 Owner: Strasburg Water Dept.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled unused water table well, diameter 6 in., depth 42.5 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 920 ft above sea level, from topographic map.  
 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.--June 1960 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 12.38 ft below land-surface datum, Apr. 10, 1998;  
 minimum daily low, 4.05 ft below land-surface datum, July 13, 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	---	10.51	10.62	10.55	9.85	9.48	12.08	11.29	8.97	7.25	8.28	8.23
2	---	10.44	10.62	10.50	9.86	9.38	12.03	11.15	8.80	7.18	8.28	8.32
3	---	10.53	10.62	10.58	9.90	9.56	12.15	10.97	8.83	7.21	8.45	8.34
4	---	10.53	10.62	10.52	9.85	9.37	11.90	10.69	8.84	7.20	8.48	8.40
5	---	10.55	10.82	10.61	9.95	9.53	11.87	11.01	8.85	7.22	8.53	8.42
6	---	10.55	10.63	10.61	9.90	9.53	11.84	11.12	8.88	7.33	8.52	8.43
7	---	10.55	10.62	10.61	9.94	9.51	11.92	11.18	8.83	7.25	8.52	8.52
8	---	10.50	10.80	10.35	9.94	9.53	11.95	11.28	8.93	7.24	8.60	8.57
9	---	10.53	10.62	10.11	9.98	9.39	12.35	10.40	8.94	7.15	8.60	8.57
10	---	10.53	10.63	9.84	9.88	9.27	12.38	10.16	8.95	7.33	8.63	8.70
11	---	10.59	10.55	9.65	9.99	9.18	12.01	---	8.89	7.24	8.66	8.79
12	---	10.55	10.50	9.65	9.93	9.10	12.00	---	9.00	7.41	8.67	8.74
13	---	10.58	10.43	9.75	---	9.68	11.97	---	8.78	7.46	8.77	8.75
14	---	10.48	10.44	9.59	---	9.91	11.69	---	8.73	7.48	8.77	8.88
15	---	10.50	10.53	9.77	---	---	11.92	10.05	8.78	7.56	8.70	8.93
16	---	10.50	10.46	9.63	---	---	12.11	9.67	8.72	7.48	8.85	9.03
17	---	10.53	10.51	9.77	---	---	12.26	9.64	8.60	7.67	8.85	9.00
18	---	10.40	10.51	9.75	9.93	---	12.20	9.47	8.60	7.70	8.89	9.05
19	---	10.55	10.54	9.80	9.63	---	12.14	9.33	8.65	7.75	8.99	9.00
20	---	10.45	10.55	9.75	9.58	---	12.14	9.35	8.50	7.70	9.00	9.02
21	---	10.57	10.50	9.83	9.43	---	11.62	9.20	8.66	7.87	9.07	9.17
22	---	10.55	10.61	9.76	9.43	---	11.31	9.30	8.68	7.76	9.07	9.20
23	---	10.59	10.60	9.84	9.43	---	11.28	9.15	8.72	7.86	9.09	9.21
24	---	10.59	10.63	9.76	9.35	---	11.29	9.23	8.78	7.89	9.20	9.30
25	---	10.60	10.58	9.82	9.45	---	11.31	9.17	8.80	7.91	8.55	9.30
26	---	10.55	10.55	9.75	9.40	---	11.32	9.20	8.85	7.99	8.05	9.23
27	---	10.62	10.55	9.82	9.48	---	11.50	9.27	8.84	8.00	8.04	9.25
28	---	10.53	10.54	9.75	9.45	---	11.27	9.27	8.45	8.12	7.97	9.38
29	---	10.62	10.51	9.83	---	---	11.25	9.18	8.20	8.00	8.00	9.38
30	---	10.62	10.52	9.81	---	---	11.27	9.10	7.72	8.20	8.03	9.40
31	---	---	10.50	9.84	---	---	---	9.12	---	8.28	8.12	---
MAX	---	10.62	10.82	10.61	9.99	9.91	12.38	11.29	9.00	8.28	9.20	9.40
CAL YR 1997	LOW	10.82										
WTR YR 1998	LOW	12.38										



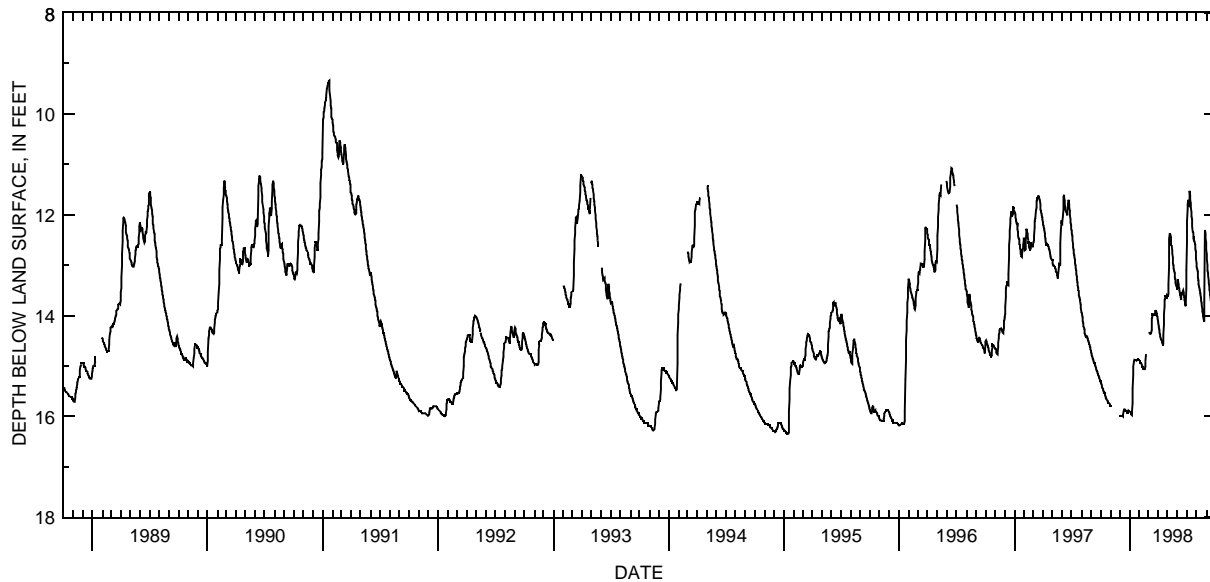
**GROUND-WATER RECORDS**  
**Tuscarawas County**

**403653081321800. LOCAL NUMBER, TU-1**

LOCATION.--Lat 40°36'53", long 81°32'18", Hydrologic Unit 05040001, 1.3 mi north of Strasburg.  
 Owner: Ray Libert.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled unused water table well, diameter 4 in., depth 23 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 928.24 ft above sea level.  
 Measuring point: Floor of instrument shelter 0.90 ft above land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--July 1946 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 16.34 ft below land-surface datum, Jan. 11-14, 1995;  
 minimum daily low, 6.64 ft below land-surface datum, July 14, 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	15.34	15.78	15.98	15.91	14.90	---	14.15	13.60	13.31	12.14	13.02	12.78
2	15.35	15.79	15.98	15.91	14.91	14.34	14.20	13.60	13.28	11.90	13.07	12.89
3	15.37	---	15.98	15.94	14.93	14.34	14.23	13.38	13.32	11.79	13.13	13.00
4	15.40	---	15.98	15.95	14.93	14.35	14.28	13.03	13.38	11.70	13.19	13.10
5	15.41	---	15.98	15.95	14.95	14.35	14.33	12.65	13.42	11.73	13.24	13.16
6	15.44	---	15.99	15.96	14.96	14.35	14.37	12.48	13.46	11.79	13.31	13.21
7	15.45	---	15.99	15.97	14.96	14.37	14.41	12.38	13.50	11.84	13.37	13.30
8	15.48	---	15.99	15.91	14.99	14.36	14.45	12.38	13.55	11.82	13.43	13.36
9	15.50	---	16.00	15.75	15.00	14.33	14.45	12.40	13.58	11.53	13.48	13.43
10	15.51	---	16.00	15.45	15.01	14.28	14.47	12.44	13.60	11.62	13.48	13.48
11	15.53	---	15.97	15.18	15.01	14.15	14.48	12.51	13.62	11.70	13.50	13.53
12	15.54	---	15.90	15.00	15.03	14.05	14.50	12.60	13.69	11.77	13.56	13.58
13	15.52	---	15.86	14.93	15.04	14.00	14.52	12.61	13.60	11.85	13.59	13.65
14	15.58	---	15.85	14.91	15.04	13.97	14.56	12.71	13.55	11.95	13.65	13.68
15	15.60	---	15.85	14.87	15.05	13.97	14.57	12.77	13.58	12.02	13.70	13.75
16	15.61	---	15.85	14.87	15.05	13.98	14.57	12.85	13.55	12.09	13.75	13.82
17	15.63	---	15.85	14.87	15.05	13.98	14.38	12.90	13.53	12.18	13.80	13.86
18	15.64	---	15.87	14.87	15.00	13.98	14.18	12.96	13.50	12.24	13.87	13.90
19	15.65	---	15.88	14.87	14.90	13.98	13.98	13.00	13.50	12.34	13.91	13.95
20	15.67	---	15.89	14.88	14.77	13.98	13.81	13.05	13.55	12.35	13.95	14.00
21	15.68	---	15.90	14.89	---	13.98	13.69	13.12	13.59	12.45	14.00	14.03
22	15.70	---	15.92	14.89	---	13.95	13.63	13.16	13.64	12.52	14.04	14.09
23	15.70	---	15.92	14.89	---	13.89	13.62	13.21	13.68	12.43	14.07	14.12
24	15.72	---	15.92	14.89	---	13.90	13.62	13.24	13.72	12.49	14.12	14.15
25	15.73	---	15.92	14.88	---	13.91	13.65	13.28	13.76	12.55	13.70	14.20
26	15.73	---	15.91	14.87	---	13.93	13.65	13.35	13.81	12.60	12.43	14.24
27	15.74	---	15.89	14.86	---	13.95	13.64	13.39	13.79	12.67	12.30	14.28
28	15.75	---	15.88	14.86	---	14.00	13.60	13.43	13.46	12.73	12.36	14.32
29	15.75	---	15.88	14.86	---	14.02	13.58	13.45	13.10	12.80	12.46	14.35
30	15.76	---	15.89	14.88	---	14.05	13.60	13.45	12.55	12.87	12.56	14.38
31	15.78	---	15.90	14.89	---	14.12	---	13.46	---	12.96	12.70	---
MAX	15.78	15.79	16.00	15.97	15.05	14.37	14.57	13.60	13.81	12.96	14.12	14.38
CAL YR 1997	LOW	16.00										
WTR YR 1998	LOW	16.00										



**GROUND-WATER RECORDS**  
**Tuscarawas County**

**403823081324200. LOCAL NUMBER, TU-5**

LOCATION.--Lat 40°38'23", long 81°32'42", Hydrologic Unit 05040001, Sugar Creek well field near Strasburg.

Owner: Canton Water Dept.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused water table well, diameter 6 in., depth 100 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 937.93 ft above sea level.

Measuring point: Floor of instrument shelter 4.00 ft above land-surface datum.

