

Prepared in cooperation with the State of Ohio and other agencies

Water Resources Data Ohio Water Year 2003

Volume 1
Ohio River Basin Excluding Project Data



Water-Data Report OH-03-1

CALENDAR FOR WATER YEAR 2003

2002

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	5						1	2	1	2	3	4	5	7	7
6	7	8	9	10	11	12	3	4	5	6	7	8	9	8	9	10	11	12	13	14
13	14	15	16	17	18	19	10	11	12	13	14	15	16	15	16	17	18	19	20	21
20	21	22	23	24	25	26	17	18	19	20	21	22	23	22	23	24	25	26	27	28
27	28	29	30	31			24	25	26	27	28	29	30	29	30	31				

2003

JANUARY							FEBRUARY							MARCH						
S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S
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26	27	28	29	30	31		23	24	25	26	27	28		23	24	25	26	27	28	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	3	1	2	3	4	5	6	7
6	7	8	9	10	11	12	4	5	6	7	8	9	10	8	9	10	11	12	13	14	
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20	21	22	23	24	25	26	18	19	20	21	22	23	24	22	23	24	25	26	27	28	
27	28	29	30				25	26	27	28	29	30	31	29	30						

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	2		1	2	3	4	5	6
6	7	8	9	10	11	12	3	4	5	6	7	8	9	7	8	9	10	11	12	13
13	14	15	16	17	18	19	10	11	12	13	14	15	16	14	15	16	17	18	19	20
20	21	22	23	24	25	26	17	18	19	20	21	22	23	21	22	23	24	25	26	27
27	28	29	30	31			24	25	26	27	28	29	30	28	29	30				

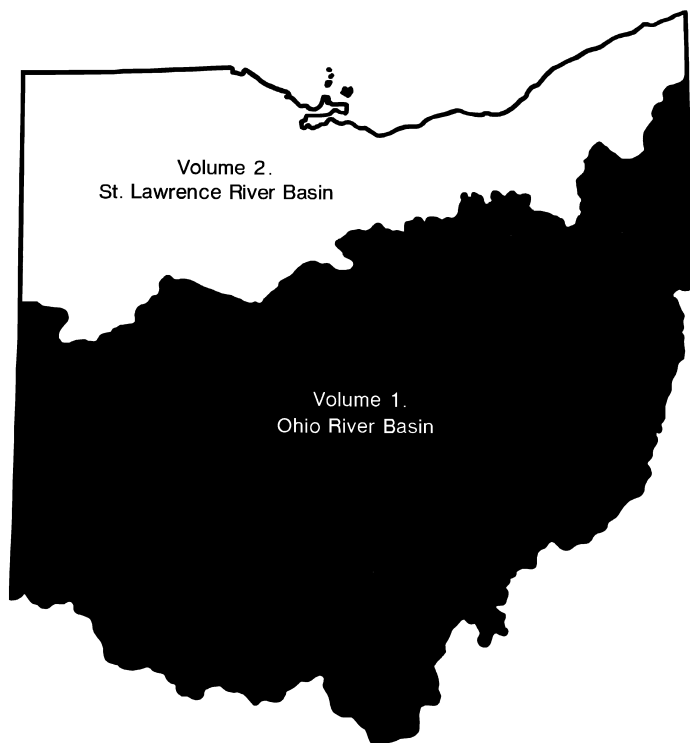
31

Water Resources Data Ohio Water Year 2003

Volume 1. Ohio River Basin Excluding Project Data

By H.L. Shindel, J.P. Mangus, and S.R. Frum

Water-Data Report OH-03-1



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

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



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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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13. ABSTRACT (Maximum 200 words) Water-resources data for the 2003 water year for Ohio consist of records of stage, discharge, and water quality of streams; stage and contents of lakes and reservoirs; and water levels and water quality of ground-water wells. This report, in two volumes, contains records for water discharge at 138 gaging stations and various partial-record sites; water levels at 217 observation wells and 35 crest-stage gages; and water quality at 30 gaging stations, 34 observation wells, and no partial-record sites. Also included are data from miscellaneous and synoptic sites. Additional water data were collected at various sites not involved in the systematic data-collection program and are published as miscellaneous measurements and analyses. These data represent that part of the National Water Information System collected by the U.S. Geological Survey and cooperating Federal, State, and local agencies in Ohio.			
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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, (S) daily suspended-sediment data]

	Station Number	Page
<u>OHIO RIVER BASIN</u>		
BEAVER RIVER BASIN		
Mahoning River at Pricetown (d)	03091500	50
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Schocalog Run at Copley Junction (d)	03115973	61
Chippewa Creek at Miller Road at Sterling (d)	03116077	62
Tuscarawas River at Massillon (d)	03117000	63
Sandy Creek at Waynesburg (d)	03117500	64
Nimishillen Creek (head of Sandy Creek):		
Middle Branch Nimishillen Creek at Canton (d)	03118000	65
Nimishillen Creek at North Industry (d)	03118500	66
Conotton Creek (head of Tuscarawas River):		
Huff Run at Mineral City (dM)	03121850	67
Sugar Creek at Strasburg (d)	03124500	75
Tuscarawas River at Newcomerstown (d)	03129000	76
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Kokosing River near Lucerne (d)	03136175	77
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Killbuck Creek at Killbuck (d)	03139000	79
Mill Creek near Coshocton (d)	03140000	80
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Leatherwood Creek near Kipling (d)	03141870	82
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Monday Creek at Doanville (dM)	03158200	91
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Big Darby Creek:		
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Loramie Creek near Newport (d)	03261950	179
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Twin Creek near Germantown (d)	03272000	223
Great Miami River at Middletown (d)	03272100	224
Sevenmile Creek at Camden (d)	03272700	225
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GROUND-WATER STATIONS FOR WHICH RECORDS ARE PUBLISHED

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

	Well Number	Local Number	Page
ASHLAND COUNTY			
Northeast of Ashland (l)	405303082170700	AS-2.....	237
Ashland (l)	405425082173000	AS-3.....	238
ATHENS COUNTY			
Athens (l)	392004082071600	AT-2A	239
Athens (l)	392009082072200	AT-5	240
Nelsonville (l)	392630082130400	AT-6	241
AUGLAIZE COUNTY			
Southwest of New Hampshire (l)	403233083574500	AU-3	242
BELMONT COUNTY			
Mount Olivett (l)	400118081082200	B-3	243
BROWN COUNTY			
Fincastle (l)	385932083412400	BR-20.....	244
BUTLER COUNTY			
East of Ross (l)	391904084371800	BU-12	245
Fairfield (l)	391942084345700	BU-18	246
Fairfield (l)	392017084345200	BU-7	247
East of Hamilton (l)	392048084311400	BU-8	248
Southwest of Trenton (l)	392737084291300	BU-16	249
Southwest of Trenton (l)	392743084295500	BU-17	250
Middletown (l)	392939084231700	BU-3	251
Middletown (l)	393103084240900	BU-2	252
Middletown (l)	393202084241500	BU-15	253
CARROLL COUNTY			
North of Carrollton (l)	403709081052800	C-1	254
CHAMPAIGN COUNTY			
Urbana (l)	400638083453900	CH-3	255
CLARK COUNTY			
New Carlisle (l)	395639084012200	CL-9.....	256
Northwest of Springfield (l)	395840083495200	CL-7.....	257
COSHOCTON COUNTY			
North of Conesville (l)	401256081525100	CS-3.....	258
Coshocton (l)	401734081523800	CS-2A	259
Coshocton (l)	401735081523800	CS-2.....	260
DARKE COUNTY			
East of Greenville (l)	400514084345700	D-2.....	261
DELAWARE COUNTY			
Delaware (l)	402126083040400	DL-3.....	262
FAIRFIELD COUNTY			
Southeast of Amanda (l)	393450082403600	F-7.....	263
Lancaster (l)	393913082330900	F-8.....	264
Lancaster (l)	394257082362900	F-6.....	265
West Rushville (l)	394544082271000	F-1.....	266
Baltimore (l)	395053082361900	F-5.....	267
FAYETTE COUNTY			
West of Washington Court House (l)	393153083322000	FA-1.....	268

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FRANKLIN COUNTY			
Shadeville (1)	394956083002700	FR-18	269
Shadeville (1)	395055083000600	FR-19	270
Columbus (1)	400101083021800	FR-10	271
GALLIA COUNTY			
East of Crown City (1)	383638082103300	G-2	272
GREENE COUNTY			
Trebein (1)	394217083594100	GR-12	273
North of Xenia (1)	394411083561300	GR-1	274
North of Xenia (1)	394425083551100	GR-10	275
HAMILTON COUNTY			
Cincinnati (1)	391039084291500	H-11	276
Southeast of Miami (1)	391101084172100	H-3	277
Cincinnati (1)	391201084281600	H-10	278
Southeast of Harrison (1)	391214084470100	H-1	279
Wyoming (1)	391341084275300	H-8	280
Evendale (1)	391442084262900	H-7	281
Glendale (1)	391608084254400	H-6	282
South of Ross (1)	391733084392400	H-2	283
Southwest of Ross (1)	391817084393300	H-4	284
HARDIN COUNTY			
Alger (1)	404218083503700	HN-1	285
HOCKING COUNTY			
Logan (1)	393200082235300	HK-1	286
KNOX COUNTY			
Mt. Vernon (1)	402344082300700	K-1	287
Fredericktown (1)	402747082374300	K-4	288
Bellville (1)	403136082363100	K-5	289
LICKING COUNTY			
Reynoldsburg (1)	395717082454200	LI-5	290
North of Hebron (1)	395830082291700	LI-6	291
St. Louisville (1)	400848082251100	LI-4	292
LOGAN COUNTY			
West Liberty (1)	401510083444400	LO-3	293
MADISON COUNTY			
London (1)	395301083272200	M-2	294
London (1)	395352083292000	M-5A	295
Northwest of London (1)	395352083292100	M-5	296
Northwest of London (1)	395357083304400	M-4	297
North of London (1)	395740083255700	M-3	298
MAHONING COUNTY			
Canfield (1)	410042080453800	MA-1	299
MARION COUNTY			
Southeast of New Bloomington (1)	403413083170500	MN-4	300
LaRue (1)	403443083230400	MN-1	301
West of Marion (1)	403601083110400	MN-2	302

	Well Number	Local Number	Page
MEDINA COUNTY			
Wadsworth (1)	410032081422900	MD-5.....	303
Wadsworth (1)	410120081431800	MD-3.....	304
MERCER COUNTY			
Coldwater (1)	402833084375200	MR-2.....	305
MIAMI COUNTY			
Northeast of Tipp City (1)	395848084085500	MI-3	306
MONTGOMERY COUNTY			
West Carrollton (1)	394012084151700	MT-55	307
West Carrollton (1).....	394025084162800	MT-49	308
Dayton (1)	394425084113200	MT-3	309
Dayton (1)	394533084113800	MT-6	310
Dayton (1)	394811084095000	MT-74	311
MUSKINGUM COUNTY			
Zanesville (1)	395804081593200	MU-1A.....	312
PICKAWAY COUNTY			
South of Circleville (1)	393327082571600	PK-7	313
South of Circleville (1)	393402082572500	PK-4.....	314
Circleville (1)	393637082572200	PK-6A	315
Northwest of Circleville (1)	393638082572300	PK-6.....	316
North of Circleville (1)	394503082583800	PK-10.....	317
North of Circleville (1)	394503082583801	PK-11	318
Orient (1)	394742083094800	PK-9.....	319
PIKE COUNTY			
West of Piketon (1)	390359083015100	PI-2.....	320
PORTAGE COUNTY			
Windham (1)	411401081025000	PO-1.....	321
PREBLE COUNTY			
East of Eaton (1)	394438084335900	PR-2	322
RICHLAND COUNTY			
Mansfield (1)	404625082305100	R-4	323
Shiloh (1)	405753082360800	R-3	324
ROSS COUNTY			
West of Bainbridge (1)	391341083172200	RO-7.....	325
South of Bournesville (1)	391544083095700	RO-6.....	326
SHELBY COUNTY			
Sidney (1)	401707084103100	SH-5.....	327
STARK COUNTY			
Canton (1)	404939081203800	ST-5A.....	328
North Canton (1)	405211081253500	ST-27.....	329
TUSCARAWAS COUNTY			
Dover (1)	403207081293800	TU-3.....	330
trasburg (1)	403557081313600	TU-4.....	331
North of Strasburg (1)	403653081321800	TU-1.....	332
Strasburg (1)	403823081324200	TU-5.....	333
UNION COUNTY			
Southeast of Raymond (1)	401826083255200	U-4	334
East of East Liberty (1)	402010083321900	U-5	335

	Well Number	Local Number	Page
VINTON COUNTY			
McArthur (1)	391452082282900	V-1	336
North of McArthur (1)	392016082272400	V-100	337
WARREN COUNTY			
Kings Mill (1)	392119084142000	W-6	338
East of Monroe (1)	392712084191700	W-5	339
WASHINGTON COUNTY			
North of Marietta (1)	392553081281600	WA-2.....	340
WAYNE COUNTY			
Wooster (1)	404655081553100	WN-8	341
Wooster (1)	404655081553200	WN-3	342
Wooster (1)	404802081583100	WN-2A	343
Sterling (1)	405745081510200	WN-7	344
Rittman (1)	405805081462300	WN-6	345



Figure 1a. Location of data-collection stations.

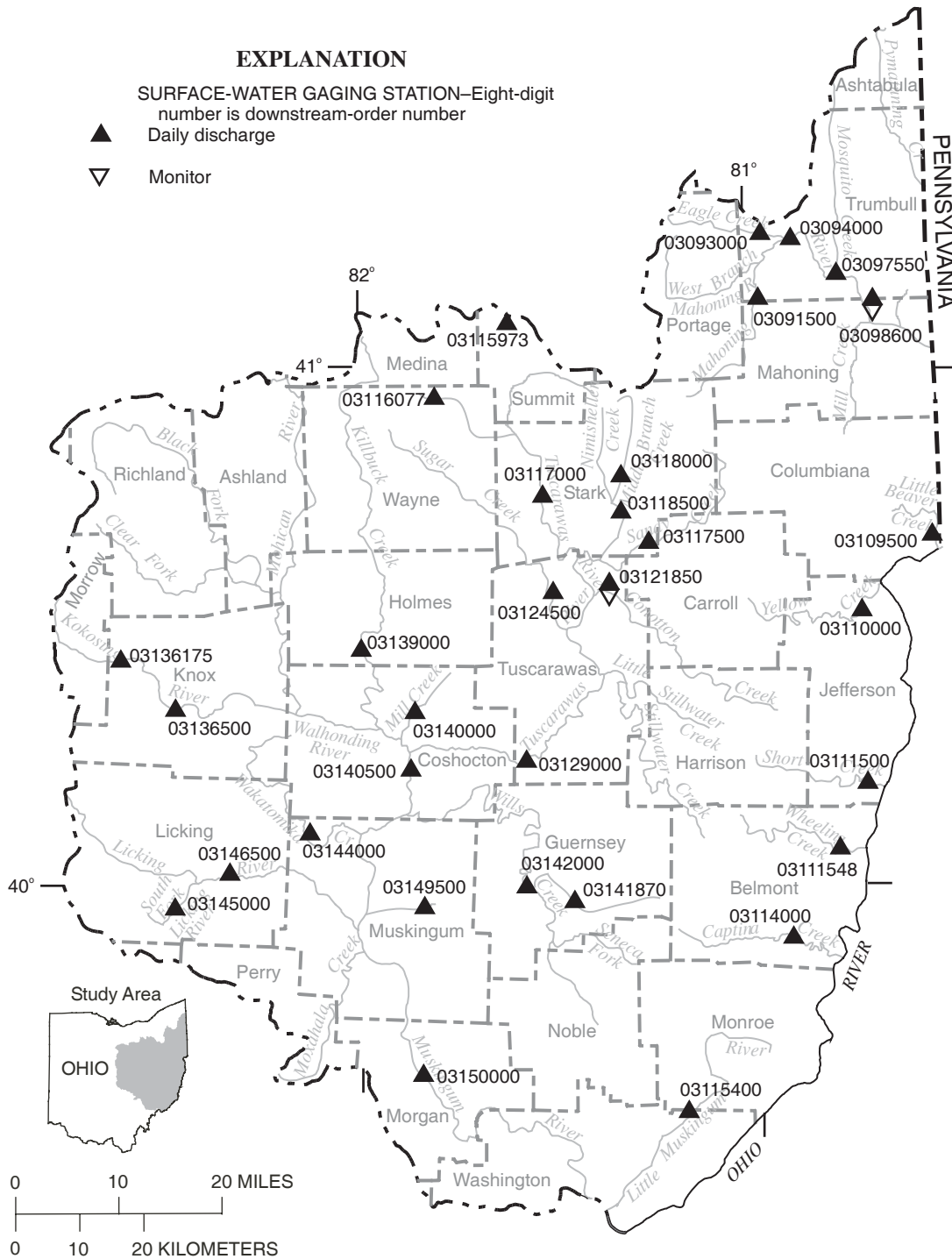


Figure 1b. Location of data-collection stations.

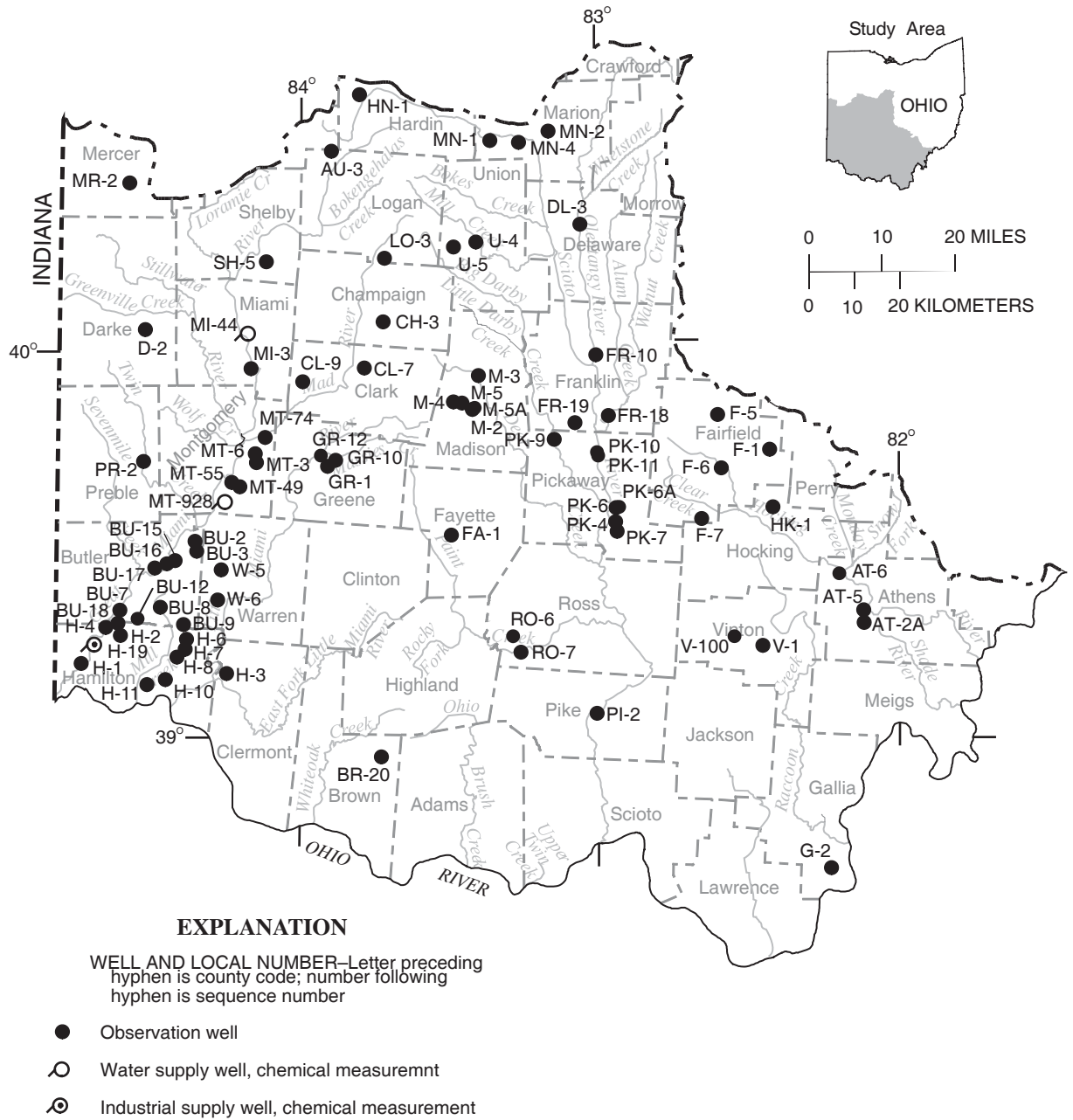


Figure 1c. Location of data-collection wells.

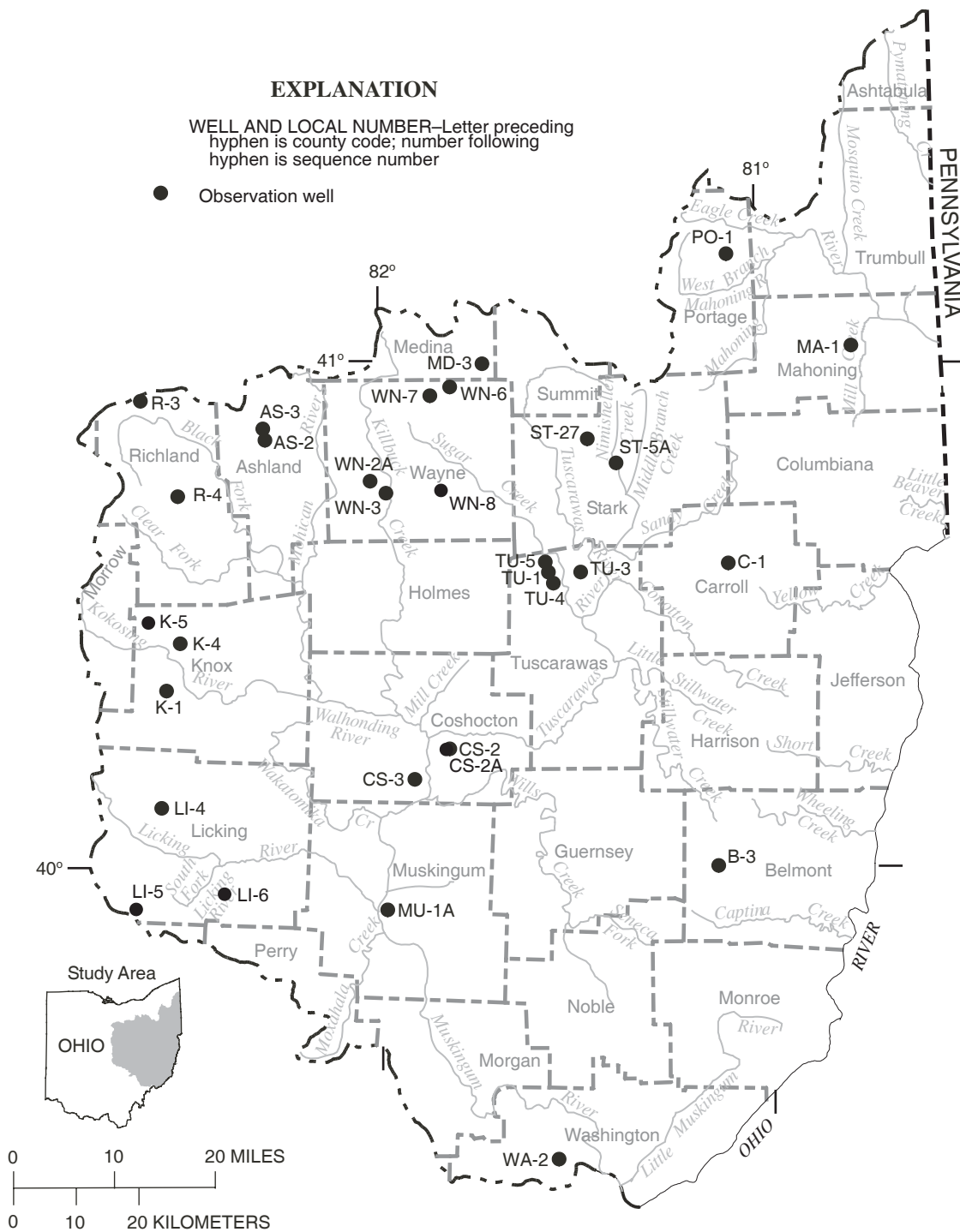


Figure 1d. Location of data-collection wells.

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.

[mi², square miles]

Station name	Station number	Drainage area (mi ²)	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	1931-91
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	1969-91
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 Mosquitto Creek Dam near Cortland	03095500	97.5	1926-29 1943-91
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 1999-2000
Mahoning River at Lowellville	03099500	1073	1944-72 1974-1991 1999-2000
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
Montrose Run at Montrose	03115969	0.263	1993-98
Schocalog Run at Montrose	03115970	1.59	1994-98
Schocalog Run at Fairlawn	03115971	2.13	1992-98
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

Discontinued Surface-Water-Discharge Stations—Continued

[mi², square miles]

Station name	Station number	Drainage area (mi ²)	Period of record
McGuire Creek below Leesville Dam near Leesville	03120500*	48.3	1939-91 1992
Indian Fork below Atwood Dam near New Cumberland	03121500	70	1961-75
Tuscarawas River below Dover Dam near Dover	03122500*	1,045	1924-91
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	1939-91
Stillwater Creek at Tippecanoe	03127000*	282	1939-91
Stillwater Creek at Urichsville	03127500*	367	1922-91
Clear Fork Tributary near Hanover	03127970	.68	1978-81
Little Stillwater Creek below Tappan Dam at Tappan	03128500*	71.1	1939-91
Black Fork below Charles Mills Dam near Mifflin	03130000*	217	1939-91
Touby Run at Mansfield	03130500	5.44	1947-78
Rocky Fork near Mansfield	03131000	39	1925-32
Black Fork at Loudonville	03131500*	349	1931-91
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	1939-91
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	1922-91
Killbuck Creek at Layland	03139500	503	1924-30
Seneca Fork below Senecaville Dam near Senecaville	03141500*	118	1938-91
Salt Fork near Cambridge	03142200	55.6	1956-68
Salt Fork below Salt Fork Dam near Cambridge	03142295	159	1971-79
Wills Creek at Birds Run	03142500	730	1928-39
Wills Creek below Wills Creek Dam at Wills Creek	03143500*	842	1939-91
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
Meigs Creek near Beverly	03150250	136	1972-75
Muskingum River at Beverly	03150300	7,627	1993-99
Hunters Run at Lancaster	03156000	10.0	1956-80

Discontinued Surface-Water-Discharge Stations—Continued

[mi², square miles]

Station name	Station number	Drainage area (mi ²)	Period of record
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
Snow Fork Monday Creek at Buchtel	03158195	24.4	1981 1997-2002
Sunday Creek at Glouster	03159000	104	1952-81
Hocking River below Athens	03159510	957	1977-93
East Branch Shade River near Tappers Plains	03159555	37.5	1980-82 1983-85
Sandy Run 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
Strong's Run near Ewington	03201947	15.8	1988-91
Symmes 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
Olentangy River at Clairdon	03223000	157	1947-98
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
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 Columbus	03229000	189	1923-35 1938-98
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

Discontinued Surface-Water-Discharge Stations—Continued

[mi², square miles]

Station name	Station number	Drainage area (mi ²)	Period of record
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
Paint Creek at Bourneville	03234000*	807	1921-37 1938-98
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
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 near Williamsburg	03246500	237	1949-53 1961-74 1999-2000
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	1939-91
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 Carthage	03259000	115	1946-2002
Mill Creek at Mitchell Avenue at Cincinnati	03259500	135	1941-44 1990
Stony Creek near DeGraff	03260800	59.1	1958-76

Discontinued Surface-Water-Discharge Stations—Continued

[mi², square miles]

Station name	Station number	Drainage area (mi ²)	Period of record
Bokengehalas Creek near DeGraff	03260700	36.3	1957-92
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
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
Great Miami River at Miamisburg	03271500*	2,711	1916-20 1924-35 1952-95
Twin Creek near Ingomar	03271800	197	1962-99
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. 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.

[mi², square miles; letters designate type of record: do, dissolved oxygen; pH, pH; s, sediment; sc, specific conductance; t, temperature]

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record
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	1966-80
			pH	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

[mi², square miles; letters designate type of record: do, dissolved oxygen; pH, pH; s, sediment; sc, specific conductance; t, temperature]

Station name	Station number	Drainage area (mi ²)	Type of record	Period of record
Scioto River below Shadeville	03229600	2,266	do, sc, t pH	1965-80 1971-80
Little Darby Creek at West Jefferson	03230310	162	s	1992-98
Big Darby Creek at Darbyville	03230500	534	s	1965-77 1992-98
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 sc	1956-74 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 s	1975-84 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 do, sc, t pH	1966 1968-82 1975-82
Great Miami River at Elizabethtown	03276600	5,356	t sc	1956-74 1964-74

INTRODUCTION

The Water Resources Discipline 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 (located after "contents"). The data in this report represent that part of the National Water Information 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 or 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-03-1." For archiving and general distribution, the reports for 1971-74 water years are also identified as water-data reports. These water-data reports can be purchased in paper copy or in microfiche from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161.

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

Additional information for specific reports 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, Columbus (Water Division and Sewerage and Drainage Division), Fremont,

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Oregon, Toledo, and Westerville
Counties of Clermont, Geauga, Knox, Lake, Lucas, Lorain, Madison, Ross, and Summit
Eastgate Development and Transportation Agency
Hamilton and New Baltimore Groundwater Consortium
Miami Conservancy District
Natural Resources Conservation Service
Northeast Ohio Regional Sewer District
Ohio Departments of Health, Natural Resources (Mineral Resources Management and Water Divisions)
and Transportation
Ohio Water Development Authority
Ottawa Soil and Water District
State of Ohio Adjutant General's Department
Toledo Metropolitan Area Council of Governments
Villages of Chagrin Falls, North Olmstead, and South Russell
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)

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 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.