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

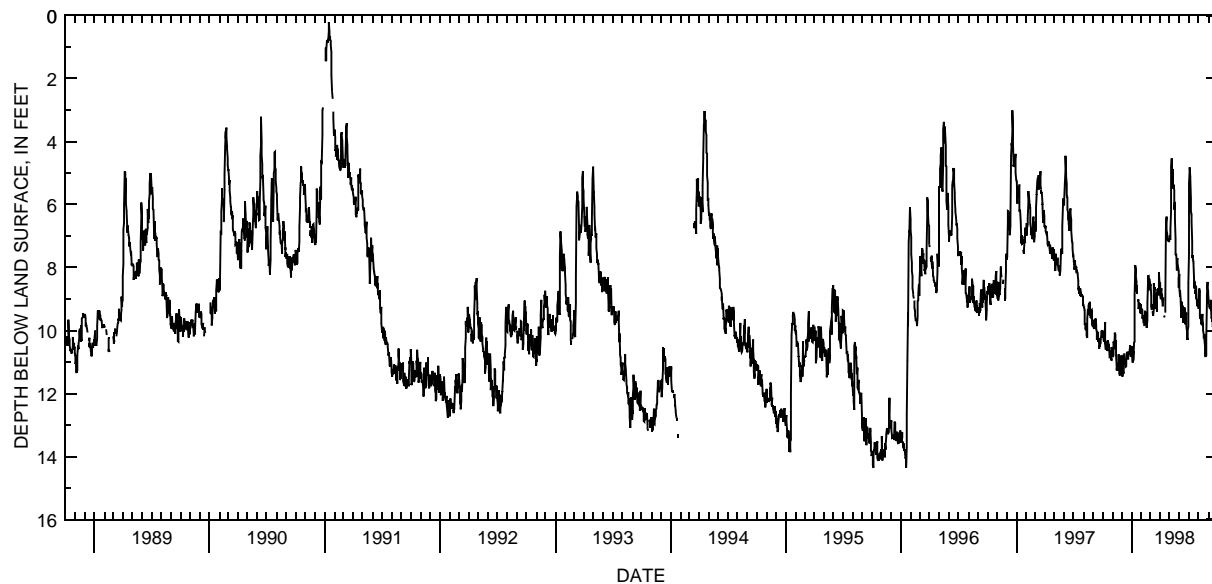
PERIOD OF RECORD.--June 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 14.35 ft below land-surface datum, Oct. 4, 1995 and Jan. 17, 1996;  
minimum daily low, 0.20 ft below land-surface datum, Jan. 13, 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	10.20	10.71	11.45	10.50	9.30	8.51	8.83	7.07	8.68	5.32	9.30	9.08
2	10.16	10.83	11.47	11.00	9.32	8.91	9.00	7.12	8.93	4.92	8.66	9.15
3	10.33	10.77	11.27	11.02	9.61	9.23	8.80	6.76	8.71	4.82	8.75	9.22
4	10.10	10.34	11.32	10.87	9.58	9.34	8.65	6.19	9.01	5.10	9.47	9.27
5	10.35	10.39	11.36	10.65	9.50	9.17	8.80	5.42	9.06	5.12	9.54	9.28
6	10.27	10.58	10.85	10.96	9.78	9.20	8.87	4.77	9.60	5.82	9.61	9.26
7	9.73	10.19	10.73	10.48	---	---	9.00	4.53	9.60	6.23	9.49	9.19
8	10.38	10.05	10.95	10.38	9.85	9.39	9.21	5.08	9.08	6.30	9.78	9.03
9	10.61	10.12	11.08	10.34	9.80	9.53	9.22	5.32	9.20	6.55	9.80	9.58
10	10.35	10.38	10.97	8.87	9.37	9.33	8.95	4.88	9.35	7.17	9.73	9.62
11	10.42	10.30	11.04	8.08	9.40	8.64	---	4.93	9.20	7.69	9.76	9.58
12	10.35	10.78	11.15	7.92	9.38	8.50	---	5.50	9.57	7.60	9.47	9.68
13	10.35	11.11	11.14	8.04	9.81	8.72	9.50	5.36	9.76	7.70	9.60	9.68
14	10.60	11.25	10.90	8.30	9.75	8.61	9.58	5.55	9.59	7.80	9.79	9.85
15	10.60	11.04	10.76	8.43	9.71	8.85	---	6.17	9.68	7.87	10.00	9.90
16	10.65	11.25	10.83	8.76	9.91	9.10	9.43	5.92	9.42	8.42	10.12	10.11
17	10.30	11.22	10.67	8.58	9.86	9.27	9.03	6.05	9.26	8.65	10.20	10.23
18	10.38	11.10	10.74	8.83	9.68	9.30	7.25	6.45	9.40	8.42	10.19	10.00
19	10.41	11.01	10.91	---	9.12	9.26	6.62	7.10	9.80	8.45	10.26	10.08
20	10.45	10.75	10.67	9.06	8.46	9.11	6.38	7.60	9.70	8.72	10.50	10.10
21	10.88	11.20	10.73	9.00	8.26	9.42	6.80	7.57	9.57	8.80	10.72	10.15
22	10.77	11.33	10.76	9.30	8.31	8.78	6.93	7.95	9.43	8.81	10.83	10.26
23	10.64	11.42	10.72	9.25	8.30	8.68	7.12	8.08	9.87	8.98	10.70	10.37
24	10.64	11.43	10.67	9.25	8.71	8.73	7.07	7.83	10.05	8.57	10.78	10.36
25	10.65	11.27	10.46	9.17	8.35	8.65	7.14	7.71	10.24	9.01	10.20	10.30
26	10.83	11.15	10.55	9.15	8.55	8.88	7.15	7.84	10.24	9.22	9.15	10.25
27	10.96	10.80	10.79	9.17	8.63	8.67	7.16	7.98	9.95	9.00	8.88	10.22
28	10.64	10.86	10.83	9.46	8.58	8.15	7.15	8.12	9.86	9.07	8.45	10.50
29	10.53	10.84	10.71	9.17	---	8.50	7.15	8.64	8.50	9.03	8.65	10.41
30	10.74	11.15	10.82	9.45	---	8.48	6.97	8.34	7.55	9.11	8.74	10.65
31	10.78	---	10.50	9.38	---	8.50	---	8.21	---	9.09	8.87	---
MAX	10.96	11.43	11.47	11.02	9.91	9.53	9.58	8.64	10.24	9.22	10.83	10.65

CAL YR 1997 LOW 11.47  
WTR YR 1998 LOW 11.47



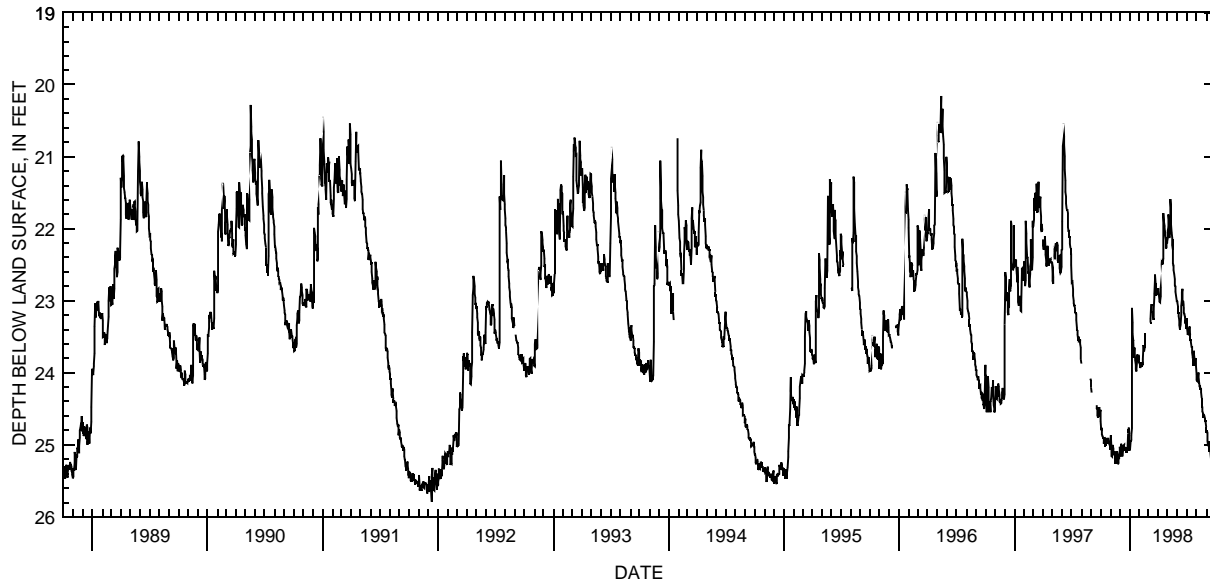
**GROUND-WATER RECORDS**  
**Union County**

**401826083255200. LOCAL NUMBER, U-4**

LOCATION.--Lat 40°18'26", long 83°25'52", Hydrologic Unit 05060001, 2.6 mi southeast of Raymond.  
 Owner: State of Ohio.  
 AQUIFER.--Limestone of Silurian Age.  
 WELL CHARACTERISTICS.--Drilled test artesian well, diameter 12 in., depth 350 ft, cased to 37 ft.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land-surface datum is 1,040 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.--January 1973 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 25.79 ft below land-surface datum, Dec. 11, 1991;  
 minimum daily low, 19.32 ft below land-surface datum, Feb. 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	24.80	24.88	25.15	25.06	23.86	---	22.82	22.02	23.03	23.37	24.09	24.81
2	24.80	24.87	25.16	24.95	23.93	---	22.91	21.97	23.08	23.45	24.11	24.80
3	24.76	25.05	25.11	24.94	23.93	---	22.91	21.80	23.17	23.47	24.12	24.83
4	24.82	25.15	24.98	24.95	23.85	---	23.00	21.89	23.17	23.45	24.12	24.95
5	24.85	25.16	25.01	24.93	23.86	---	23.01	22.01	23.21	23.45	24.08	25.02
6	24.88	25.15	25.05	24.87	23.92	23.30	23.02	22.11	23.28	23.46	24.00	24.99
7	24.89	25.06	25.16	24.77	23.89	23.30	23.01	22.11	23.34	23.46	24.05	24.95
8	24.90	25.00	25.16	23.10	23.88	23.25	22.94	21.97	23.40	23.36	24.14	24.97
9	24.90	25.05	25.09	23.30	23.90	23.05	22.81	21.59	23.37	23.39	24.20	25.02
10	24.98	25.10	25.06	23.45	23.89	23.05	22.25	21.71	23.33	23.47	24.20	25.07
11	24.97	25.13	25.02	23.55	23.81	23.12	22.42	21.80	23.33	23.54	24.17	25.07
12	24.93	25.14	25.01	23.54	23.61	23.16	22.50	21.93	23.20	23.54	24.21	25.05
13	24.92	25.12	25.00	23.79	23.63	23.14	22.45	22.05	23.07	23.57	24.22	25.16
14	25.00	25.09	25.06	23.79	23.70	23.16	22.44	22.13	22.98	23.63	24.22	25.16
15	25.00	25.12	25.06	23.65	23.70	23.25	22.49	22.23	22.88	23.63	24.27	25.25
16	25.00	25.25	25.05	23.71	23.65	23.25	22.41	22.29	22.83	23.63	24.35	25.29
17	24.96	25.25	25.03	23.80	23.45	23.23	21.78	22.15	23.03	23.72	24.47	25.28
18	24.93	25.19	25.05	23.83	---	23.12	21.92	22.48	23.06	23.72	24.47	25.25
19	24.90	25.12	25.04	23.89	---	22.95	21.90	22.51	23.00	23.78	24.53	25.20
20	24.92	25.13	25.10	23.94	---	22.90	21.96	22.57	23.10	23.81	24.56	25.20
21	24.98	25.09	25.10	23.98	---	22.70	22.00	22.63	23.16	23.88	24.60	25.19
22	24.98	25.10	25.09	23.95	---	22.64	22.05	22.70	23.18	23.88	24.60	25.25
23	24.98	25.19	25.07	23.84	---	22.76	22.09	22.74	23.19	23.69	24.60	25.28
24	24.90	25.27	25.06	23.75	---	22.92	22.16	22.78	23.22	23.75	24.59	25.28
25	24.97	25.25	24.84	23.83	---	22.92	22.27	22.80	23.31	23.82	24.59	25.25
26	24.96	25.15	24.80	23.82	---	22.88	22.25	22.88	23.27	23.88	24.63	25.25
27	25.00	25.20	24.80	23.81	---	22.86	22.12	22.94	23.30	23.81	24.66	25.25
28	25.00	25.13	24.80	23.75	---	22.85	22.20	23.00	23.39	23.81	24.66	25.28
29	25.05	25.11	24.76	23.78	---	22.92	22.18	23.00	23.39	23.85	24.68	25.28
30	25.05	25.03	24.85	23.85	---	22.90	22.13	23.00	23.24	23.90	24.75	25.28
31	24.99	---	25.06	23.86	---	22.84	---	23.00	---	24.02	24.81	---
MAX	25.05	25.27	25.16	25.06	23.93	23.30	23.02	23.00	23.40	24.02	24.81	25.29
CAL YR 1997	LOW	25.27										
WTR YR 1998	LOW	25.29										