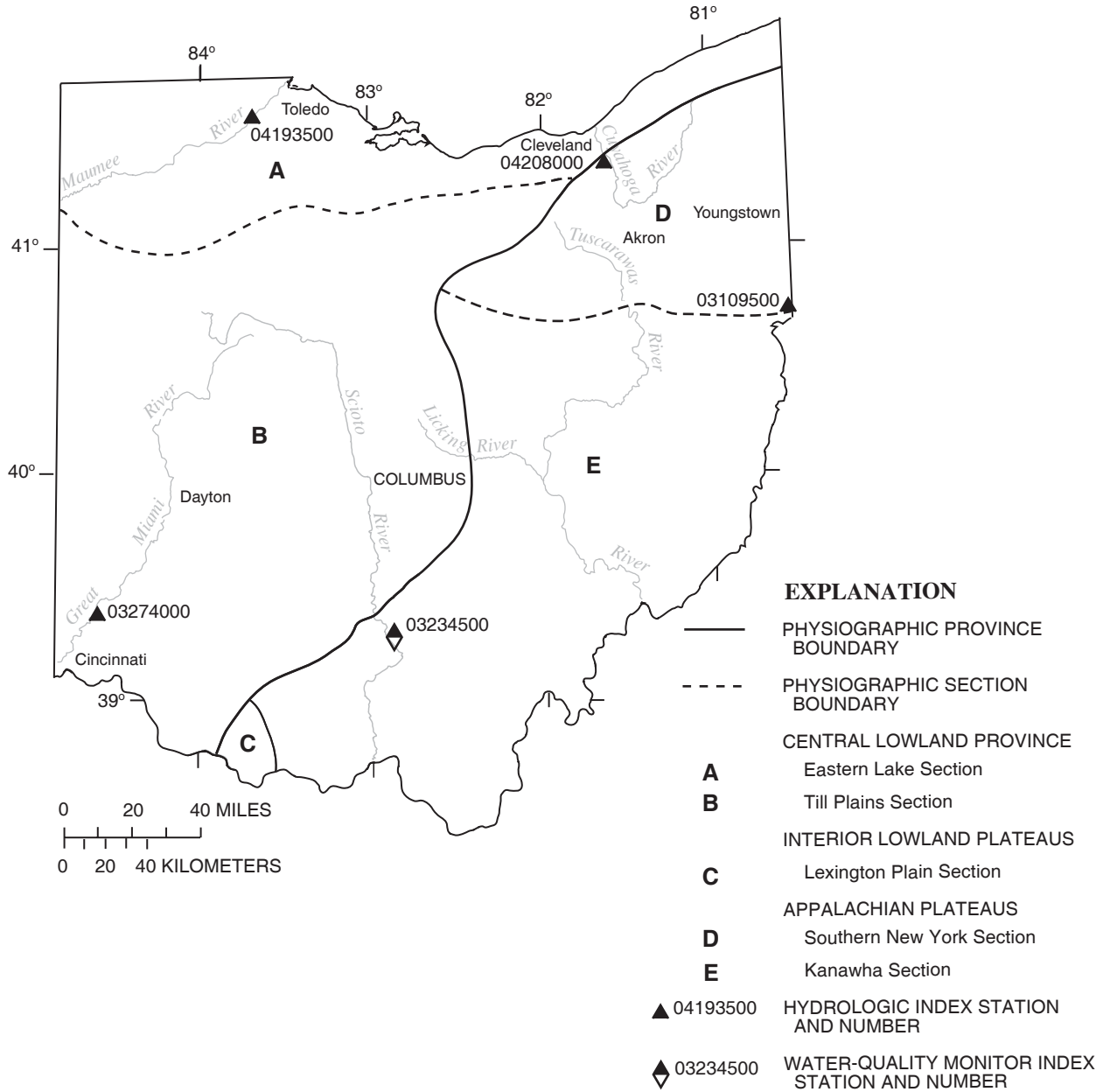


Figure 2. Physiographic divisions and location of hydrologic index stations.

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 less than four to more than 6,330 square miles and represent a wide diversity of topography and other physical characteristics. Streamflow ranges from unregulated to highly regulated.

Statewide Streamflow, Water Year 2003. Streamflow conditions during water year 2003 were as follows:

October. At the beginning of water year 2003, streamflow was in the normal* to below-normal range in southern Ohio and below normal in northern Ohio

November-December. Streamflow was generally in the normal range in the southern part of Ohio and below normal in northern Ohio throughout the period.

January-February. Normal to below-normal streamflow prevailed throughout the State in response to near-normal precipitation.

March. Runoff from snowmelt caused streamflow to rise into the above-normal range in southwest Ohio and into the normal range for the remainder of the State.

April. Streamflow declined into the deficient range in southern Ohio in response to below-normal precipitation. Flows remained normal in the northern part of the State.

May-June. Excessive flows prevailed statewide in May due to above-normal precipitation. Flows declined into the normal range by the end of the period except in southwest Ohio, where they remained above normal.

July-September. Well above normal precipitation produced excessive flows throughout Ohio for the remainder of the water year. Record daily and monthly flows were established at several gages during the period. At the close of water year 2003, streamflow was above normal statewide.

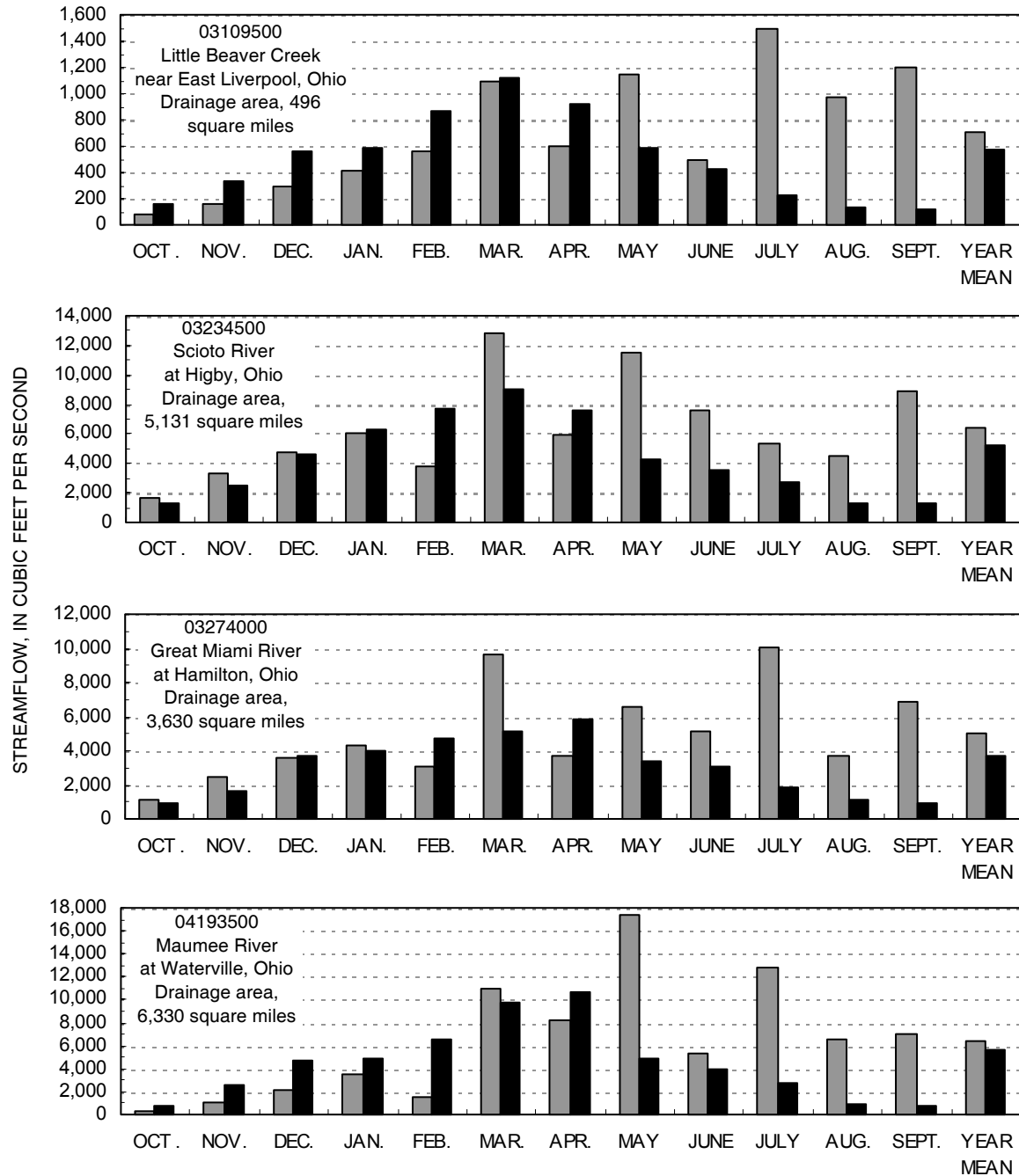
A comparison of streamflows for 2003 with long-term median flows at four representative stations is shown in figure 3.

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. 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. Sampling began in 1999 at some sites as part of the Great Miami and Little Miami River Basins (MIAM) study unit. In 2001, watersheds in the MIAM study unit were combined with those in the White River Basin study unit in Indiana to form the White and Great and Little Miami River Basins study unit (WHMI). During 2003, the LERI NAWQA was in its low-intensity data-collection phase; water-quality data were collected at five fixed stations eight times per year. During 2003, the WHMI was in its high-intensity data-collection phase and collected water-quality data 18 times per year at two fixed sites in Ohio. Samples at NAWQA sites are collected over a range of streamflows and are analyzed for major anions and cations, nutrients, pesticides, suspended sediment, and selected physical properties.

Several continuous years of water-quality data collected as part of the NAWQA program for two sites are shown in figures 4 and 5—the Maumee River at Waterville and the Mad River at St. Paris Pike at Eagle City.

* For streamflow, “normal” is defined as being between the 25th and 75th percentiles as measured during the base period, water years 1971-2000.



EXPLANATION

- MONTHLY AND YEARLY MEAN STREAMFLOW FOR WATER YEAR 2003
- MEDIAN OF MONTHLY AND YEARLY MEAN STREAMFLOW FOR PERIOD OF 1971-2000

Figure 3. Streamflow during water year 2003 compared with median streamflow for period 1971-2000 for four representative gaging stations.

Streamflows and concentrations of selected constituents measured during the previous 7-year period (1996 to 2002) for the Maumee River and previous 4-year period (1999 to 2002) for the Mad River are shown in boxplots. Results of analysis of samples collected in water year 2003 are superimposed on the box plots and are represented by dark circles.

The values for streamflow measured at the time of water-quality sampling during 2003 were similar to those found during the previous 7-year period for the Maumee River but not for the Mad River. For the Maumee River in 2003, three out of eight samples were collected at low flow (below the 25th percentile for the previous 7-year period), two at a moderate flow (between the 25th and 75th percentile), and three at high flow (above the 75th percentile). For the Mad River, samples collected during 2003 were collected during higher streamflows than for the previous 4-year period; no samples were collected at low flow, 12 were collected at medium flow, and 6 were collected at high flow.

At both sites, chloride concentrations (commonly associated with municipal or industrial point sources of wastewater) were in the same range in 2003 as concentrations measured during the previous periods. For the Maumee River, chloride concentrations determined in eight samples collected during 2003 ranged from 10 to 96 milligrams per liter (mg/L), with a median of 42 mg/L. For the Mad River, concentrations determined in 11 samples collected during 2003 were lower than in the Maumee, ranging from 11 to 29 mg/L, with a median of 21 mg/L.

Out of the 26 samples collected for nitrate plus nitrite during 2003 at these two sites, none exceeded the U.S. Environmental Protection Agency Maximum Contaminant Level for finished drinking water (10 mg/L, as N). In Ohio, fertilizers are a major source of nitrate. Concentrations in the Maumee River in 2003 were in the same range as those found during the previous 7-year period. Similarly, in the Mad River, nitrate plus nitrite concentrations during 2003 were in the same range as those found during the previous 4 years, except that no outside values above the 95th percentile were found during 2003.

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 2003, median concentrations of total phosphorus were 0.129 mg/L for the Maumee River and 0.053 mg/L for the Mad River. Phosphorus concentrations are affected by streamflow. For 2003 in the Mad River, 11 out of 18 samples were above the median phosphorus concentration for the previous 4-year period (0.05 mg/L), probably the result of higher streamflows during 2003.

The Maumee and Mad Rivers are in areas of heavy herbicide use. Not surprisingly, atrazine was detected in 100 percent of the water samples collected. Atrazine concentrations found in samples collected during 2003 were generally in the same range as those found during the previous periods. In the Maumee River during 2003, atrazine concentrations ranged from 0.113 to 16.7 micrograms per liter ($\mu\text{g/L}$); in the Mad River, atrazine concentrations were lower and ranged from 0.01 to 1.7 $\mu\text{g/L}$. The atrazine concentration in one samples from the Maumee River exceeded the U.S. Environmental Protection Agency's Maximum Contaminant Level of 3 $\mu\text{g/L}$.

Elevated suspended-sediment concentrations result from periods of high streamflows and are exacerbated by increased development and agriculture. Suspended-sediment concentrations in the Maumee River in 2003 were lower than those found during the previous 7-year period; the median value for 2003 was 19 mg/L, whereas the median for the previous period was 67 mg/L. At the Mad River, concentrations during 2003 were somewhat higher than those measured during 1999-2002; median concentrations were 38 and 28 mg/L, respectively.

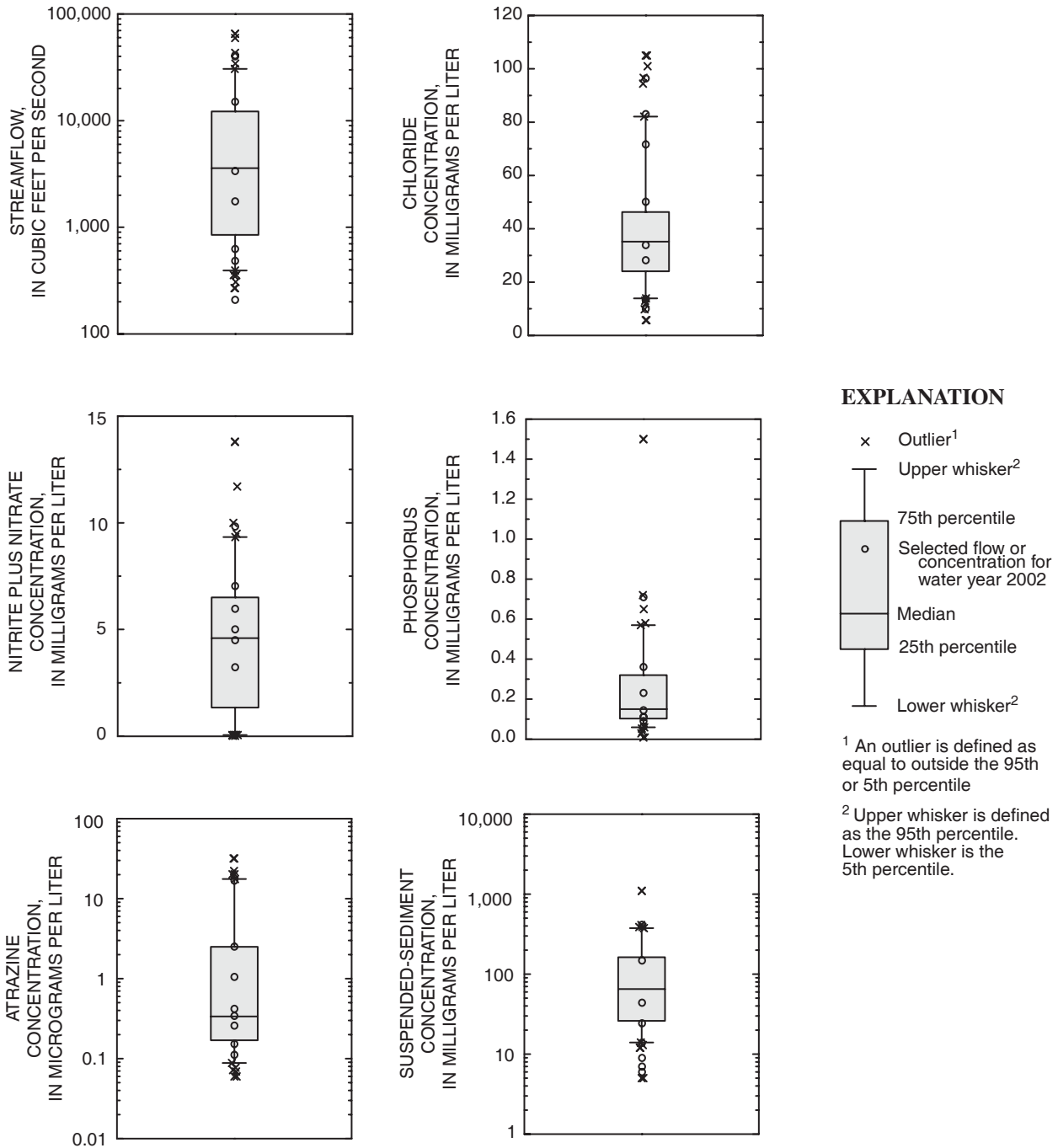


Figure 4. Streamflow and concentration of select constituents measured in water year 2003 and the distribution of those characteristics from measurements made during water years 1996-2002 for the Maumee River at Waterville, Ohio.

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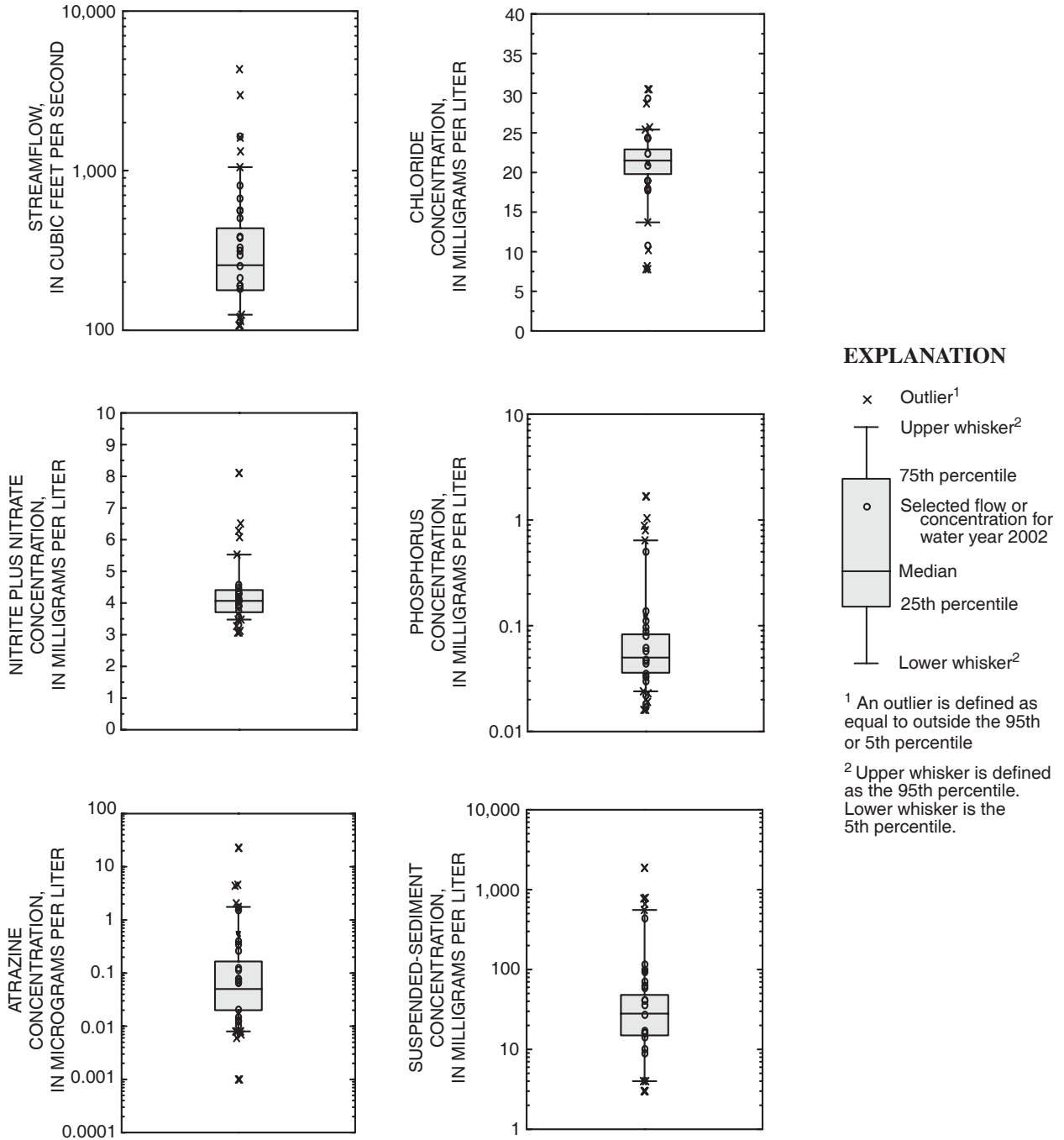


Figure 5. Streamflow and concentration of select constituents measured in water year 2003 and the distribution of those characteristics from measurements made during water years 1999-2002 for the Mad River at St. Paris Pike at Eagle City, Ohio.

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 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 a 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.

Ground-water conditions in Ohio during water year 2003 were as follows:

October. At the beginning of water year 2003, ground-water levels were below normal in most aquifers throughout the state. Levels declined in October and remained below normal.

November-December. Ground-water levels showed some response to normal to above-normal precipitation during the period; however, levels remained below normal statewide.

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January-March. A combination of above-normal precipitation and periods of snowmelt produced net rises in ground-water levels throughout Ohio, but levels continued to be below normal.

June-July. Above-normal precipitation during the period produced net rises in ground-water levels statewide. Levels rose to above normal in consolidated aquifers but remained below normal in unconsolidated aquifers.

August-September. Seasonal declines occurred throughout the period; but in response to above-normal precipitation, ground-water levels were above normal statewide.

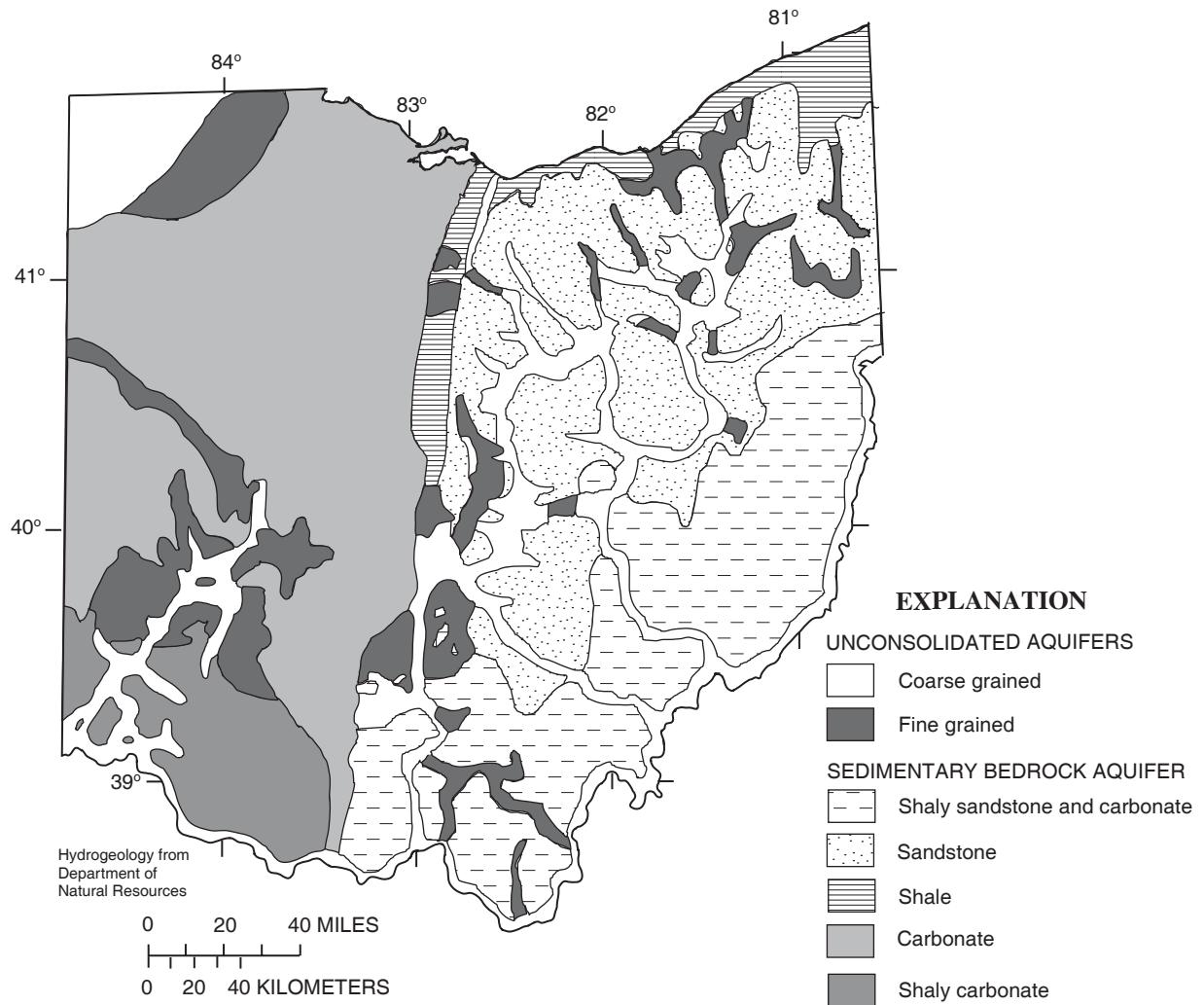


Figure 6. Geographic distribution of principal aquifers in Ohio.

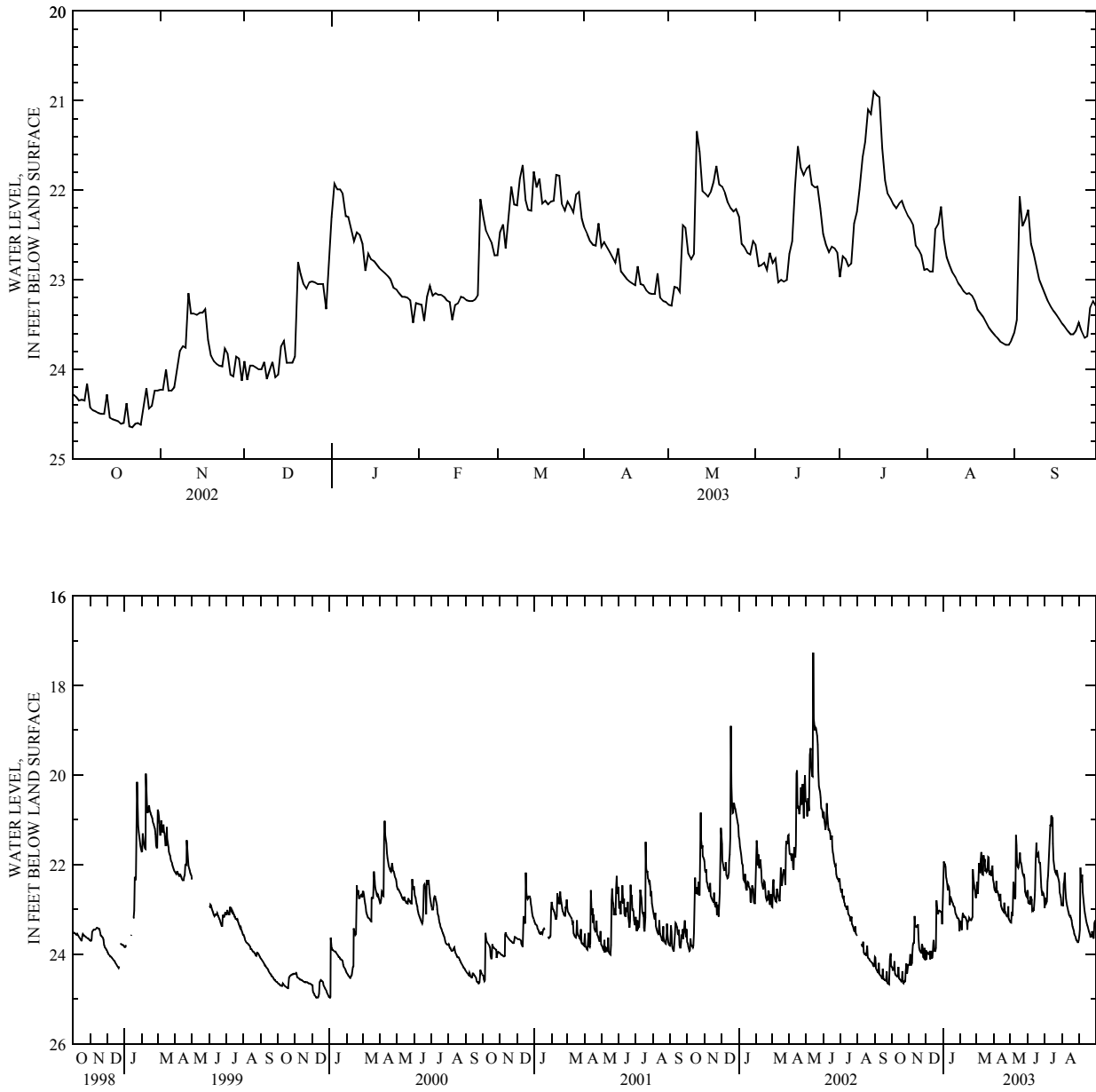


Figure 7. Sample of 1-year and 5-year hydrographs of well H-1 (391717084393300), completed in a unconfined unconsolidated aquifer.