## GROUND-WATER RECORDS

### Union County

#### 402010083321900. LOCAL NUMBER, U-5

LOCATION.--Lat 40°20'10", long 83°32'19", Hydrologic Unit 05060001, east of East Liberty.

Owner: Honda of America.

AQUIFER.--Limestone of Silurian Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth 145 ft, cased to 98 ft.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface is 1085 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 4.00 ft. above land-surface datum.

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

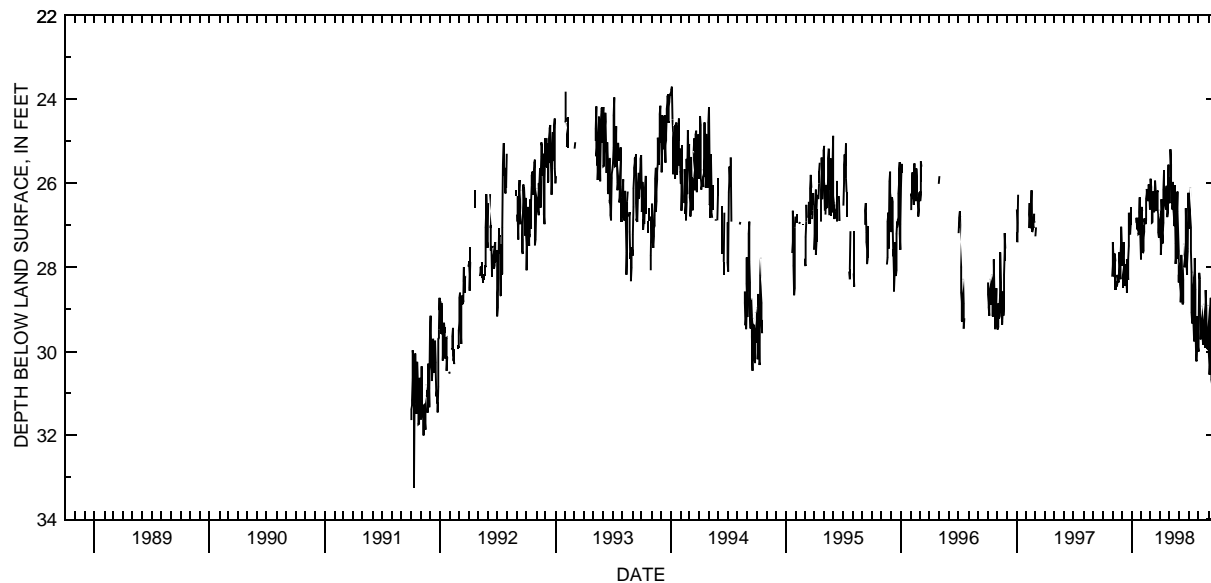
PERIOD OF RECORD.--October 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 33.25 ft below land-surface datum, Oct. 10, 1991;  
minimum daily low, 23.70 ft below land-surface datum, Jan. 4, 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	---	27.95	27.83	---	26.56	25.90	27.15	26.15	27.81	26.52	29.48	29.65
2	---	27.40	27.59	---	26.66	26.09	27.40	25.86	27.94	27.08	28.13	30.06
3	---	27.78	28.48	---	27.01	26.43	27.70	25.20	28.41	26.75	28.29	30.35
4	---	28.12	27.88	---	27.00	26.61	27.36	25.56	28.59	26.10	28.83	30.55
5	---	28.20	27.41	---	27.66	26.74	26.39	25.96	28.83	25.72	28.99	30.25
6	---	28.20	27.75	---	27.60	26.95	26.97	26.14	28.46	27.05	29.57	29.23
7	---	28.22	28.02	---	27.31	26.93	27.17	26.41	27.70	27.62	29.71	28.73
8	---	27.68	28.10	---	27.15	26.70	27.43	26.48	28.32	28.12	29.47	29.66
9	---	27.86	28.09	---	26.84	26.19	27.19	26.62	28.67	29.08	28.38	30.25
10	---	28.52	28.44	---	26.92	26.58	26.95	26.38	28.86	29.34	28.81	30.67
11	---	28.52	28.44	---	26.83	26.68	26.15	25.97	28.88	28.85	28.93	30.78
12	---	28.42	27.93	---	26.93	26.69	25.70	26.57	28.83	27.32	29.44	30.40
13	---	28.33	28.28	---	26.97	26.65	26.16	26.69	28.30	28.11	29.62	29.15
14	---	28.45	28.35	---	26.88	26.42	26.50	26.94	27.26	28.74	29.84	29.71
15	---	28.39	28.53	26.95	26.36	25.94	26.49	27.03	27.45	29.34	29.67	30.64
16	---	28.17	28.61	26.82	26.25	26.19	26.33	26.86	27.69	29.76	28.42	31.14
17	---	28.26	27.81	27.10	26.14	26.43	26.53	26.04	27.99	29.73	28.88	31.35
18	---	28.28	28.01	26.86	26.23	26.63	26.62	26.63	27.94	29.17	29.68	31.49
19	---	28.35	28.30	26.82	26.30	26.63	26.20	27.44	27.91	27.78	29.78	31.11
20	---	28.37	27.79	27.08	26.32	26.43	26.07	27.92	27.53	28.53	29.87	29.77
21	---	27.97	27.49	27.12	26.42	26.42	26.15	27.73	26.60	29.36	29.92	30.63
22	---	27.64	27.09	27.22	26.34	26.21	26.24	27.80	27.36	30.03	29.71	31.06
23	---	27.96	26.70	27.21	26.03	26.17	26.81	27.59	27.91	30.09	28.54	31.19
24	---	28.13	26.73	26.97	26.17	26.64	26.71	26.74	28.18	30.19	28.97	31.17
25	---	28.29	27.22	26.34	26.28	26.73	26.37	26.20	27.92	30.23	29.58	31.10
26	---	27.74	27.22	26.68	26.63	27.18	25.56	26.67	27.63	29.77	29.72	30.73
27	---	27.36	26.97	27.05	26.59	27.30	25.93	27.15	27.55	29.17	29.92	29.46
28	---	27.04	26.56	27.28	26.54	27.09	26.33	27.62	26.63	29.61	29.93	30.03
29	---	27.51	---	27.81	---	26.17	26.44	28.36	26.23	29.84	29.75	30.27
30	---	27.96	---	27.60	---	26.64	26.48	28.20	26.77	29.88	28.61	30.65
31	28.22	---	---	27.27	---	26.74	---	27.22	---	30.01	28.91	---
MAX	28.22	28.52	28.61	27.81	27.66	27.30	27.70	28.36	28.88	30.23	29.93	31.49

CAL YR 1997   LOW 28.61  
WTR YR 1998   LOW 31.49



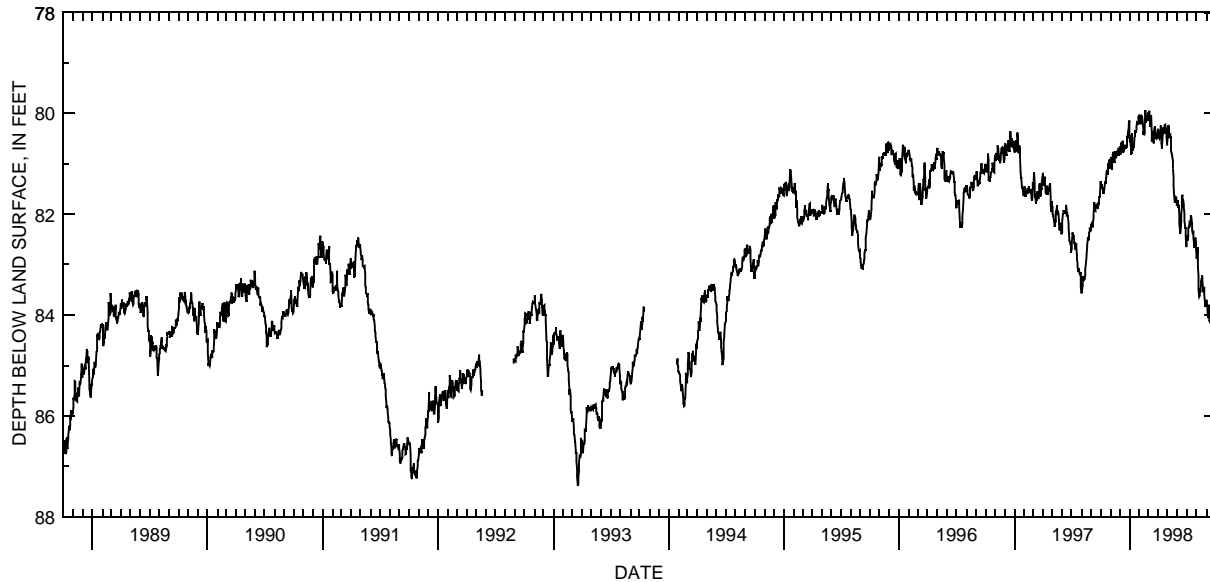
**GROUND-WATER RECORDS**  
**Vinton County**

**391452082282900. LOCAL NUMBER, V-1**

LOCATION.--Lat 39°14'52", long 82°28'29", Hydrologic Unit 05090101, State Highway garage in McArthur.  
 Owner: Vinton County School Board.  
 AQUIFER.--Sandstone of Mississippian Age.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 6 in., depth 218 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land-surface datum is 730 ft above sea level, from topographic map.  
 Measuring Point: Top of platform 2.50 ft below land-surface datum.  
 REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--September 1959 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 93.23 ft below land-surface datum, Apr. 12, 1979;  
 minimum daily low, 49.55 ft below land-surface datum, Mar. 20, 1963.