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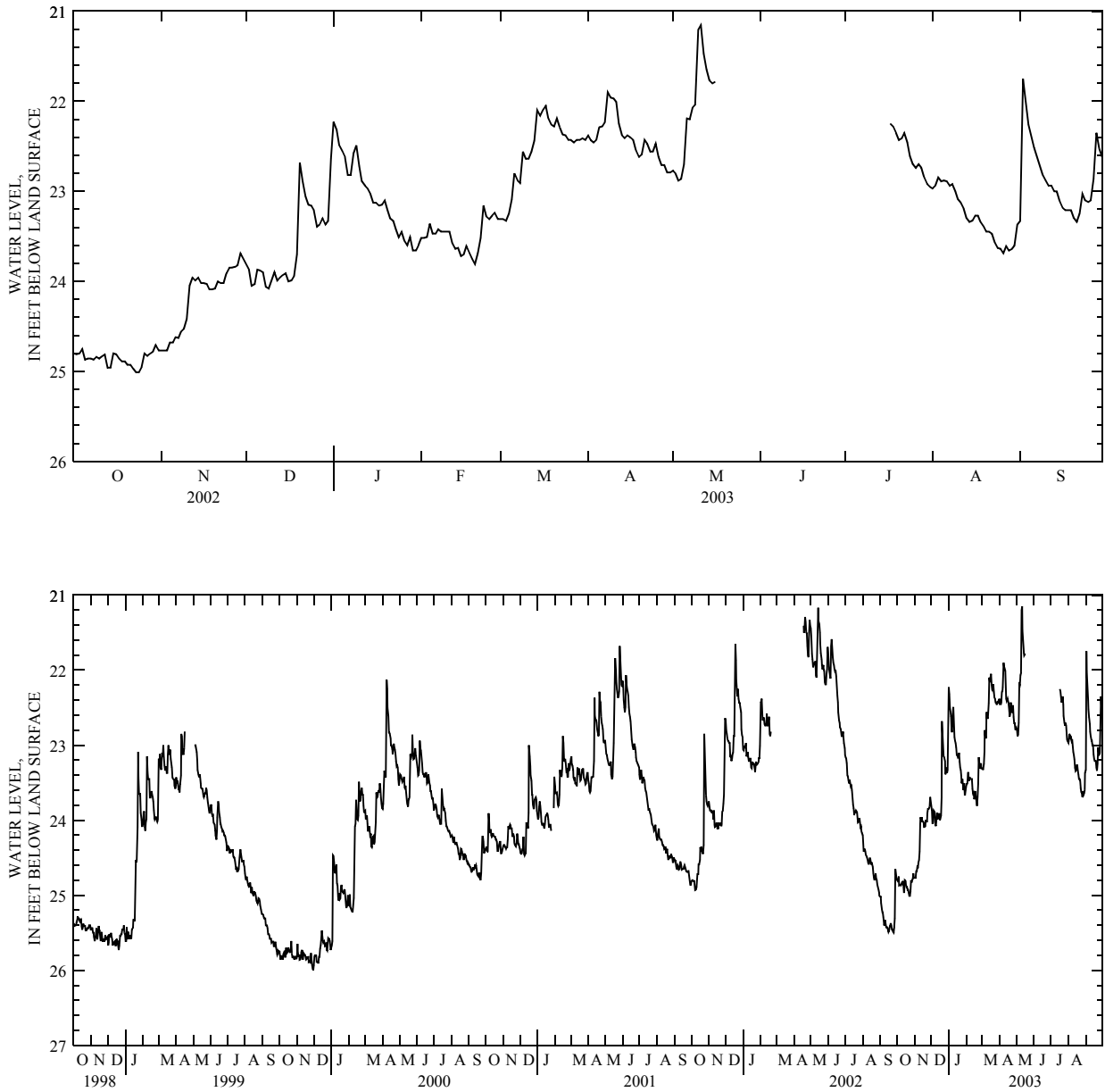


Figure 8. Sample of 1-year and 5-year hydrographs of well U-4 (401826083255200), completed in a confined carbonate-rock aquifer.

DOWNSTREAM ORDER AND STATION NUMBER

Since October 1, 1950, hydrologic-station records in USGS reports have been listed in order of 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 entering between two main-stream stations is listed between those stations. A similar order is followed in listing stations on first rank, second rank, and other ranks of tributaries. The rank of any tributary on which a station is located with respect to the stream to which it is immediately tributary is indicated by an indentation in that list of stations in the front of this report. Each indentation represents one rank. This downstream order and system of indentation indicates which stations are on tributaries between any two stations and the rank of the tributary on which each station is located.

As an added means of identification, each hydrologic station and partial-record station has been assigned a station number. These station numbers are in the same downstream order used in this report. In assigning a station number, 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 composed of both types of stations. Gaps are consecutive. The complete 8-digit (or 10-digit) number for each station such as 09004100, which appears just to the left of the station name, includes a 2-digit part number "09" plus the 6-digit (or 8-digit) downstream order number "004100." In areas of high station density, an additional two digits may be added to the station identification number to yield a 10-digit number. The stations are numbered in downstream order as described above between stations of consecutive 8-digit numbers.

NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES

The USGS well and miscellaneous site-numbering system is based on the grid system of latitude and longitude. The system provides the geographic location of the well or miscellaneous site and a unique number for each site. The number consists of 15 digits. The first 6 digits denote the degrees, minutes, and seconds of latitude, and the next 7 digits denote degrees, minutes, and seconds of longitude; the last 2 digits are a sequential number for wells within a 1-second grid. In the event that the latitude-longitude coordinates for a well and miscellaneous site are the same, a sequential number such as "01," "02," and so forth, would be assigned as one would for wells (see fig. 9). The 8-digit, downstream order station numbers are not assigned to wells and miscellaneous sites where only random water-quality samples or discharge measurements are taken.

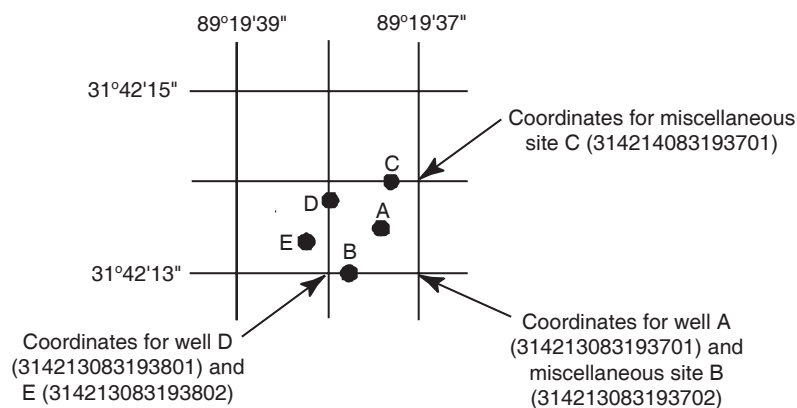


Figure 9. System for numbering wells and miscellaneous sites (latitude and longitude).

SPECIAL NETWORKS AND PROGRAMS

Hydrologic Benchmark Network is a network of 61 sites in small drainage basins in 39 States that was established in 1963 to provide consistent streamflow data representative of undeveloped watersheds nationwide, and from which data could be analyzed on a continuing basis for use in comparison and contrast with conditions observed in basins more obviously affected by human activities. At selected sites, water-quality information is being gathered on major ions and nutrients, primarily to assess the effects of acid deposition on stream chemistry. Additional information on the Hydrologic Benchmark Program may be accessed from <http://water.usgs.gov/hbn/>.

National Stream-Quality Accounting Network (NASQAN) is a network of sites used to monitor the water quality of large rivers within the Nation's largest river basins. From 1995 through 1999, a network of approximately 40 stations was operated in the Mississippi, Columbia, Colorado, and Rio Grande River basins. For the period 2000 through 2004, sampling was reduced to a few index stations on the Colorado and Columbia Rivers so that a network of 5 stations could be implemented on the Yukon River. 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 (NAWQA) Program; (3) to characterize processes unique to large-river systems such as storage and re-mobilization 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. Additional information about the NASQAN Program may be accessed from <http://water.usgs.gov/nasqan/>.

The National Atmospheric Deposition Program/National Trends Network (NADP/NTN) is a network of monitoring sites that provide continuous measurement and assessment of the chemical constituents in precipitation throughout the United States. As the lead Federal agency, the USGS works together with over 100 organizations to provide a long-term, spatial and temporal record of atmospheric deposition generated from this network of 250 precipitation-chemistry monitoring sites. The USGS supports 74 of these 250 sites. This long-term, nationally consistent monitoring program, coupled with ecosystem research, provides critical information toward a national scorecard to evaluate the effectiveness of ongoing and future regulations intended to reduce atmospheric emissions and subsequent impacts to the Nation's land and water resources. Reports and other information on the NADP/NTN Program, as well as data from the individual sites, may be accessed from <http://bqs.usgs.gov/acidrain/>.

The USGS National Water-Quality Assessment (NAWQA) Program 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; to provide an improved understanding of the primary natural and human factors affecting these observed conditions and trends; and to provide information that supports development and evaluation of management, regulatory, and monitoring decisions by other agencies.

Assessment activities are being conducted in 42 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 is 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 water-resources managers to use in making decisions 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 may be accessed from <http://water.usgs.gov/nawqa/>.

The USGS National Streamflow Information Program (NSIP) is a long-term program with goals to provide framework streamflow data across the Nation. Included in the program are creation of a permanent Federally funded streamflow network, research on the nature of streamflow, regional assessments of streamflow data and databases, and upgrades in the streamflow information delivery systems. Additional information about NSIP may be accessed from <http://water.usgs.gov/nsip/>.

EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS

Data Collection and Computation

The base data collected at gaging stations (fig. 1a and 1b) consist of records of stage and measurements of discharge of streams or canals, and stage, surface area, and volume of lakes or reservoirs. In addition, observations of factors affecting the stage-discharge relation or the stage-capacity relation, weather records, and other information are used to supplement base data in determining the daily flow or volume of water in storage. Records of stage are obtained from a water-stage recorder that is either downloaded electronically in the field to a laptop computer or similar device or is transmitted using telemetry such as GOES satellite, land-line or cellular-phone modems, or by radio transmission. Measurements of discharge are made with a current meter or acoustic Doppler current profiler, using the general methods adopted by the USGS. These methods are described in standard textbooks, USGS Water-Supply Paper 2175, and the Techniques of Water-Resources Investigations of the United States Geological Survey (TWRIs), Book 3, Chapters A1 through A19 and Book 8, Chapters A2 and B2. The methods are consistent with the American Society for Testing and Materials (ASTM) standards and generally follow the standards of the International Organization for Standards (ISO).

For stream-gaging stations, discharge-rating tables for any stage are prepared from stage-discharge curves. If extensions to the rating curves are necessary to express discharge greater than measured, the extensions are made on the basis of indirect measurements of peak discharge (such as slope-area or contracted-opening measurements, or computation of flow over dams and weirs), step-backwater techniques, velocity-area studies, and logarithmic plotting. The daily mean discharge is computed from gage heights and rating tables, then the monthly and yearly mean discharges are computed from the daily values. If the stage-discharge relation is subject to change because of frequent or continual change in the physical features of the stream channel, the daily mean discharge is computed by the shifting-control method in which correction factors based on individual discharge measurements and notes by engineers and observers are used when applying the gage heights to the rating tables. If the stage-discharge relation for a station is temporarily changed by the presence of aquatic growth or debris on the controlling section, the daily mean discharge is computed by the shifting-control method.

The stage-discharge relation at some stream-gaging stations is affected by backwater from reservoirs, tributary streams, or other sources. Such an occurrence 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 at some distance from the base gage.

An index velocity is measured using ultrasonic or acoustic instruments at some stream-gaging stations and this index velocity is used to calculate an average velocity for the flow in the stream. This average velocity along with a stage-area relation is then used to calculate average discharge.

At some stations, 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.

At some stream-gaging stations in the northern United States, the stage-discharge relation is affected by ice in the winter; therefore, computation of the discharge in the usual manner is impossible. Discharge for periods of ice effect is computed on the basis of gage-height record and occasional winter-discharge measurements. Consideration is given to the available information on temperature and precipitation, notes by gage observers and hydrologists, and comparable records of discharge from other stations in the same or nearby basins.

For a lake or reservoir station, capacity tables giving the volume or contents for any stage are prepared from stage-area relation curves defined by surveys. The application of the stage to the capacity table gives the contents, from which the daily, monthly, or yearly changes are computed.

If the stage-capacity curve is subject to changes because of deposition of sediment in the reservoir, periodic resurveys of the reservoir are necessary to define new stage-capacity curves. During the period between reservoir surveys, the computed contents may be increasingly in error due to the gradual accumulation of sediment.

For some stream-gaging stations, periods of time occur when no gage-height record is obtained or the recorded gage height is faulty and cannot be used to compute daily discharge or contents. Such a situation can happen when the recorder stops or otherwise fails to operate properly, the intakes are plugged, the float is frozen in the well, or for various other reasons. For such periods, the daily discharges are estimated on the basis of recorded range in stage, prior and subsequent records, discharge measurements, weather records, and comparison with records from other stations in the same or nearby basins. Likewise, lake or reservoir volumes may be estimated on the basis of operator's log, prior and subsequent records, inflow-outflow studies, and other information.

Data Presentation

The records published for each continuous-record surface-water discharge station (stream-gaging station) consist of five parts: (1) the station manuscript or description; (2) the data table of daily mean values of discharge for the current water year with summary data; (3) a tabular statistical summary of monthly mean flow data for a designated period, by water year; and (4) a summary statistics table that includes statistical data of annual, daily, and instantaneous flows as well as data pertaining to annual runoff, 7-day low-flow minimums, and flow duration.

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 follow that clarify information presented under the various headings of the station description.

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

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

PERIOD OF RECORD.—This term indicates the time period for which records have been published 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 its flow reasonably can be considered equivalent to flow at the

present station.

REVISED RECORDS.—If a critical error in published records is discovered, a revision is included in the first report published following discovery of the error.

GAGE.—The type of gage in current use, the datum of the current gage referred to a standard datum, 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 either will be identified by date in this paragraph of the station description for water-discharge stations or flagged in the daily discharge table. (See section titled Identifying Estimated Daily Discharge.) Information is presented relative to the accuracy of the records, to special methods of computation, and to conditions that affect natural flow at the station. In addition, information may be presented pertaining to average discharge data for the period of record; to extremes data for the period of record and the current year; and, possibly, to other pertinent items. For reservoir stations, information is given on the dam forming the reservoir, the capacity, the outlet works and spillway, and the 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 OUTSIDE PERIOD OF RECORD.—Information here documents major floods or unusually low flows that occurred outside the stated period of record. The information may or may not have been obtained by the USGS.

REVISIONS.—Records are revised if errors in published records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based National data system, NWISWeb (<http://water.usgs.gov/nwis/nwis>). Users are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent data updates. Updates to NWISWeb are made on an annual basis.

Although rare, occasionally the records of a discontinued gaging station may need revision. Because no current or, possibly, future station manuscript would be published for these stations to document the revision in a REVISED RECORDS entry, users of data for these stations who obtained the record from previously published data reports may wish to contact the District Office (address given on the back of the title page of this report) to determine if the published records were revised after the station was discontinued. If, however, the data for a discontinued station were obtained by computer retrieval, the data would be current. Any published revision of data is always accompanied by revision of the corresponding data in computer storage.

Manuscript information for lake or reservoir stations differs from that for stream stations in the nature of the REMARKS and in the inclusion of a stage-capacity table when daily volumes are given.

Peak Discharge Greater than Base Discharge

Tables of peak discharge above base discharge are included for some stations where secondary instantaneous peak discharge data are used in flood-frequency studies of highway and bridge design, flood-control structures, and other flood-related projects. The base discharge value is selected so an average of three peaks a year will be reported. This base discharge value has a recurrence interval of approximately 1.1 years or a 91-percent chance of exceedence in any 1 year.

Data Table of Daily Mean Values

The daily table of discharge records for stream-gaging stations gives mean discharge for each day of the water year. In the monthly summary for the table, the line headed TOTAL gives the sum of the daily figures for each month; the line headed MEAN gives the arithmetic average flow in cubic feet per second for the month; and the lines headed MAX and MIN give the maximum and minimum daily mean discharges, respectively, for each month. Discharge for the month is expressed in cubic feet per second per square mile (line headed CFSM); or in

inches (line headed IN); or in acre-feet (line headed AC-FT). Values for cubic feet per second per square mile and runoff in inches or in acre-feet may be omitted if extensive regulation or diversion is in effect or if the drainage area includes large noncontributing areas. At some stations, monthly and (or) yearly observed discharges are adjusted for reservoir storage or diversion, or diversion data or reservoir volumes are given. These values are identified by a symbol and a corresponding footnote.

Statistics of Monthly Mean Data

A tabular summary of the mean (line headed MEAN), maximum (MAX), and minimum (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 values. 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. The designated period will consist of all of the station record within the specified water years, including complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are 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 records within the specified water years, including complete months of record for partial water years, and may coincide with the period of record for the station. The water years for which the statistics are computed are 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 7-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 footnotes. Because the designated period may not be the same as the station period of record published in the manuscript, occasionally the dates of occurrence listed for the daily and instantaneous extremes in the designated-period column may not be within the selected water years listed in the heading. When the dates of occurrence do not fall within the selected water years listed in the heading, it will be noted in the REMARKS paragraph or in footnotes. Selected streamflow duration-curve statistics and runoff data also are given. Runoff data may be omitted if extensive regulation or diversion of flow is in effect in the drainage basin.

The following summary statistics data are provided with each continuous record of discharge. Comments that 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.

ANNUAL MEAN.—The arithmetic mean for the individual daily mean discharges for the year noted or for the designated period.

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 7-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.

MAXIMUM PEAK FLOW.—The maximum instantaneous peak discharge occurring for the water year or designated period. Occasionally the maximum flow for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak flow is given in the table and the maximum flow may be reported in a footnote or in the REMARKS paragraph in the manuscript.

MAXIMUM PEAK STAGE.—The maximum instantaneous peak stage occurring for the water year or designated period. Occasionally the maximum stage for a year may occur at midnight at the beginning or end of the year, on a recession from or rise toward a higher peak in the adjoining year. In this case, the maximum peak stage is given in the table and the maximum stage may be reported in the REMARKS paragraph in the manuscript or in a footnote. If the dates of occurrence of the maximum peak stage and maximum peak flow are different, 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 square mile (CFSM) is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area.

Inches (INCHES) indicate the depth to which the drainage area would be covered if all of 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 presented in two tables. The first table lists annual maximum stage and discharge at crest-stage stations, and the second table lists 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 often made in times of drought or flood to give better areal coverage to those events. Those measurements and others collected for a 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. This identification is shown either by flagging individual daily values with the letter “e” and noting in a table footnote, “e—Estimated,” or by listing the dates of the estimated record in the REMARKS paragraph of the station description.

Accuracy of Field Data and Computed Results

The accuracy of streamflow data 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 observations of stage, measurements of discharge, and interpretations of records.

The degree of accuracy of the records is stated in the REMARKS in the station description. “Excellent” indicates that about 95 percent of the daily discharges are within 5 percent of the true value; “good” within 10 percent; and “fair,” within 15 percent. “Poor” indicates that daily discharges have less than “fair” accuracy. Different accuracies may be attributed to different parts of a given record.

Values of daily mean discharge in this report are shown to the nearest hundredth of a cubic foot per second for discharges of less than 1 ft³/s; to the nearest tenths between 1.0 and 10 ft³/s; to whole numbers between 10 and 1,000 ft³/s; and to 3 significant figures above 1,000 ft³/s. The number of significant figures used is based solely on the magnitude of the discharge value. The same rounding rules apply to discharge values listed for partial-record stations.

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 to other factors. For such stations, values 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 Data Records Available

Information of a more detailed nature than that published for most of the stream-gaging stations such as discharge measurements, gage-height records, and rating tables is available from the District office. Also, most stream-gaging station records are available in computer-usable form and many statistical analyses have been made.

Information on the availability of unpublished data or statistical analyses may be obtained from the District office (see address that is shown on the back of the title page of this report).

EXPLANATION OF WATER-QUALITY RECORDS

Collection and Examination of Data

Surface-water samples for analysis usually are collected at or near stream-gaging stations. The quality-of-water records are given immediately following the discharge records at these stations.

The descriptive heading for water-quality records gives the period of record for all water-quality data; the period of daily record for parameters that are measured on a daily basis (specific conductance, water temperature, sediment discharge, and so forth); extremes for the current year; and general remarks.

For ground-water records, no descriptive statements are given; however, the well number, depth of well, sampling date, or other pertinent data are given in the table containing the chemical analyses of the ground water.

Water Analysis

Most of the methods used for collecting and analyzing water samples are described in the TWRI's. A list of TWRI's is provided in this report.

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 at several verticals to obtain a representative sample needed for an accurate mean concentration and for use in calculating load.

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 and minimum values (and sometimes mean or median values) for each constituent measured, and are based on 15-minute or 1-hour intervals of recorded data beginning at 0000 hours and ending at 2400 hours for the day of record.

SURFACE-WATER-QUALITY RECORDS

Records of surface-water quality ordinarily are obtained at or near stream-gaging stations because discharge data is useful in the interpretation of surface-water quality. Records of surface-water quality in this report involve a variety of types of data and measurement frequencies.

Classification of Records

Water-quality data for surface-water sites are grouped into one of three classifications. A *continuous-record station* is a site where data are collected on a regularly scheduled basis. Frequency may be one 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 continuous- or partial-record station, where 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 *continuous records* as used in this report and *continuous recordings* that refer to a continuous graph or a series of discrete values recorded at short intervals. Some records of water quality, such as temperature and specific conductance, may be obtained through continuous recordings; however, because of costs, most data are obtained only monthly or less frequently. Locations of stations for which records on the quality of surface water appear in this report are shown in figures 1a and 1b.

Accuracy of the Records

One of four accuracy classifications is applied for measured physical properties at continuous-record stations on a scale ranging from poor to excellent. The accuracy rating is based on data values recorded before any

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shifts or corrections are made. Additional consideration also is given to the amount of publishable record and to the amount of data that have been corrected or shifted.

Rating classifications for continuous water-quality records.

[≤, less than or equal to; ±, plus or minus value shown; °C, degree Celsius; >, greater than; %, percent; mg/L, milligram per liter; pH unit, standard pH unit]

Measured physical property	Rating			
	Excellent	Good	Fair	Poor
Water temperature	≤ ±0.2 °C	> ±0.2 to 0.5 °C	> ±0.5 to 0.8 °C	> ±0.8 °C
Specific conductance	≤ ±3%	> ±3 to 10%	> ±10 to 15%	> ±15%
Dissolved oxygen	≤ ±0.3 mg/L	> ±0.3 to 0.5 mg/L	> ±0.5 to 0.8 mg/L	> ±0.8 mg/L
pH	≤ ±0.2 unit	> ±0.2 to 0.5 unit	> ±0.5 to 0.8 unit	> ±0.8 unit
Turbidity	≤ ±5%	> ±5 to 10%	> ±10 to 15%	> ±15%

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 the nearby surface-water station, the continuing water-quality record is published with its own station number and name in the regular downstream-order sequence. Water-quality data for partial-record stations and for miscellaneous sampling sites appear in separate tables following the table of discharge measurements at miscellaneous sites.

On-Site Measurements and Sample Collection

In obtaining water-quality data, a major concern is assuring that the data obtained represent the naturally occurring quality of the water. To ensure this, certain measurements, such as water temperature, pH, and dissolved oxygen, must be made on site when the samples are taken. To assure that measurements made in the laboratory also represent the naturally occurring water, carefully prescribed procedures must be followed in collecting the samples, in treating the samples to prevent changes in quality pending analysis, and in shipping the samples to the laboratory. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRIs Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1-A9. These TWRIs are listed in this report. Also, detailed information on collecting, treating, and shipping samples can be obtained from the USGS District office (see address that is shown on the back of title page in this report).

Water Temperature

Water temperatures are measured at most of the water-quality stations. In addition, water temperatures are 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 diurnal 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. Water temperatures measured at the time of water-discharge measurements are on file in the District office.

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 be collected more frequently (twice daily or, in some instances, hourly). The published sediment discharges for days of rapidly changing flow or concentration were computed by the subdivided-day method (time-discharge weighted average). Therefore, for those days when the published sediment discharge value differs 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 discharges 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 are 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 suspended-sediment discharge, records of the periodic measurements of the particle-size distribution of the suspended sediment and bed material are included for some stations.

Laboratory Measurements

Samples for biochemical oxygen demand (BOD) and indicator bacteria are analyzed locally. All other samples are analyzed in the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used in analyzing sediment samples and computing sediment records are given in TWRI, Book 5, Chapter C1. Methods used by the USGS laboratories are given in the TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. These methods are consistent with ASTM standards and generally follow ISO standards.

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 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 information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

DRAINAGE AREA.—See Data Presentation information in the EXPLANATION OF STAGE- AND WATER-DISCHARGE RECORDS section of this report (same comments apply).

PERIOD OF RECORD.—This indicates the time periods for which published water-quality records for

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the station are available. 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 records.

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. For parameters measured weekly or less frequently, true maximums or minimums may not have been obtained. Extremes, when given, are provided for both the period of record and for the current water year.

REVISIONS.—Records are revised if errors in published water-quality records are discovered. Appropriate updates are made in the USGS distributed data system, NWIS, and subsequently to its Web-based National data system, NWISWeb (<http://waterdata.usgs.gov/nwis>). Users of USGS water-quality data are encouraged to obtain all required data from NWIS or NWISWeb to ensure that they have the most recent updates. Updates to the NWISWeb are made on an annual basis.

The surface-water-quality records for partial-record stations and miscellaneous sampling sites are published in separate tables following the table of discharge measurements at miscellaneous sites. No descriptive statements are given for these records. Each station is published with its own station number and name in the regular downstream-order sequence.

Remark Codes

The following remark codes may appear with the water-quality data in this section:

Printed Output	Remark
E or 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 acceptance 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).
V	Analyte was detected in both the environmental sample and the associated blanks.
&	Biological organism estimated as dominant.

Water-Quality Control Data

The USGS National Water Quality Laboratory collects quality-control data on a continuing basis to evaluate selected analytical methods to determine long-term method detection levels (LT-MDLs) and laboratory reporting levels (LRLs). These values are re-evaluated each year on the basis of the most recent quality-control data and, consequently, may change from year to year.

This reporting procedure limits the occurrence of false positive error. Falsely reporting a concentration greater than the LT-MDL for a sample in which the analyte is not present is 1 percent or less. Application of the LRL limits the occurrence of false negative error. The chance of falsely reporting a non-detection for a sample in which the analyte is present at a concentration equal to or greater than the LRL is 1 percent or less.

Accordingly, concentrations are reported as less than LRL for samples in which the analyte was either not detected or did not pass identification. Analytes detected at concentrations between the LT-MDL and the LRL and

that pass identification criteria are estimated. Estimated concentrations will be noted with a remark code of “E.” These data should be used with the understanding that their uncertainty is greater than that of data reported without the E remark code.

Data generated from quality-control (QC) samples are a requisite for evaluating the quality of the sampling and processing techniques as well as data from the actual samples themselves. Without QC data, environmental sample data cannot be adequately interpreted because the errors associated with the sample data are unknown. The various types of QC samples collected by this District office are described in the following section. Procedures have been established for the storage of water-quality-control data within the USGS. These procedures allow for storage of all derived QC data and are identified so that they can be related to corresponding environmental samples. These data are not presented in this report but are available from the District office.

Blank Samples

Blank samples are collected and analyzed to ensure that environmental samples have not been contaminated in the overall data-collection process. The blank solution used to develop specific types of blank samples is a solution that is free of the analytes of interest. Any measured value signal in a blank sample for an analyte (a specific component measured in a chemical analysis) that was absent in the blank solution is believed to be due to contamination. Many types of blank samples are possible; each is designed to segregate a different part of the overall data-collection process. The types of blank samples collected in this district are:

Field blank—A blank solution that is subjected to all aspects of sample collection, field processing preservation, transportation, and laboratory handling as an environmental sample.

Trip blank—A blank solution that is put in the same type of bottle used for an environmental sample and kept with the set of sample bottles before and after sample collection.

Equipment blank—A blank solution that is processed through all equipment used for collecting and processing an environmental sample (similar to a field blank but normally done in the more controlled conditions of the office).

Sampler blank—A blank solution that is poured or pumped through the same field sampler used for collecting an environmental sample.

Filter blank—A blank solution that is filtered in the same manner and through the same filter apparatus used for an environmental sample.

Splitter blank—A blank solution that is mixed and separated using a field splitter in the same manner and through the same apparatus used for an environmental sample.

Preservation blank—A blank solution that is treated with the sampler preservatives used for an environmental sample.

Reference Samples

Reference material is a solution or material prepared by a laboratory. The reference material composition is certified for one or more properties so that it can be used to assess a measurement method. Samples of reference material are submitted for analysis to ensure that an analytical method is accurate for the known properties of the reference material. Generally, the selected reference material properties are similar to the environmental sample properties.

Replicate Samples

Replicate samples are a set of environmental samples collected in a manner such that the samples are thought to be essentially identical in composition. Replicate is the general case for which a duplicate is the special case

consisting of two samples. Replicate samples are collected and analyzed to establish the amount of variability in the data contributed by some part of the collection and analytical process. Many types of replicate samples are possible, each of which may yield slightly different results in a dynamic hydrologic setting, such as a flowing stream. The types of replicate samples collected in this district are:

Concurrent samples—A type of replicate sample in which the samples are collected simultaneously with two or more samplers or by using one sampler and alternating the collection of samples into two or more compositing containers.

Sequential samples—A type of replicate sample in which the samples are collected one after the other, typically over a short time.

Split sample—A type of replicate sample in which a sample is split into subsamples, each subsample contemporaneous in time and space.

Spike Samples

Spike samples are samples to which known quantities of a solution with one or more well-established analyte concentrations have been added. These samples are analyzed to determine the extent of matrix interference or degradation on the analyte concentration during sample processing and analysis.

EXPLANATION OF GROUND-WATER-LEVEL RECORDS

Generally, only ground-water-level data from selected wells with continuous recorders from a basic network of observation wells are published in this report. This basic network contains observation wells located so that the most significant data are obtained from the fewest wells in the most important aquifers.

Site Identification Numbers

Each well is identified by means of (1) a 15-digit number that is based on latitude and longitude and (2) a local number that is produced for local needs. (See NUMBERING SYSTEM FOR WELLS AND MISCELLANEOUS SITES in this report for a detailed explanation).

Data Collection and Computation

Measurements are made in many types of wells, under varying conditions of access and at different temperatures; hence, neither the method of measurement nor the equipment can be standardized. At each observation well, however, the equipment and techniques used are those that will ensure that measurements at each well are consistent.