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	81.47	81.04	80.77	80.58	80.07	80.01	80.31	80.29	81.77	82.43	82.88	83.72
2	81.48	80.86	80.81	80.45	80.14	79.96	80.47	80.23	81.73	82.53	82.76	83.78
3	81.41	80.90	80.77	80.48	80.21	79.95	80.47	80.23	81.86	82.53	82.66	83.84
4	81.44	81.08	80.60	80.63	80.19	80.12	80.49	80.29	81.86	82.44	82.80	83.94
5	81.45	81.12	80.58	80.68	80.03	80.20	80.49	80.39	81.82	82.29	83.04	84.05
6	81.47	81.02	80.59	80.78	80.05	80.23	80.40	80.46	82.00	82.24	83.22	84.07
7	81.53	80.93	80.64	80.78	80.05	80.23	80.39	80.45	82.19	82.26	83.49	83.80
8	81.57	80.80	80.64	80.39	80.07	80.13	80.29	80.43	82.31	82.17	83.63	83.83
9	81.56	80.76	80.57	80.64	80.09	80.04	80.24	80.50	82.39	82.17	83.61	84.05
10	81.60	80.85	80.55	80.71	80.20	80.39	80.43	80.46	82.35	82.20	83.49	84.13
11	81.59	80.92	80.75	80.71	80.21	80.46	80.59	80.58	82.34	82.19	83.47	84.09
12	81.48	80.95	80.75	80.62	80.36	80.56	80.70	80.74	82.18	82.10	83.55	84.10
13	81.37	80.95	80.71	80.66	80.40	80.48	80.64	80.79	82.00	82.02	83.53	84.16
14	81.37	80.75	80.67	80.69	80.40	80.42	80.44	80.84	81.87	82.07	83.39	84.12
15	81.38	80.78	80.70	80.47	80.43	80.48	80.41	80.87	81.64	82.09	83.33	84.20
16	81.40	80.83	80.69	80.35	80.38	80.59	80.28	80.93	81.61	82.18	83.26	84.23
17	81.28	80.89	80.62	80.35	80.19	80.55	80.35	81.00	81.69	82.25	83.22	84.21
18	81.28	80.88	80.68	80.38	79.93	80.37	80.41	81.09	81.73	82.31	83.23	84.15
19	81.18	80.83	80.69	80.34	79.99	80.35	80.35	81.25	81.71	82.37	83.33	84.07
20	81.13	80.84	80.66	80.35	80.07	80.30	80.26	81.44	81.80	82.36	83.45	84.04
21	81.13	80.81	80.66	80.35	80.19	80.25	80.24	81.65	81.87	82.48	83.50	83.94
22	81.22	80.73	80.60	80.27	80.19	80.28	80.23	81.78	81.98	82.58	83.54	83.87
23	81.19	80.77	80.47	80.17	80.11	80.40	80.23	81.78	82.13	82.60	83.51	83.97
24	81.09	80.83	80.47	80.17	80.08	80.48	80.30	81.77	82.22	82.64	83.44	83.94
25	81.00	80.83	80.35	80.19	80.13	80.49	80.39	81.66	82.28	82.64	83.60	84.04
26	81.00	80.69	80.35	80.20	80.13	80.48	80.35	81.65	82.28	82.62	83.74	84.04
27	80.91	80.78	80.28	80.20	79.99	80.48	80.47	81.67	82.45	82.47	83.81	83.92
28	80.93	80.77	80.28	80.07	80.02	80.41	80.63	81.74	82.64	82.60	83.81	83.84
29	81.04	80.73	80.20	80.04	---	80.41	80.59	81.73	82.65	82.66	83.84	83.83
30	81.09	80.66	80.14	80.02	---	80.36	80.47	81.83	82.43	82.67	83.78	83.89
31	81.08	---	80.47	80.07	---	80.31	---	81.77	---	82.85	83.70	---
MAX	81.60	81.12	80.81	80.78	80.43	80.59	80.70	81.83	82.65	82.85	83.84	84.23
CAL YR 1997	LOW	83.57										
WTR YR 1998	LOW	84.23										





**GROUND-WATER RECORDS**  
**Warren County**

**392712084191700. LOCAL NUMBER, W-5**

LOCATION.--Lat 39°27'12", long 84°19'17", Hydrologic Unit 05080002, Union Rd., 2 mi east of Monroe.

Owner: Bob Proeschel.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 12 in., depth 121 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 660 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 3.50 ft above land-surface datum.

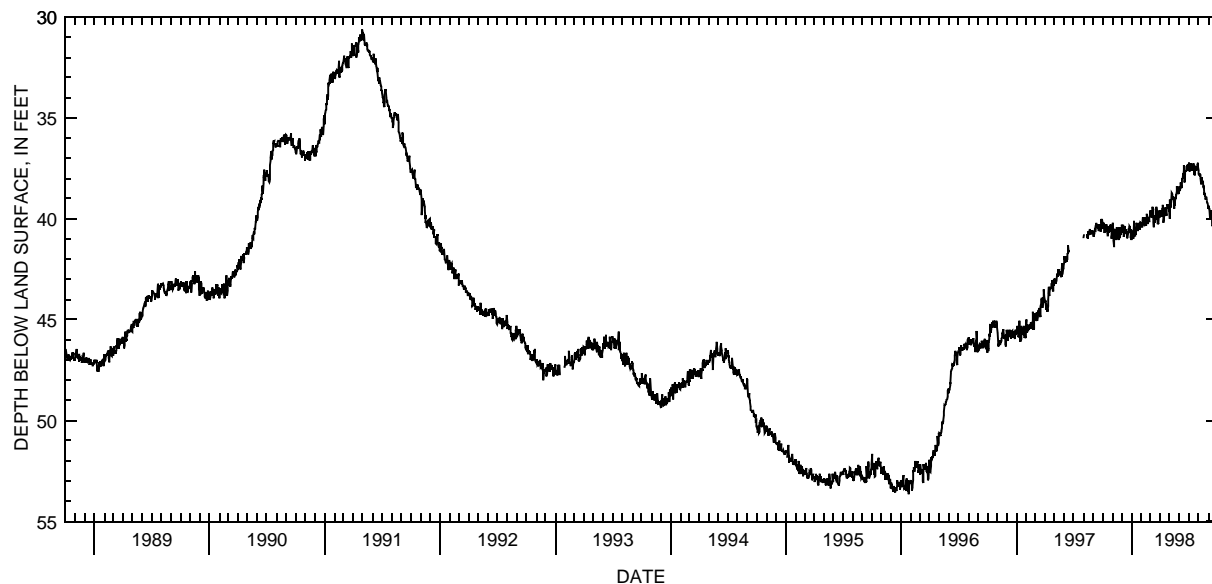
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

PERIOD OF RECORD.--March 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 53.65 ft below land-surface datum, Jan. 25, 1996;  
minimum daily low, 17.70 ft below land-surface datum, Apr. 30, 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	40.40	40.20	40.70	40.85	40.30	39.80	39.55	39.05	38.60	37.45	37.75	39.35
2	40.35	40.25	40.65	40.80	40.40	39.60	39.70	39.25	38.45	37.65	37.80	39.45
3	40.40	40.95	40.35	40.75	40.30	39.85	39.80	39.05	38.60	37.65	37.85	39.50
4	40.20	41.10	40.30	40.70	39.90	39.90	39.85	39.45	38.25	37.35	37.75	39.60
5	40.40	41.40	40.40	40.60	40.10	39.95	39.90	39.10	38.20	37.50	37.75	40.05
6	40.70	41.00	40.90	41.00	40.20	39.85	39.60	39.20	38.50	37.35	37.80	39.85
7	40.45	40.50	40.70	40.25	40.30	39.90	39.50	38.70	38.35	37.25	38.00	39.55
8	40.55	40.50	40.70	40.10	40.20	39.40	39.45	38.75	38.45	37.45	38.30	39.75
9	40.60	40.50	40.45	40.55	40.30	39.90	39.30	39.05	38.05	37.35	38.00	39.90
10	40.55	40.65	40.35	40.80	40.35	40.40	39.80	39.00	38.00	37.40	37.95	40.00
11	40.40	40.65	40.55	40.85	39.90	40.20	40.20	38.90	38.00	37.55	38.00	39.95
12	40.25	41.05	40.70	40.45	40.20	40.15	39.95	39.00	37.75	37.55	38.25	40.20
13	40.55	40.50	40.50	40.80	40.15	39.80	39.65	38.90	37.90	37.55	38.10	40.35
14	40.60	40.40	40.60	40.70	40.35	40.00	39.50	39.50	37.60	37.25	38.15	40.30
15	40.85	40.55	40.75	40.30	40.35	40.20	39.65	39.00	37.35	37.30	38.25	40.55
16	40.55	40.85	40.65	40.20	39.95	39.95	39.45	39.15	37.65	37.40	38.50	40.40
17	40.40	40.80	40.95	40.40	39.75	39.60	39.70	39.35	38.20	37.80	38.35	40.45
18	40.40	40.85	40.90	40.50	40.05	39.50	39.85	39.10	37.75	37.45	38.80	40.40
19	40.45	41.05	40.70	40.40	40.00	39.70	39.65	39.00	37.60	37.85	38.70	40.40
20	40.70	40.60	40.65	40.60	40.00	39.40	39.85	38.80	37.60	37.40	38.90	40.45
21	40.45	40.40	40.70	40.30	40.25	39.70	39.55	38.80	37.65	37.40	38.75	40.50
22	40.65	40.55	40.45	40.25	40.05	40.00	39.35	38.65	37.60	37.45	39.05	40.75
23	40.65	40.75	40.60	40.20	39.90	40.00	39.30	38.65	37.45	37.40	39.00	41.30
24	40.30	40.95	40.35	40.30	40.15	40.25	39.30	38.40	37.40	37.50	38.90	41.55
25	40.45	40.70	40.40	40.55	39.90	40.20	39.50	38.70	37.50	37.60	38.90	40.80
26	40.30	40.55	40.50	40.40	39.80	40.25	39.40	38.50	37.30	37.40	39.10	40.90
27	40.55	40.80	40.50	40.20	39.60	39.85	39.60	38.65	37.45	37.30	39.15	40.90
28	41.00	40.40	40.95	40.15	39.65	39.60	39.60	38.75	37.60	37.20	39.20	40.95
29	40.90	40.50	40.90	40.20	---	39.95	39.40	38.75	37.45	37.30	39.20	40.95
30	40.70	40.30	40.55	40.30	---	39.70	40.00	38.70	37.20	37.40	39.40	40.75
31	40.45	---	41.05	40.35	---	39.60	---	38.40	---	37.60	39.50	---
MAX	41.00	41.40	41.05	41.00	40.40	40.40	40.20	39.50	38.60	37.85	39.50	41.55
CAL YR 1997	LOW 46.05											
WTR YR 1998	LOW 41.55											



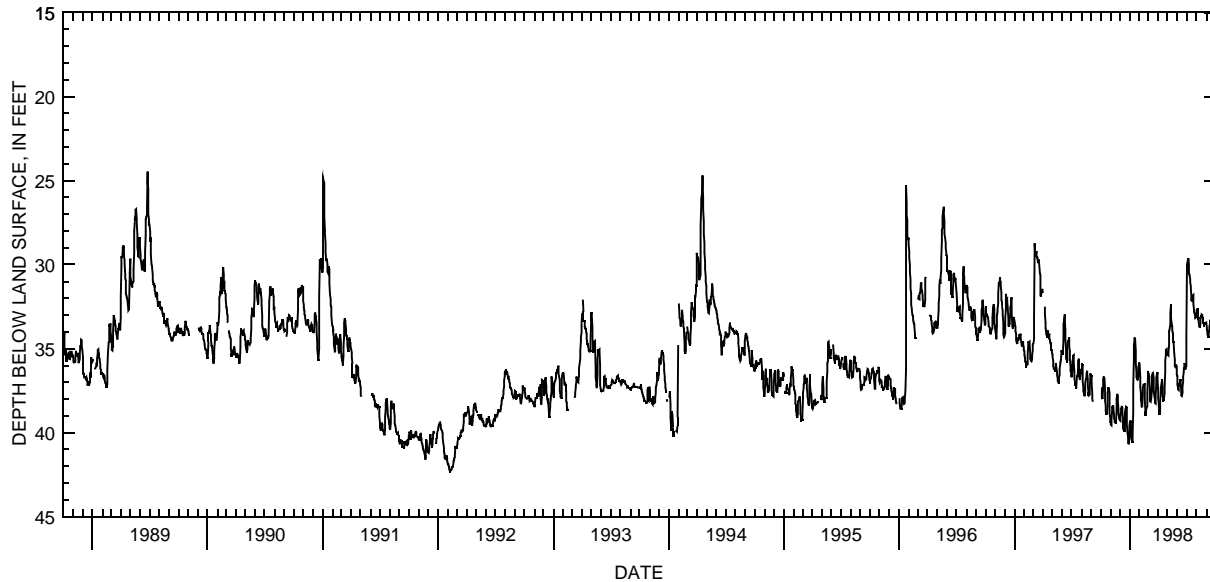
**GROUND-WATER RECORDS**  
**Washington County**

**392553081281600. LOCAL NUMBER, WA-2**

LOCATION.--Lat 39°25'53", long 81°28'16", Hydrologic Unit 05040004, near county fairgrounds north of Marietta.  
 Owner: Marietta Water Dept.  
 AQUIFER.--Sand and gravel of Quaternary Age.  
 WELL CHARACTERISTICS.--Drilled unused water table well, diameter 8 in., depth, 50 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 605 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.--August 1971 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 42.30 ft below land-surface datum, Feb. 7-8, 1992;  
 minimum daily low, 17.60 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	---	39.40	39.30	39.30	36.00	36.45	38.00	35.35	37.10	30.00	32.70	33.70
2	---	39.50	39.00	39.40	36.70	36.70	38.30	35.40	37.30	29.80	32.60	33.80
3	37.30	39.55	38.75	39.30	37.25	37.00	38.45	35.25	37.40	29.80	32.60	34.00
4	37.60	39.20	38.55	39.35	37.70	37.40	38.65	34.80	37.45	29.75	33.10	34.15
5	37.85	38.75	38.45	39.75	38.05	37.80	38.85	33.95	37.10	29.60	33.20	34.20
6	38.00	38.50	38.45	40.25	38.30	38.10	38.85	33.95	37.05	30.00	33.20	34.30
7	37.30	38.45	38.50	40.50	38.40	38.15	38.15	33.80	37.20	30.50	33.35	34.30
8	36.80	38.40	38.80	40.55	38.50	38.10	37.60	33.55	37.20	30.60	33.65	34.00
9	36.65	38.40	39.15	40.55	38.50	38.00	37.30	32.90	36.85	30.65	33.65	33.85
10	36.65	38.60	39.50	40.15	37.70	37.60	37.15	32.35	36.85	30.85	33.60	33.70
11	36.70	38.90	39.70	38.75	37.30	37.00	37.10	32.70	37.05	31.05	33.75	33.50
12	36.75	39.10	39.80	37.20	37.20	36.60	36.90	33.15	37.50	31.30	33.55	33.35
13	37.45	39.20	39.85	35.65	37.15	36.50	36.80	33.50	37.75	31.45	33.30	33.30
14	38.10	39.35	39.90	34.80	37.10	36.50	37.35	33.70	37.80	31.95	33.00	33.30
15	38.40	39.40	39.90	34.50	37.10	36.45	37.80	33.90	37.80	32.15	33.10	33.50
16	38.60	39.40	39.35	34.35	37.10	36.75	38.00	34.05	37.60	31.80	33.05	33.60
17	38.70	39.40	38.80	34.40	38.00	37.20	38.05	34.35	37.25	32.20	32.95	33.95
18	38.80	39.35	38.55	34.50	38.70	37.50	38.05	34.55	36.95	32.15	33.00	34.00
19	38.85	38.70	38.50	35.15	38.90	37.70	37.95	34.55	36.65	31.85	33.10	34.20
20	38.85	38.00	38.45	35.90	38.90	37.85	37.70	34.60	36.40	31.80	33.15	34.30
21	38.40	37.75	38.50	36.40	38.85	38.05	37.35	35.25	36.20	32.35	33.45	34.30
22	37.80	37.70	38.65	36.70	38.65	38.20	36.40	35.65	36.00	32.70	33.45	34.15
23	37.60	37.85	39.50	36.75	38.50	38.25	35.75	35.95	35.85	32.75	33.60	33.85
24	37.45	38.15	40.00	36.80	38.40	37.85	35.35	36.05	35.95	32.80	33.60	33.85
25	37.35	38.65	40.30	36.85	37.60	37.10	35.10	36.10	36.15	32.90	33.50	33.75
26	37.35	38.85	40.55	36.85	36.70	36.75	35.05	36.10	36.15	33.15	33.50	33.60
27	37.70	39.05	40.65	36.60	36.35	36.55	35.20	35.95	36.15	33.20	33.40	33.45
28	38.40	39.15	40.70	36.10	36.45	36.50	35.45	36.10	36.00	33.15	33.50	33.55
29	38.85	39.20	40.60	35.95	---	36.40	35.40	36.30	34.25	33.05	33.50	33.75
30	39.10	39.25	40.40	35.80	---	36.85	35.35	36.50	31.05	33.05	33.45	33.85
31	39.35	---	39.60	35.90	---	37.60	---	36.60	---	32.85	33.45	---
MAX	39.35	39.55	40.70	40.55	38.90	38.25	38.85	36.60	37.80	33.20	33.75	34.30
CAL YR 1997	LOW	40.70										
WTR YR 1998	LOW	40.70										



**GROUND-WATER RECORDS**  
**Washington County**

**393241081353500. LOCAL NUMBER, WA-3**

LOCATION.--Lat 39°32'41", long 81°35'35", Hydrologic Unit 05040004 near Beverly.

Owner: Tri-County Rural Water Association.

AQUIFER.--Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.--Drilled observation well, diameter 6 in., depth, 49 ft, cased.

INSTRUMENTATION.--Type F continuous recorder.

DATUM.--Elevation of land-surface datum is 620 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 3.25 ft above land-surface datum.

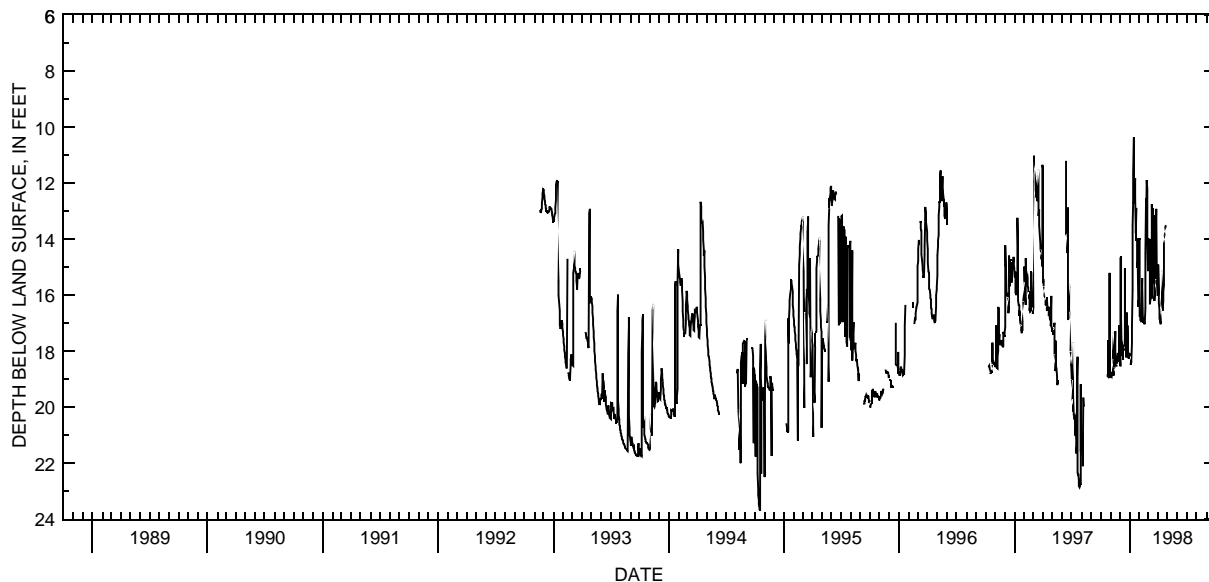
REMARKS.--Station operated by Ohio Department of Natural Resources, Division of Water.

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

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 23.69 ft below land-surface datum, Oct. 16, 1994;  
minimum daily low, 8.21 ft below land-surface datum, Mar. 12, 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	---	18.80	18.55	18.12	16.77	14.00	14.90	---	---	---	---	---
2	---	18.89	14.69	14.68	16.67	14.50	15.77	---	---	---	---	---
3	---	18.91	14.61	18.21	16.93	14.67	16.27	---	---	---	---	---
4	---	18.78	16.87	18.48	15.24	14.00	16.52	---	---	---	---	---
5	---	18.89	18.14	18.39	16.97	13.99	16.81	---	---	---	---	---
6	---	15.72	15.46	18.33	16.73	16.33	16.93	---	---	---	---	---
7	---	18.26	18.02	17.72	16.61	16.14	16.92	---	---	---	---	---
8	---	15.04	18.18	17.11	15.39	15.97	17.04	---	---	---	---	---
9	---	17.35	18.10	15.83	15.68	14.94	16.87	---	---	---	---	---
10	---	18.86	18.32	13.52	16.79	16.12	15.28	---	---	---	---	---
11	---	18.81	17.63	12.58	16.81	15.81	16.34	---	---	---	---	---
12	---	16.11	14.74	11.66	14.06	12.76	13.40	---	---	---	---	---
13	---	18.56	17.98	10.37	16.94	13.99	15.15	---	---	---	---	---
14	---	18.12	15.14	12.74	16.94	14.01	16.30	---	---	---	---	---
15	---	17.28	17.83	12.23	16.99	12.90	16.56	---	---	---	---	---
16	---	18.39	15.06	12.59	17.03	15.57	16.19	---	---	---	---	---
17	---	18.22	17.74	11.82	17.01	13.15	15.87	---	---	---	---	---
18	---	18.42	17.83	12.50	16.46	14.68	15.66	---	---	---	---	---
19	---	18.54	16.75	13.73	14.53	16.22	14.17	---	---	---	---	---
20	---	17.12	18.23	13.79	12.57	16.21	12.64	---	---	---	---	---
21	18.82	18.46	16.99	12.89	12.56	15.95	13.85	---	---	---	---	---
22	18.84	18.20	16.62	13.99	13.80	13.99	12.30	---	---	---	---	---
23	18.90	18.07	18.00	13.99	11.90	15.43	13.59	---	---	---	---	---
24	18.91	18.36	17.08	15.03	12.22	14.00	13.50	---	---	---	---	---
25	17.64	18.28	17.65	14.83	13.99	12.91	---	---	---	---	---	---
26	17.64	14.56	18.18	14.93	15.15	13.99	---	---	---	---	---	---
27	18.95	17.09	18.18	16.42	14.05	15.63	---	---	---	---	---	---
28	15.20	18.34	18.27	16.18	14.00	15.49	---	---	---	---	---	---
29	18.85	18.33	18.24	16.39	---	16.03	---	---	---	---	---	---
30	18.72	18.00	18.18	14.00	---	13.22	---	---	---	---	---	---
31	18.74	---	18.08	13.99	---	16.01	---	---	---	---	---	---
MAX	18.95	18.91	18.55	18.48	17.03	16.33	17.04	---	---	---	---	---
CAL YR 1997	LOW	22.84										
WTR YR 1998	LOW	18.95										