Most methods for collecting and analyzing water samples are described in the TWRI's referred to in the On-site Measurements and Sample Collection and the Laboratory Measurements sections in this report. In addition, TWRI Book 1, Chapter D2, describes guidelines for the collection and field analysis of ground-water samples for selected unstable constituents. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRI's Book 1, Chapter D2; Book 3, Chapters A1, A3, and A4; and Book 9, Chapters A1 through A9. The values in this report represent water-quality conditions at the time of sampling, as much as possible, and that are consistent with available sampling techniques and methods of analysis. These methods are consistent with ASTM standards and generally follow ISO standards. Trained personnel collected all samples. The wells sampled were pumped long enough to ensure that the water collected came directly from the aquifer and had not stood for a long time in the well casing where it would have been exposed to the atmosphere and to the material,

possibly metal, comprising the casings.

Water-level measurements in this report are given in feet with reference to land-surface datum (lsd). Land-surface datum is a datum plane that is approximately at land surface at each well. If known, the elevation of the land-surface datum above sea level is given in the well description. The height of the measuring point (MP) above or below land-surface datum is given in each well description. Water levels in wells equipped with recording gages are reported for every fifth day and the end of each month (EOM).

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 of water of several hundred feet, the error in 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 only to a tenth of a foot or a larger unit.

Data Presentation

Water-level data are presented in alphabetical order by county. The primary identification number for a given well is the 15-digit site identification number that appears in the upper left corner of the table. The secondary identification number is the local or county well number. Well locations are shown in figures 1c and 1d, each well is identified on the map by its local well or county well number.

Each well record consists of three parts: the well description, the data table of water levels observed during the water year, and, for most wells, a hydrograph following the data table. Well descriptions are presented in the headings preceding the tabular data.

The following comments clarify information presented in these various headings.

LOCATION.—This paragraph follows the well-identification number and reports the hydrologic-unit number and a geographic point of reference. Latitudes and longitudes used in this report are reported as North American Datum of 1927 unless otherwise specified.

AQUIFER.—This entry designates by name and geologic age the aquifer that the well taps.

WELL CHARACTERISTICS.—This entry describes the well in terms of depth, casing diameter and depth or screened interval, method of construction, use, and changes since construction.

INSTRUMENTATION.—This paragraph provides information on both the frequency of measurement and the collection method used, allowing the user to better evaluate the reported water-level extremes by knowing whether they are based on continuous, monthly, or some other frequency of measurement.

DATUM.—This entry describes both the measuring point and the land-surface elevation at the well. The altitude of the land-surface datum is described in feet above the altitude datum; it is reported with a precision depending on the method of determination. The measuring point is described physically (such as top of casing, top of instrument shelf, and so forth), and in relation to land surface (such as 1.3 ft above land-surface datum). The elevation of the land-surface datum is described in feet above National Geodetic Vertical Datum of 1929 (NGVD 29); 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, when various methods of measurement were begun, and the network (climatic, terrane, local, or areal effects) or the special project to which the well belongs.

PERIOD OF RECORD.—This entry indicates the time period for which records are published for the well, the month and year at the start of publication of water-level records by the USGS, and the words “to current year” if the records are to be continued into the following year. Time periods for which water-level records are available, but are not published by the USGS, may be noted.

EXTREMES FOR PERIOD OF RECORD.—This entry contains the highest and lowest instantaneously

recorded or measured water levels of the period of published record, with respect to land-surface datum or sea level, and the dates of occurrence.

Water-Level Tables

A table of water levels follows the well description for each well. Water-level measurements in this report are given in feet with reference to either sea level or land-surface datum (lsd). Missing records are indicated by dashes in place of the water-level value.

For wells not equipped with recorders, water-level measurements were obtained periodically by steel or electric tape. Tables of periodic water-level measurements in these wells show the date of measurement and the measured water-level value.

Hydrographs

Hydrographs are a graphic display of water-level fluctuations over a period of time. In this report, current water year and, when appropriate, period-of-record hydrographs are shown. Hydrographs that display periodic water-level measurements show points that may be connected with a dashed line from one measurement to the next. Hydrographs that display recorder data show a solid line representing the mean water level recorded for each day. Missing data are indicated by a blank space or break in a hydrograph. Missing data may occur as a result of recorder malfunctions, battery failures, or mechanical problems related to the response of the recorder's float mechanism to water-level fluctuations in a well.

GROUND-WATER-QUALITY DATA

Data Collection and Computation

The ground-water-quality data in this report were obtained as a part of special studies in specific areas. Consequently, a number of chemical analyses are presented for some wells within a county but not for others. As a result, the records for this year, by themselves, do not provide a balanced view of ground-water quality Statewide.

Most methods for collecting and analyzing water samples are described in the TWRI. Procedures for on-site measurements and for collecting, treating, and shipping samples are given in TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4. Also, detailed information on collecting, treating, and shipping samples may be obtained from the USGS District office (see address shown on back of title page in this report).

Laboratory Measurements

Analysis for sulfide and measurement of alkalinity, pH, water temperature, specific conductance, and dissolved oxygen are performed on site. All other sample analyses are performed at the USGS laboratory in Lakewood, Colorado, unless otherwise noted. Methods used by the USGS laboratory are given in TWRI, Book 1, Chapter D2; Book 3, Chapter C2; and Book 5, Chapters A1, A3, and A4.

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 from <http://water.usgs.gov>.

Water-quality data and ground-water data also are available through the WWW. In addition, data can be provided in various machine-readable formats on various media. Information about the availability of specific types of data or products, and user charges, can be obtained locally from each Water Discipline District Office (See address that is shown on the back of the title page of this report.)

DEFINITION OF TERMS

Specialized technical terms related to streamflow, water-quality, and other hydrologic data, as used in this report, are defined below. Definitions of common terms such as algae, water level, and precipitation are given in standard dictionaries. Not all terms defined in this alphabetical list apply to every State. See also table for converting inch/pound units to International System (SI) units on the inside of the back cover.

Acid neutralizing capacity (ANC) is the equivalent sum of all bases or base-producing materials, solutes plus particulates, in an aqueous system that can be titrated with acid to an equivalence point. This term designates titration of an “unfiltered” sample (formerly reported as alkalinity).

Acre-foot (AC-FT, acre-ft) is a unit of volume, commonly used to measure quantities of water used or stored, equivalent to the volume of water required to cover 1 acre to a depth of 1 foot and equivalent to 43,560 cubic feet, 325,851 gallons, or 1,233 cubic meters. (See also “Annual runoff”)

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

Algal growth potential (AGP) is the maximum algal 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. (See also “Biomass” and “Dry weight”)

Alkalinity is the capacity of solutes in an aqueous system to neutralize acid. This term designates titration of a “filtered” sample.

Annual runoff is the total quantity of water that is discharged (“runs off”) from a drainage basin in a

year. Data reports may present annual runoff data as volumes in acre-feet, as discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches.

Annual 7-day minimum is the lowest mean value for any 7-consecutive-day period in a year. Annual 7-day minimum values are reported herein for the calendar year and the water year (October 1 through September 30). Most low-flow frequency analyses use a climatic year (April 1-March 31), which tends to prevent the low-flow period from being artificially split between adjacent years. 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.)

Aroclor is the registered trademark for a group of poly-chlorinated biphenyls that were manufactured by the Monsanto Company prior to 1976. Aroclors are assigned specific 4-digit reference numbers dependent upon molecular type and degree of substitution of the biphenyl ring hydrogen atoms by chlorine atoms. The first two digits of a numbered aroclor represent the molecular type, and the last two digits represent the percentage weight of the hydrogen-substituted chlorine.

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 collected. Examples of artificial substrates are basket samplers (made of wire cages filled with

clean streamside rocks) and multiplate samplers (made of hardboard) for benthic organism collection, and plexiglass strips for periphyton collection. (See also “Substrate”)

Ash mass is the mass or amount of residue present after the residue from the dry mass determination has been ashed in a muffle furnace at a temperature of 500 °C for 1 hour. Ash mass of zooplankton and phytoplankton is expressed in grams per cubic meter (g/m³), and periphyton and benthic organisms in grams per square meter (g/m²). (See also “Biomass” and “Dry mass”)

Aspect is the direction toward which a slope faces with respect to the compass.

Bacteria are microscopic unicellular organisms, typically spherical, rodlike, or spiral and threadlike in shape, often clumped into colonies. Some bacteria cause disease, whereas 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.

Bankfull stage, as used in this report, is the stage at which a stream first overflows its natural banks formed by floods with 1- to 3-year recurrence intervals.

Base discharge (for peak discharge) is a discharge value, determined for selected stations, above which peak discharge data are published. The base discharge at each station is selected so that an average of about three peak flows per year will be published. (See also “Peak flow”)

Base flow is sustained flow of a stream in the absence of direct runoff. It includes natural and human-induced streamflows. Natural base flow is sustained largely by ground-water discharge.

Bedload is material in transport that is supported primarily by the streambed. In this report, bedload is considered to consist of particles in transit from the bed to an elevation equal to the top of the bedload sampler nozzle (ranging from 0.25 to 0.5 foot) that are retained in the bedload sampler. A sample collected with a pressure-differential bedload sampler also may contain a component of the suspended load.

Bedload discharge (tons per day) is the rate of sediment moving as bedload, reported as dry weight, that passes through a cross section in a given time.

NOTE: Bedload discharge values in this report may include a component of the suspended-sediment discharge. A correction may be necessary when computing the total sediment discharge by summing the bedload discharge and the suspended-sediment discharge. (See also “Bedload,” “Dry weight,” “Sediment,” and “Suspended-sediment discharge”)

Bed material is the sediment mixture of which a stream-bed, lake, pond, reservoir, or estuary bottom is composed. (See also “Bedload” and “Sediment”)

Benthic organisms are the group of organisms inhabiting the bottom of an aquatic environment. They include a number of types of organisms, such as bacteria, fungi, insect larvae and nymphs, snails, clams, and crayfish. They are useful as indicators of water quality.

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 mass per unit area or volume of habitat.

Biomass pigment ratio is an indicator of the total proportion of periphyton that are autotrophic (plants). This is also called the Autotrophic Index.

Blue-green algae (*Cyanophyta*) are a group of phytoplankton organisms having a blue pigment, in addition to the green pigment called chlorophyll. Blue-green algae often cause nuisance conditions in water. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample. (See also “Phytoplankton”)

Bottom material (See “Bed material”)

Bulk electrical conductivity is the combined electrical conductivity of all material within a doughnut-shaped volume surrounding an induction probe. Bulk conductivity is affected by different physical and chemical properties of the material including the dissolved solids content of the pore water and lithology and porosity of the rock.

Cells/volume refers to the number of cells of any organism that is counted by using a microscope and grid or counting cell. Many planktonic organisms are multicelled and are counted according to the number of contained cells per sample volume, and are generally reported as cells or units per milliliter (mL)

or liter (L).

Cells volume (biovolume) determination is one of several common methods used to estimate biomass of algae in aquatic systems. Cell members of algae are frequently used in aquatic surveys as an indicator of algal production. However, cell numbers alone cannot represent true biomass because of considerable cell-size variation among the algal species. Cell volume (μm^3) is determined by obtaining critical cell measurements or cell dimensions (for example, length, width, height, or radius) for 20 to 50 cells of each important species to obtain an average biovolume per cell. Cells are categorized according to the correspondence of their cellular shape to the nearest geometric solid or combinations of simple solids (for example, spheres, cones, or cylinders). Representative formulae used to compute biovolume are as follows:

sphere $\frac{4}{3} \pi r^3$ cone $\frac{1}{3} \pi r^2 h$ cylinder $\pi r^2 h$.

pi (π) is the ratio of the circumference to the diameter of a circle; pi = 3.14159....

From cell volume, total algal biomass expressed as biovolume ($\mu\text{m}^3/\text{mL}$) is thus determined by multiplying the number of cells of a given species by its average cell volume and then summing these volumes for all species.

Cfs-day (See “Cubic foot per second-day”)

Channel bars, as used in this report, are the lowest prominent geomorphic features higher than the channel bed.

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 BOD or with carbonaceous organic pollution from sewage or industrial wastes. [See also “Biochemical oxygen demand (BOD)”]

Clostridium perfringens (*C. perfringens*) is a spore-forming bacterium that is common in the feces of human and other warmblooded animals. Clostridial spores are being used experimentally as an indicator of past fecal contamination and presence of microorganisms that are resistant to disinfection and environmental stresses. (See also “Bacteria”)

Coliphages are viruses that infect and replicate in coliform bacteria. They are indicative of sewage contamination of water and of the survival and

transport of viruses in the environment.

Color unit is produced by 1 milligram per liter of platinum in the form of the chloroplatinate ion. Color is expressed in units of the platinum-cobalt scale.

Confined aquifer is a term used to describe an aquifer containing water between two relatively impermeable boundaries. The water level in a well tapping a confined aquifer stands above the top of the confined aquifer and can be higher or lower than the water table that may be present in the material above it. In some cases, the water level can rise above the ground surface, yielding a flowing well.

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.

Continuous-record station is a site where data are collected with sufficient frequency to define daily mean values and variations within a day.

Control designates a feature in the channel that physically affects the water-surface elevation and thereby determines the stage-discharge relation at the gage. This feature may be a constriction of the channel, a bedrock outcrop, a gravel bar, an artificial structure, or a uniform cross section over a long reach of the channel.

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

Cubic foot per second (CFS, ft^3/s) is the rate of discharge representing a volume of 1 cubic foot passing a given point in 1 second. It is equivalent to approximately 7.48 gallons per second or approximately 449 gallons per minute, or 0.02832 cubic meters per second. The term “second-foot” sometimes is used synonymously with “cubic foot per second” but is now obsolete.

Cubic foot per second-day (CFS-DAY, Cfs-day, $[(\text{ft}^3/\text{s})/\text{d}]$) 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, 1.98347 acre-feet, 646,317 gallons, or 2,446.6 cubic meters. The daily mean discharges reported in the daily value data tables are numerically equal to the daily volumes in cfs-days, and the totals also represent volumes in cfs-days.

Cubic foot per second per square mile [CFSM, $(\text{ft}^3/$

s)/mi²] is the average number of cubic feet of water flowing per second from each square mile of area drained, assuming the runoff is distributed uniformly in time and area. (See also “Annual runoff”)

Daily mean suspended-sediment concentration is the time-weighted concentration of suspended sediment passing a stream cross section during a 24-hour day. (See also “Sediment” and “Suspended-sediment concentration”)

Daily-record station is a site where data are collected with sufficient frequency to develop a record of one or more data values per day. The frequency of data collection can range from continuous recording to periodic sample or data collection on a daily or near-daily basis.

Data collection platform (DCP) is an electronic instrument that collects, processes, and stores data from various sensors, and transmits the data by satellite data relay, line-of-sight radio, and/or landline telemetry.

Data logger is a microprocessor-based data acquisition system designed specifically to acquire, process, and store data. Data are usually downloaded from onsite data loggers for entry into office data systems.

Datum is a surface or point relative to which measurements of height and/or horizontal position are reported. A vertical datum is a horizontal surface used as the zero point for measurements of gage height, stage, or elevation; a horizontal datum is a reference for positions given in terms of latitude-longitude, State Plane coordinates, or UTM coordinates. (See also “Gage datum,” “Land-surface datum,” “National Geodetic Vertical Datum of 1929,” and “North American Vertical Datum of 1988”)

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. (See also “Phytoplankton”)

Diel is of or pertaining to a 24-hour period of time; a regular daily cycle.