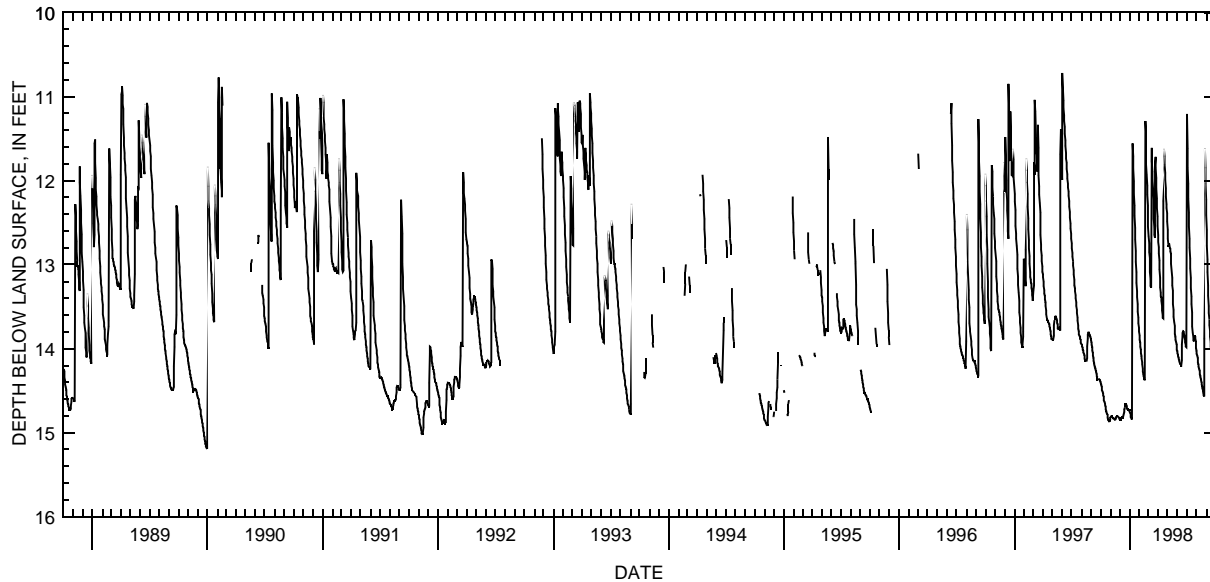
**GROUND-WATER RECORDS**  
**Wayne County**

**404655081553200. LOCAL NUMBER, WN-3**

LOCATION.--Lat 40°46'55", long 81°55'32", Hydrologic Unit 05040003, OARDC-OSU Experiment Station near Wooster.  
 Owner: OARDC-OSU.  
 AQUIFER.--Shale of Mississippian Age.  
 WELL CHARACTERISTICS.--Drilled test water table well, diameter 8 in., depth 20 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land-surface datum is 1040 ft above sea level, from topographic map.  
 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.--June 1955 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 16.17 ft below land-surface datum, Jan. 27, 29, 1956;  
 minimum daily low, 8.00 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	14.42	14.82	14.84	14.76	13.89	12.66	12.73	12.69	14.05	11.21	14.06	12.59
2	14.43	14.81	14.84	14.77	13.93	12.75	12.79	12.77	14.07	11.62	14.08	12.78
3	14.45	14.80	14.84	14.79	13.97	12.85	12.87	12.78	14.09	11.85	14.11	12.94
4	14.47	14.80	14.83	14.81	14.01	12.92	12.95	12.78	14.10	12.04	14.14	13.09
5	14.49	14.80	14.83	14.82	14.05	12.99	13.06	12.76	14.12	12.21	14.16	13.25
6	14.51	14.81	14.82	14.83	14.09	13.09	13.16	12.75	14.13	12.38	14.19	13.37
7	14.53	14.82	14.82	14.84	14.12	13.17	13.27	12.79	14.15	12.55	14.21	13.49
8	14.55	14.83	14.82	14.84	14.16	13.25	13.33	12.81	14.17	12.69	14.24	13.58
9	14.57	14.83	14.82	11.67	14.19	13.27	13.37	12.84	14.18	12.80	14.26	13.65
10	14.59	14.83	14.81	11.56	14.24	12.06	13.39	12.87	14.19	12.93	14.28	13.72
11	14.61	14.83	14.81	11.71	14.27	11.61	13.43	12.93	14.20	13.04	14.30	13.79
12	14.63	14.83	14.78	11.86	14.30	11.77	13.49	12.99	14.20	13.16	14.32	13.86
13	14.65	14.84	14.75	12.01	14.32	11.89	13.55	13.08	14.20	13.28	14.34	13.93
14	14.67	14.84	14.72	12.16	14.34	11.99	13.60	13.16	14.14	13.38	14.36	13.98
15	14.69	14.84	14.70	12.30	14.36	12.10	13.63	13.25	13.95	13.47	14.38	14.03
16	14.70	14.84	14.67	12.42	14.37	12.22	13.64	13.31	13.85	13.57	14.40	14.06
17	14.72	14.83	14.66	12.56	14.38	12.35	12.24	13.39	13.81	13.65	14.42	14.09
18	14.74	14.82	14.66	12.70	13.47	12.46	11.38	13.47	13.79	13.74	14.45	14.11
19	14.75	14.81	14.66	12.84	11.29	12.56	11.63	13.54	13.79	13.81	14.47	14.14
20	14.77	14.80	14.67	12.97	11.43	12.64	11.71	13.62	13.80	13.87	14.49	14.17
21	14.78	14.80	14.68	13.09	11.66	12.68	11.81	13.68	13.81	13.90	14.51	14.20
22	14.80	14.80	14.70	13.22	11.81	11.82	11.91	13.73	13.84	13.91	14.54	14.22
23	14.82	14.80	14.71	13.32	11.93	11.72	11.99	13.77	13.86	13.91	14.55	14.25
24	14.84	14.80	14.72	13.39	12.06	11.85	12.09	13.82	13.89	13.90	14.57	14.28
25	14.85	14.81	14.72	13.47	12.17	11.97	12.19	13.86	13.92	13.85	13.88	14.31
26	14.86	14.81	14.73	13.56	12.30	12.09	12.28	13.89	13.94	13.85	11.24	14.34
27	14.87	14.82	14.73	13.63	12.42	12.21	12.33	13.92	13.97	13.88	11.62	14.37
28	14.87	14.83	14.73	13.70	12.55	12.33	12.39	13.95	13.98	13.91	11.85	14.39
29	14.86	14.84	14.73	13.75	---	12.43	12.49	13.98	13.98	13.95	12.04	14.42
30	14.84	14.84	14.73	13.80	---	12.54	12.59	14.01	12.22	13.99	12.23	14.44
31	14.83	---	14.74	13.84	---	12.65	---	14.03	---	14.03	12.41	---
MAX	14.87	14.84	14.84	14.84	14.38	13.27	13.64	14.03	14.20	14.03	14.57	14.44
CAL YR 1997	LOW	14.87										
WTR YR 1998	LOW	14.87										



## GROUND-WATER RECORDS

### Wayne County

**404802081583100. LOCAL NUMBER, WN-2A**

LOCATION.--Lat 40°48'02", long 81°58'31", Hydrologic Unit 05040003, in well field by Killbuck Creek near Wooster.

Owner: Wooster Water Dept.

AQUIFER.--Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.--Drilled test water table well, diameter 6 in., depth 65 ft, cased.

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

DATUM.--Elevation of land-surface datum is 855 ft above sea level, from topographic map.

Measuring point: Floor of instrument shelter 6.00 ft above land-surface datum.

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

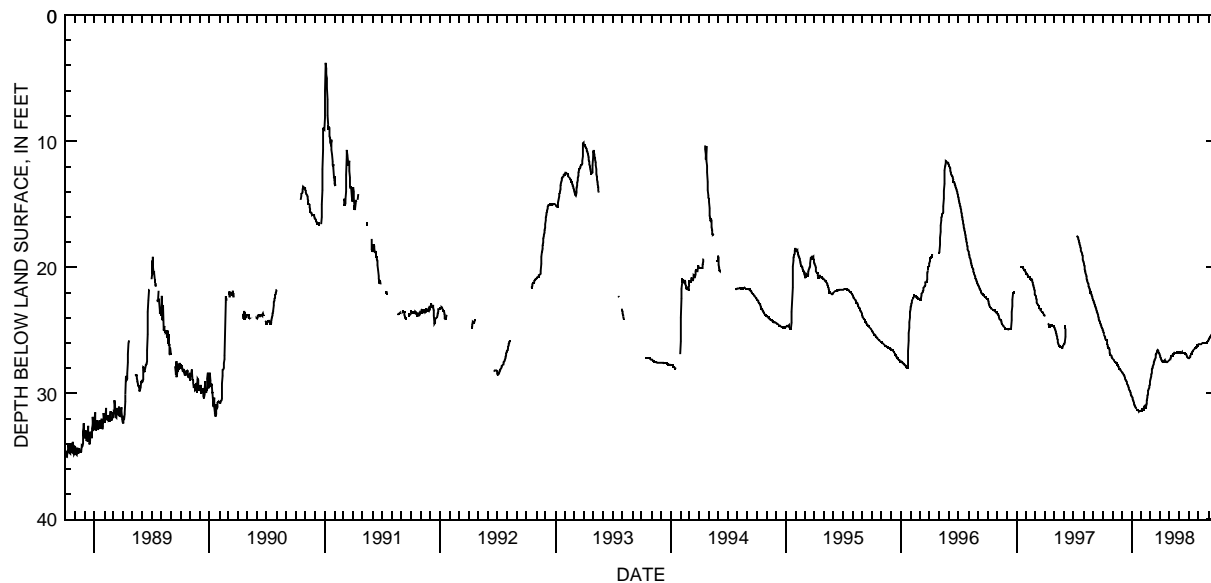
PERIOD OF RECORD.--July 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 37.95 ft below land-surface datum, June 23, 1988;  
minimum daily low, 2.35 ft below land-surface datum, Jan. 28, 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	25.04	27.24	28.31	30.25	31.37	28.84	27.08	27.33	26.69	27.19	26.12	25.77
2	25.11	27.26	28.35	30.33	31.30	28.64	27.16	27.26	26.71	27.19	26.10	25.73
3	25.19	27.28	28.40	30.40	31.26	28.47	27.23	27.18	26.73	27.18	26.09	25.68
4	25.26	27.32	28.43	30.46	31.26	28.34	27.30	27.09	26.75	27.15	26.07	25.63
5	25.33	27.36	28.49	30.54	31.25	28.24	27.35	27.07	26.77	27.06	26.07	25.58
6	25.42	27.40	28.54	30.60	31.25	28.13	27.41	27.06	26.77	26.97	26.07	25.54
7	25.51	27.44	28.59	30.70	31.22	28.05	27.48	27.06	26.77	26.91	26.07	25.50
8	25.61	27.46	28.64	30.79	31.15	27.93	27.51	27.03	26.76	26.88	26.07	25.45
9	25.71	27.48	28.71	30.91	31.07	27.75	27.52	26.98	26.77	26.84	26.07	25.41
10	25.78	27.51	28.77	30.95	31.01	27.65	27.52	26.95	26.78	26.80	26.06	25.37
11	25.80	27.55	28.84	31.00	31.09	27.55	27.52	26.88	26.79	26.76	26.05	25.34
12	25.80	27.58	28.90	31.05	31.13	27.50	27.50	26.87	26.81	26.71	26.03	25.32
13	25.80	27.63	28.96	31.10	31.13	27.41	27.45	26.84	26.81	26.65	26.01	25.28
14	26.07	27.70	29.01	31.18	31.08	27.35	27.42	26.82	26.81	26.60	26.00	25.25
15	26.13	27.72	29.07	31.22	30.97	27.24	27.43	26.78	26.81	26.58	26.00	25.23
16	26.19	27.74	29.11	31.27	30.81	27.15	27.43	26.76	26.80	26.56	25.99	25.21
17	26.27	27.76	29.22	31.25	30.54	27.04	27.42	26.76	26.80	26.53	25.99	25.19
18	26.31	27.81	29.30	31.27	30.31	26.96	27.44	26.74	26.81	26.52	25.98	25.18
19	26.36	27.85	29.37	31.29	30.14	26.91	27.46	26.73	26.84	26.47	25.98	25.16
20	26.37	27.90	29.44	31.32	30.02	26.82	27.50	26.73	26.87	26.44	25.98	25.15
21	26.54	27.94	29.51	31.35	29.90	26.77	27.51	26.75	26.88	26.40	25.98	25.13
22	26.65	27.99	29.59	31.37	29.77	26.65	27.52	26.76	26.89	26.39	25.97	25.11
23	26.77	28.01	29.65	31.44	29.64	26.51	27.52	26.76	26.96	26.36	25.97	25.09
24	26.85	28.04	29.75	31.45	29.53	26.52	27.52	26.76	27.03	26.33	25.97	25.07
25	26.92	28.10	29.79	31.44	29.40	26.59	27.51	26.73	27.08	26.31	25.96	25.06
26	26.96	28.15	29.85	31.44	29.28	26.66	27.48	26.68	27.12	26.25	25.96	25.04
27	27.01	28.20	29.92	31.44	29.14	26.73	27.44	26.66	27.15	26.20	25.95	25.02
28	27.06	28.23	29.98	31.44	29.01	26.79	27.42	26.68	27.16	26.17	25.93	25.00
29	27.11	28.25	30.05	31.44	---	26.85	27.41	26.68	27.16	26.15	25.90	24.98
30	27.15	28.26	30.13	31.44	---	26.91	27.37	26.68	27.18	26.14	25.86	24.97
31	27.21	---	30.19	31.42	---	27.00	---	26.68	---	26.13	25.81	---
MAX	27.21	28.26	30.19	31.45	31.37	28.84	27.52	27.33	27.18	27.19	26.12	25.77

CAL YR 1997   LOW 30.19  
WTR YR 1998   LOW 31.45



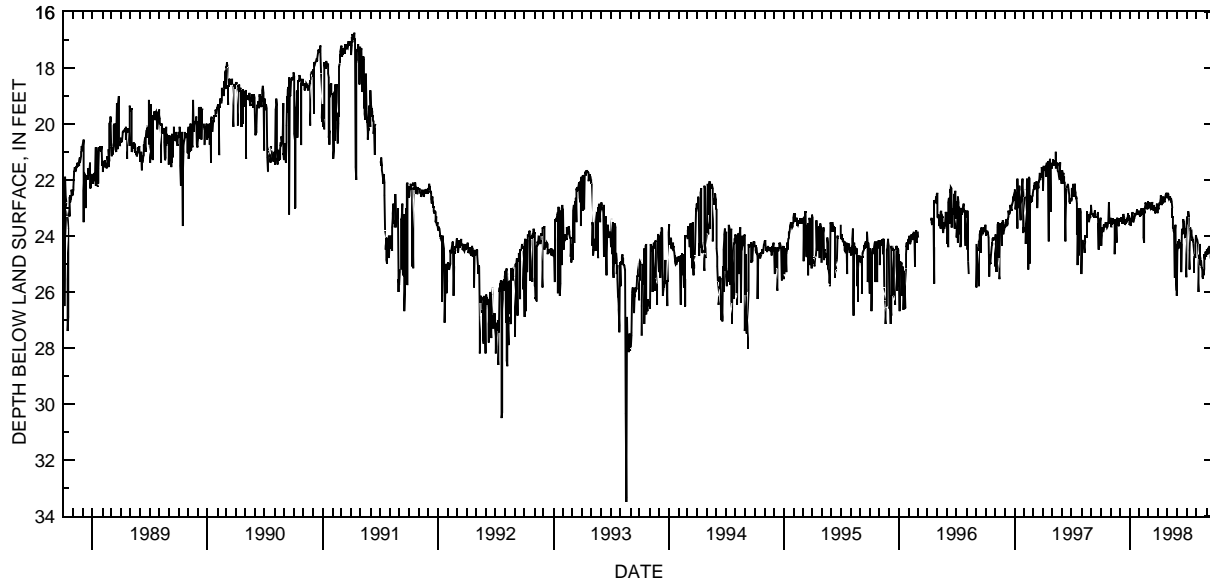
**GROUND-WATER RECORDS**  
**Wayne County**

**405745081510200. LOCAL NUMBER, WN-7**

LOCATION.--Lat 40°57'45", long 81°51'02", Hydrologic Unit 05040001, in well field along Steele Ditch near Sterling.  
 Owner: Rittman Water Department  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 123 ft, cased.  
 INSTRUMENTATION.--Type F continuous recorder.  
 DATUM.--Elevation of land-surface datum is 965 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.--April 1979 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 33.50 ft below land-surface datum, Aug. 19, 1993;  
 minimum daily low, 5.38 ft below land-surface datum, Jan. 17, 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	24.30	23.35	23.45	23.55	23.25	22.90	23.05	22.45	24.55	23.31	24.09	24.54
2	24.35	23.45	23.45	23.45	23.30	22.80	23.00	22.50	24.40	23.37	24.12	24.48
3	24.00	23.70	23.40	23.45	23.25	22.85	22.90	22.65	24.20	23.58	24.27	24.54
4	23.70	23.50	23.35	23.65	23.25	22.80	22.85	22.70	24.45	23.31	24.29	24.65
5	23.85	23.50	23.35	23.45	23.10	22.90	22.80	22.70	24.15	23.13	24.22	24.57
6	23.80	23.60	23.35	23.35	23.00	22.95	22.90	22.70	24.15	23.34	26.01	24.42
7	23.70	23.40	23.45	23.40	23.15	23.00	22.80	22.65	24.25	23.06	24.68	24.63
8	23.85	23.40	23.50	23.25	23.25	23.00	22.65	22.60	24.40	25.20	24.81	24.48
9	23.75	23.40	23.50	23.15	23.25	22.90	22.55	22.70	24.25	24.51	24.50	24.38
10	23.60	23.55	23.30	23.35	23.00	22.90	22.60	22.70	24.45	23.81	24.30	24.36
11	23.70	23.50	23.25	23.40	23.05	23.00	22.90	22.80	24.25	23.70	24.69	24.39
12	23.60	23.45	23.25	23.50	23.00	23.00	22.80	22.65	24.30	23.88	24.80	24.47
13	23.60	23.45	23.35	23.40	24.05	22.80	22.80	22.75	25.30	23.88	25.05	24.44
14	23.70	24.65	23.50	23.40	24.25	23.00	22.85	23.00	23.90	23.85	24.93	24.75
15	23.50	23.40	23.50	23.35	23.10	23.00	22.75	23.30	23.85	23.88	24.89	24.72
16	23.50	23.50	23.40	23.30	23.20	23.10	22.60	23.30	23.75	24.12	25.14	24.60
17	23.55	23.45	23.60	23.20	23.00	23.10	22.65	23.50	23.95	24.12	25.11	24.84
18	23.50	23.50	23.50	23.25	22.90	22.90	22.70	23.70	23.80	24.17	25.25	27.57
19	23.60	24.25	23.50	23.25	22.80	23.00	22.65	23.75	23.40	24.12	25.44	25.17
20	23.70	23.70	23.45	23.25	22.85	23.00	22.80	23.80	23.49	24.30	25.53	24.96
21	23.65	23.35	23.50	23.20	23.00	23.00	22.70	23.85	23.49	24.00	25.22	25.11
22	23.65	23.50	23.40	23.20	23.00	23.20	22.65	25.50	23.85	25.31	25.26	25.17
23	23.65	23.65	23.35	23.05	22.95	23.10	22.65	23.85	23.75	24.84	25.41	25.31
24	23.50	23.60	23.40	23.10	23.00	23.15	22.50	23.85	23.85	24.75	25.19	25.32
25	23.50	23.55	23.20	23.20	23.05	23.05	22.60	23.60	24.09	24.65	24.66	25.02
26	22.80	23.55	23.45	23.25	22.90	23.15	22.45	23.95	23.88	24.80	24.84	24.97
27	23.55	23.65	23.40	23.20	22.75	22.85	22.65	25.55	23.61	24.35	24.77	24.95
28	23.50	23.40	23.40	23.10	23.00	23.00	22.60	25.95	25.47	23.97	24.57	25.11
29	23.50	23.40	23.30	23.20	---	23.20	22.60	24.30	23.75	24.06	24.57	24.90
30	23.50	23.45	23.30	23.15	---	23.15	22.60	26.15	23.36	24.00	24.75	24.56
31	23.40	---	23.60	23.10	---	23.00	---	24.80	---	24.09	24.66	---
MAX	24.35	24.65	23.60	23.65	24.25	23.20	23.05	26.15	25.47	25.31	26.01	27.57
CAL YR 1997	LOW	25.35										
WTR YR 1998	LOW	27.57										



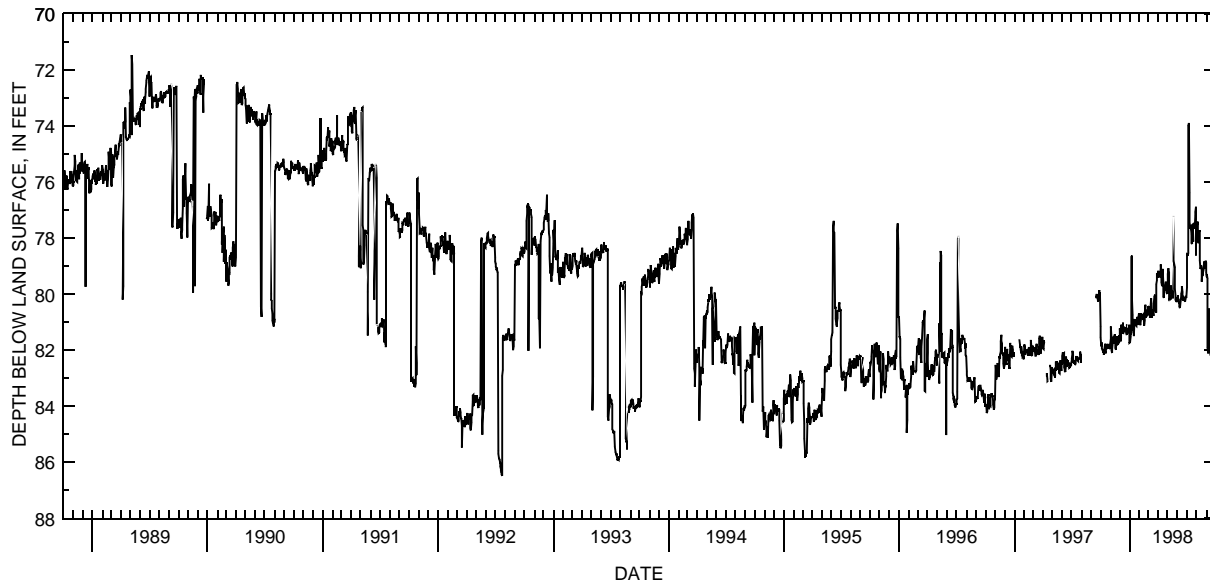
**GROUND-WATER RECORDS**  
**Wayne County**

**405805081462300. LOCAL NUMBER, WN-6**

LOCATION.--Lat 40°58'05", long 81°46'23", Hydrologic Unit 05040001, Salt Street, Rittman.  
 Owner: Tenneco, Inc.  
 AQUIFER.--Sand and gravel of Pleistocene Age.  
 WELL CHARACTERISTICS.--Drilled unused artesian well, diameter 8 in., depth 180 ft, cased.  
 INSTRUMENTATION.--Digital recorder--60-minute punch.  
 DATUM.--Elevation of land-surface datum is 960 ft above sea level, from topographic map.  
 Measuring point: Floor of instrument shelter 2.30 ft above land-surface datum.  
 REMARKS--Station operated by Ohio Department of Natural Resources, Division of Water.  
 PERIOD OF RECORD.--May 1971 to current year.  
 EXTREMES FOR PERIOD OF RECORD.--Maximum daily low, 92.80 ft below land-surface datum, July 21, 1971;  
 minimum daily low, 69.87 ft below land-surface datum, Apr. 22, 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	81.85	81.60	81.55	81.74	81.02	80.46	79.17	79.29	80.17	78.57	77.58	79.40
2	81.87	81.16	81.69	81.53	81.07	80.47	79.35	79.08	80.03	78.59	77.51	79.29
3	81.73	81.54	81.57	81.38	81.11	80.45	79.35	79.15	80.16	78.63	77.42	79.45
4	81.82	81.97	81.10	81.43	80.94	80.61	79.37	79.21	80.17	78.54	78.11	81.92
5	81.93	82.09	81.17	81.37	80.68	80.84	79.41	80.15	80.25	73.99	77.77	82.13
6	81.98	81.99	81.17	78.66	80.80	80.84	79.31	80.20	80.34	73.88	78.18	81.40
7	82.04	81.74	81.37	78.61	80.78	80.61	79.26	80.17	80.42	74.14	78.15	81.39
8	82.10	81.58	81.40	80.16	80.78	80.44	79.08	80.04	80.49	76.38	77.75	81.42
9	82.01	81.55	81.18	80.75	80.86	80.16	78.94	80.20	80.49	77.46	77.75	80.52
10	82.15	81.64	81.03	81.19	80.90	80.75	79.42	80.17	80.26	77.57	78.50	80.61
11	82.16	81.73	81.29	81.27	80.75	80.84	79.57	79.69	80.26	77.63	78.81	80.63
12	81.95	81.75	81.35	81.24	80.72	80.83	79.72	79.83	80.05	77.66	79.11	82.07
13	81.78	81.75	81.23	81.48	80.84	80.70	79.60	79.92	79.99	77.60	79.11	82.20
14	81.99	81.43	81.34	81.49	81.05	80.53	79.10	79.88	79.89	77.87	79.01	82.27
15	82.11	81.55	81.31	80.92	81.13	80.73	79.09	80.05	79.71	78.16	78.97	82.27
16	82.08	81.91	81.28	80.92	80.95	80.77	79.59	80.08	79.92	78.22	79.07	82.01
17	81.98	81.98	81.21	80.92	80.68	80.61	80.08	80.15	80.18	78.08	79.56	82.03
18	81.85	81.87	81.23	80.93	80.38	80.34	80.14	75.65	80.22	77.55	79.17	81.99
19	81.79	81.66	81.23	80.95	80.55	80.10	79.91	77.23	80.08	77.53	79.26	81.86
20	81.88	81.65	81.36	81.11	80.56	80.08	79.87	78.80	80.11	78.12	79.28	82.05
21	81.85	81.53	81.45	81.13	80.78	80.01	79.83	78.93	80.14	77.59	79.22	82.08
22	81.87	81.49	81.20	81.03	80.85	80.15	79.77	79.04	80.21	77.60	79.11	82.24
23	81.86	81.55	81.11	80.83	80.64	80.35	79.70	79.04	80.19	77.48	79.03	82.40
24	81.78	81.81	81.10	80.85	80.59	80.62	79.56	79.81	80.26	77.62	78.83	82.33
25	81.91	81.77	79.52	81.04	80.78	80.65	79.69	80.04	80.25	77.67	78.83	82.24
26	81.89	81.49	81.39	81.09	80.75	79.64	79.68	80.19	80.13	77.20	78.94	82.26
27	81.80	81.73	81.34	81.03	80.46	79.52	79.93	80.22	80.07	77.06	79.07	82.14
28	81.95	81.51	81.37	80.84	80.52	79.27	79.99	80.27	80.14	76.89	78.97	82.25
29	81.90	81.49	81.14	80.67	---	79.43	79.81	80.21	80.10	78.61	78.80	82.26
30	81.96	81.23	81.09	80.90	---	79.29	79.65	80.29	79.76	77.64	78.88	82.13
31	81.79	---	81.75	81.02	---	79.20	---	80.12	---	77.49	79.24	---
MAX	82.16	82.09	81.75	81.74	81.13	80.84	80.14	80.29	80.49	78.63	79.56	82.40
CAL YR 1997	LOW	83.13										
WTR YR 1998	LOW	82.40										



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## CONVERSION FACTORS AND VERTICAL DATUM

Multiply	By	To obtain
<i>Length</i>		
inch (in.)	$2.54 \times 10^1$ $2.54 \times 10^{-2}$	millimeter meter
foot (ft)	$3.048 \times 10^{-1}$	meter
mile (mi)	$1.609 \times 10^0$	kilometer
<i>Area</i>		
acre	$4.047 \times 10^3$ $4.047 \times 10^{-1}$	square meter square hectometer
square mile (mi <sup>2</sup> )	$4.047 \times 10^{-3}$ $2.590 \times 10^0$	square kilometer square kilometer
<i>Volume</i>		
gallon (gal)	$3.785 \times 10^0$ $3.785 \times 10^0$ $3.785 \times 10^{-3}$	liter cubic decimeter cubic meter
million gallons (Mgal)	$3.785 \times 10^3$ $3.785 \times 10^{-3}$	cubic meter cubic hectometer
cubic foot (ft <sup>3</sup> )	$2.832 \times 10^1$ $2.832 \times 10^{-2}$	cubic decimeter cubic meter
cubic-foot-per-second day [(ft <sup>3</sup> /s) d]	$2.447 \times 10^3$ $2.447 \times 10^{-3}$	cubic meter cubic meter
acre-foot (acre-ft)	$1.233 \times 10^3$ $1.233 \times 10^{-3}$ $1.233 \times 10^{-6}$	cubic hectometer cubic meter cubic hectometer cubic kilometer
<i>Flow</i>		
cubic foot per second (ft <sup>3</sup> /s)	$2.832 \times 10^1$ $2.832 \times 10^1$ $2.832 \times 10^{-2}$	liter per second cubic decimeter per second cubic meter per second
gallon per minute (gal/min)	$6.309 \times 10^{-2}$ $6.309 \times 10^{-2}$ $6.309 \times 10^{-5}$	liter per second cubic decimeter per second cubic meter per second
million gallons per day (Mgal/d)	$4.381 \times 10^1$ $4.381 \times 10^{-2}$	cubic decimeter per second cubic meter per second
<i>Mass</i>		
ton (short)	$9.072 \times 10^{-1}$	megagram or metric ton

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

## CALENDAR FOR WATER YEAR 1998

1997

OCTOBER							NOVEMBER							DECEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
			1	2	3	4							1		1	2	3	4	5	6
5	6	7	8	9	10	11	2	3	4	5	6	7	8	7	8	9	10	11	12	13
12	13	14	15	16	17	18	9	10	11	12	13	14	15	14	15	16	17	18	19	20
19	20	21	22	23	24	25	16	17	18	19	20	21	22	21	22	23	24	25	26	27
26	27	28	29	30	31		23	24	25	26	27	28	29	28	29	30	31			
							30													

1998

JANUARY							FEBRUARY							MARCH						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
				1	2	3	1	2	3	4	5	6	7	1	2	3	4	5	6	7
4	5	6	7	8	9	10	8	9	10	11	12	13	14	8	9	10	11	12	13	14
11	12	13	14	15	16	17	15	16	17	18	19	20	21	15	16	17	18	19	20	21
18	19	20	21	22	23	24	22	23	24	25	26	27	28	22	23	24	25	26	27	28
25	26	27	28	29	30	31								29	30	31				

APRIL							MAY							JUNE						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
			1	2	3	4						1	2		1	2	3	4	5	6
5	6	7	8	9	10	11	3	4	5	6	7	8	9	7	8	9	10	11	12	13
12	13	14	15	16	17	18	10	11	12	13	14	15	16	14	15	16	17	18	19	20
19	20	21	22	23	24	25	17	18	19	20	21	22	23	21	22	23	24	25	26	27
26	27	28	29	30			24	25	26	27	28	29	30	28	29	30				
							31													

JULY							AUGUST							SEPTEMBER						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
			1	2	3	4						1			1	2	3	4	5	
5	6	7	8	9	10	11	2	3	4	5	6	7	8	6	7	8	9	10	11	12
12	13	14	15	16	17	18	9	10	11	12	13	14	15	13	14	15	16	17	18	19
19	20	21	22	23	24	25	16	17	18	19	20	21	22	20	21	22	23	24	25	26
26	27	28	29	30	31		23	24	25	26	27	28	29	27	28	29	30			
							30	31												