Discharge, or flow, is the rate that matter passes through a cross section of a stream channel or other water body per unit of time. The term commonly refers to the volume of water (including, unless otherwise stated, any sediment or other constituents suspended or dissolved in the water) that passes a

cross section in a stream channel, canal, pipeline, etc., within a given period of time (cubic feet per second). Discharge also can apply to the rate at which constituents, such as suspended sediment, bedload, and dissolved or suspended chemicals, pass through a cross section, in which cases the quantity is expressed as the mass of constituent that passes the cross section in a given period of time (tons per day).

Dissolved refers to 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 and State agencies that collect water-quality data. Determinations of “dissolved” constituent concentrations are made on sample water that has been filtered.

Dissolved oxygen (DO) is the molecular oxygen (oxygen gas) dissolved in water. The concentration in water is a function of atmospheric pressure, temperature, and dissolved-solids concentration of the water. The ability of water to retain oxygen decreases with increasing temperature or dissolved-solids concentration. Photosynthesis and respiration by plants commonly cause diurnal variations in dissolved-oxygen concentration in water from some streams.

Dissolved-solids concentration in water is the quantity of dissolved material in a sample of water. It is determined either analytically by the “residue-on-evaporation” method, or mathematically by totaling the concentrations of individual constituents reported in a comprehensive chemical analysis. During the analytical determination, the bicarbonate (generally a major dissolved component of water) is converted to carbonate. In the mathematical calculation, the bicarbonate value, in milligrams per liter, is multiplied by 0.4926 to convert it to carbonate. Alternatively, alkalinity concentration (as mg/L CaCO₃) can be converted to carbonate concentration by multiplying by 0.60.

Diversity index (H) (Shannon index) is a numerical expression of evenness of distribution of aquatic organisms. The formula for diversity index is:

$$\bar{d} = - \sum_{i=1}^s \frac{n_i}{n} \log_2 \frac{n_i}{n} ,$$

where n_i is the number of individuals per taxon, n is the total number of individuals, and s is the total number of taxa in the sample of the community.

Index values range from zero, when all the organisms in the sample are the same, to some positive number, when some or all of the organisms in the sample are different.

Drainage area of a stream at a specific location is that area upstream from the location, measured in a horizontal plane, that has a common outlet at the site for its surface runoff from precipitation that normally drains by gravity into a stream. Drainage areas given herein include all closed basins, or noncontributing areas, within the area unless otherwise specified.

Drainage basin is a part of the Earth's surface that contains a drainage system with a common outlet for its surface runoff. (See "Drainage area")

Dry mass refers to the mass of residue present after drying in an oven at 105 °C, 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. (See also "Ash mass," "Biomass," and "Wet mass")

Dry weight refers to the weight of animal tissue after it has been dried in an oven at 65 °C until a constant weight is achieved. Dry weight represents total organic and inorganic matter in the tissue. (See also "Wet weight")

Embeddedness is the degree to which gravel-sized and larger particles are surrounded or enclosed by finer-sized particles. (See also "Substrate embeddedness class")

Enterococcus bacteria are commonly found in the feces of humans and other warmblooded animals. Although some strains are ubiquitous and not related to fecal pollution, the presence of enterococci in water is an indication of fecal pollution and the possible presence of enteric pathogens. Enterococcus bacteria are those bacteria that produce pink to red colonies with black or reddish-brown precipitate after incubation at 41 °C on mE agar (nutrient medium for bacterial growth) and subsequent transfer to EIA medium. Enterococci include *Streptococcus feacalis*, *Streptococcus feacium*, *Streptococcus avium*, and their variants. (See also "Bacteria")

EPT Index is the total number of distinct taxa within the insect orders Ephemeroptera, Plecoptera, and Trichoptera. This index summarizes the taxa richness within the aquatic insects that are generally considered pollution sensitive; the index usually decreases with pollution.

***Escherichia coli* (*E. coli*)** are bacteria present in the intestine and feces of warmblooded 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 (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 mL of sample. (See also "Bacteria")

Estimated (E) concentration value is reported when an analyte is detected and all criteria for a positive result are met. If the concentration is less than the method detection limit (MDL), an 'E' code will be reported with the value. If the analyte is qualitatively identified as present, but the quantitative determination is substantially more uncertain, the National Water Quality Laboratory will identify the result with an 'E' code even though the measured value is greater than the MDL. A value reported with an 'E' code should be used with caution. When no analyte is detected in a sample, the default reporting value is the MDL preceded by a less than sign (<).

Euglenoids (*Euglenophyta*) are a group of algae that are usually free-swimming and rarely creeping. They have the ability to grow either photosynthetically in the light or heterotrophically in the dark. (See also "Phytoplankton")

Extractable organic halides (EOX) are organic compounds that contain halogen atoms such as chlorine. These organic compounds are semivolatile and extractable by ethyl acetate from air-dried streambed sediment. The ethyl acetate extract is combusted, and the concentration is determined by microcoulometric determination of the halides formed. The concentration is reported as micrograms of chlorine per gram of the dry weight of the streambed sediment.

Fecal coliform bacteria are present in the intestines or feces of warmblooded animals. They often are used as indicators of the sanitary quality of the water. In the laboratory, they are defined as all organisms that produce blue colonies within 24 hours when incubated at 44.5 °C plus or minus 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. (See also "Bacteria")

Fecal streptococcal bacteria are present in the intestines of warmblooded animals and are ubiquitous in the environment. 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 plus or minus 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. (See also “Bacteria”)

Fire algae (*Pyrrhophyta*) are free-swimming unicells characterized by a red pigment spot. (See also “Phytoplankton”)

Flow-duration percentiles are values on a scale of 100 that indicate the percentage of time for which a flow is not exceeded. For example, the 90th percentile of river flow is greater than or equal to 90 percent of all recorded flow rates.

Gage datum is a horizontal surface used as a zero point for measurement of stage or gage height. This surface usually is located slightly below the lowest point of the stream bottom such that the gage height is usually slightly greater than the maximum depth of water. Because the gage datum itself is not an actual physical object, the datum usually is defined by specifying the elevations of permanent reference marks such as bridge abutments and survey monuments, and the gage is set to agree with the reference marks. Gage datum is a local datum that is maintained independently of any national geodetic datum. However, if the elevation of the gage datum relative to the national datum (North American Vertical Datum of 1988 or National Geodetic Vertical Datum of 1929) has been determined, then the gage readings can be converted to elevations above the national datum by adding the elevation of the gage datum to the gage reading.

Gage height (G.H.) is the water-surface elevation, in feet above the gage datum. If the water surface is below the gage datum, the gage height is negative. Gage height often is used interchangeably with the more general term “stage,” although gage height is more appropriate when used in reference to a reading on a gage.

Gage values are values that are recorded, transmitted, and/or computed from a gaging station. Gage values typically are collected at 5-, 15-, or 30-minute intervals.

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

Gas chromatography/flame ionization detector (GC/FID) is a laboratory analytical method used as a screening technique for semivolatile organic compounds that are extractable from water in methylene chloride.

Geomorphic channel units, as used in this report, are fluvial geomorphic descriptors of channel shape and stream velocity. Pools, riffles, and runs are types of geomorphic channel units considered for National Water-Quality Assessment (NAWQA) Program habitat sampling.

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 milliliter (cells/mL) of sample. (See also “Phytoplankton”)

Habitat, as used in this report, includes all nonliving (physical) aspects of the aquatic ecosystem, although living components like aquatic macrophytes and riparian vegetation also are usually included. Measurements of habitat are typically made over a wider geographic scale than are measurements of species distribution.

Habitat quality index is the qualitative description (level 1) of instream habitat and riparian conditions surrounding the reach sampled. Scores range from 0 to 100 percent with higher scores indicative of desirable habitat conditions for aquatic life. Index only applicable to wadable streams.

Hardness of water is a physical-chemical characteristic that commonly is recognized by the increased quantity of soap required to produce lather. It is computed as the sum of equivalents of polyvalent cations (primarily calcium and magnesium) and is expressed as the equivalent concentration of calcium carbonate (CaCO_3).

High tide is the maximum height reached by each rising tide. The high-high and low-high tides are the higher and lower of the two high tides, respectively, of each tidal day. See NOAA web site: <http://www.co-ops.nos.noaa.gov/tideglos.html>

Hilsenhoff’s Biotic Index (HBI) is an indicator of organic pollution that uses tolerance values to weight

taxa abundances; usually increases with pollution. It is calculated as follows:

$$HBI = \text{sum} \frac{(n)(a)}{N} ,$$

where n is the number of individuals of each taxon, a is the tolerance value of each taxon, and N is the total number of organisms in the sample.

Horizontal datum (See “Datum”)

Hydrologic index stations referred to in this report are continuous-record gaging stations that have been selected as representative of streamflow patterns for their respective regions. Station locations are shown on index maps.

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

Inch (IN., in.), as used in this report, refers to the depth to which the drainage area would be covered with water if all of the runoff for a given time period were uniformly distributed on it. (See also “Annual runoff”)

Instantaneous discharge is the discharge at a particular instant of time. (See also “Discharge”)

Island, as used in this report, is a mid-channel bar that has permanent woody vegetation, is flooded once a year on average, and remains stable except during large flood events.

Laboratory reporting level (LRL) is generally equal to twice the yearly determined long-term method detection level (LT-MDL). The LRL controls false negative error. The probability of falsely reporting a nondetection for a sample that contained an analyte at a concentration equal to or greater than the LRL is predicted to be less than or equal to 1 percent. The value of the LRL will be reported with a “less than” (<) remark code for samples in which the analyte was not detected. The National Water Quality Laboratory (NWQL) collects quality-control data from selected analytical methods on a continuing basis to determine LT-MDLs and to establish LRLs. These values are reevaluated annually on the basis of the most current quality-control data and, therefore, may change. [Note: In several previous NWQL documents (NWQL Technical Memorandum 98.07, 1998), the

LRL was called the nondetection value or NDV—a term that is no longer used.]

Land-surface datum (lsd) is a datum plane that is approximately at land surface at each ground-water observation well.

Latent heat flux (often used interchangeably with latent heat-flux density) is the amount of heat energy that converts water from liquid to vapor (evaporation) or from vapor to liquid (condensation) across a specified cross-sectional area per unit time. Usually expressed in watts per square meter.

Light-attenuation coefficient, also known as the extinction coefficient, is a measure of water clarity. Light is attenuated according to the Lambert-Beer equation:

$$I = I_0 e^{-\lambda L} ,$$

where I_0 is the source light intensity, I is the light intensity at length L (in meters) from the source, λ is the light-attenuation coefficient, and e is the base of the natural logarithm. The light-attenuation coefficient is defined as

$$\lambda = -\frac{1}{L} \log_e \frac{I}{I_0} .$$

Lipid is any one of a family of compounds that are insoluble in water and that make up one of the principal components of living cells. Lipids include fats, oils, waxes, and steroids. Many environmental contaminants such as organochlorine pesticides are lipophilic.

Long-term method detection level (LT-MDL) is a detection level derived by determining the standard deviation of a minimum of 24 method detection limit (MDL) spike sample measurements over an extended period of time. LT-MDL data are collected on a continuous basis to assess year-to-year variations in the LT-MDL. The LT-MDL controls false positive error. The chance of falsely reporting a concentration at or greater than the LT-MDL for a sample that did not contain the analyte is predicted to be less than or equal to 1 percent.

Low tide is the minimum height reached by each falling tide. The high-low and low-low tides are the higher and lower of the two low tides, respectively, of each tidal day. See NOAA web site: <http://www.co-ops.nos.noaa.gov/tideglos.html>

Macrophytes are the macroscopic plants in the aquatic

environment. The most common macrophytes are the rooted vascular plants that usually are arranged in zones in aquatic ecosystems and restricted in the area by the extent of illumination through the water and sediment deposition along the shoreline.

Mean concentration of suspended sediment (Daily mean suspended-sediment concentration) is the time-weighted concentration of suspended sediment passing a stream cross section during a given time period. (See also “Daily mean suspended-sediment concentration” and “Suspended-sediment concentration”)

Mean discharge (MEAN) is the arithmetic mean of individual daily mean discharges during a specific period. (See also “Discharge”)

Mean high or low tide is the average of all high or low tides, respectively, over a specific period.

Mean sea level is a local tidal datum. It is the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; for example, monthly mean sea level and yearly mean sea level. In order that they may be recovered when needed, such datums are referenced to fixed points known as benchmarks. (See also “Datum”)

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

Membrane filter is a thin microporous material of specific pore size used to filter bacteria, algae, and other very small particles from water.

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.

Method detection limit (MDL) is the minimum concentration of a substance that can be measured and reported with 99-percent confidence that the analyte concentration is greater than zero. It is determined from the analysis of a sample in a given matrix containing the analyte. At the MDL concentration, the risk of a false positive is predicted

to be less than or equal to 1 percent.

Methylene blue active substances (MBAS) are apparent detergents. The determination depends on the formation of a blue color when methylene blue dye reacts with synthetic anionic detergent compounds.

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

Micrograms per kilogram (UG/KG, $\mu\text{g/kg}$) is a unit expressing the concentration of a chemical constituent as the mass (micrograms) of the constituent per unit mass (kilogram) of the material analyzed. One microgram per kilogram is equivalent to 1 part per billion.

Micrograms per liter (UG/L, $\mu\text{g/L}$) is a unit expressing the concentration of chemical constituents in water as mass (micrograms) of constituent per unit volume (liter) of water. One thousand micrograms per liter is equivalent to 1 milligram per liter. One microgram per liter is equivalent to 1 part per billion.

Microsiemens per centimeter (US/CM, $\mu\text{S/cm}$) is a unit expressing the amount of electrical conductivity of a solution as measured between opposite faces of a centimeter cube of solution at a specified temperature. Siemens is the International System of Units nomenclature. It is synonymous with mhos and is the reciprocal of resistance in ohms.

Milligrams per liter (MG/L, mg/L) is a unit for expressing the concentration of chemical constituents in water as the mass (milligrams) of constituent 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.

Minimum reporting level (MRL) is the smallest measured concentration of a constituent that may be reliably reported by using a given analytical method.

Miscellaneous site, miscellaneous station, or miscellaneous sampling site is a site where streamflow, sediment, and/or water-quality data or water-quality or sediment samples are collected once, or more often on a random or discontinuous basis to provide better areal coverage for defining hydrologic and water-quality conditions over a broad area in a river basin.

Most probable number (MPN) is an index of the number of coliform bacteria that, more probably than any other number, would give the results shown by the laboratory examination; it is not an actual enumeration. MPN is determined from the distribution of gas-positive cultures among multiple inoculated tubes.

Multiple-plate samplers are artificial substrates of known surface area used for obtaining benthic invertebrate samples. They consist of a series of spaced, hardboard plates on an eyebolt.

Nanograms per liter (NG/L, ng/L) is a unit expressing the concentration of chemical constituents in solution as mass (nanograms) of solute per unit volume (liter) of water. One million nanograms per liter is equivalent to 1 milligram per liter.

National Geodetic Vertical Datum of 1929 (NGVD of 1929) is a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It was formerly called “Sea Level Datum of 1929” or “mean sea level.” Although the datum was derived from the mean sea level at 26 tide stations, it does not necessarily represent local mean sea level at any particular place. *See NOAA web site: <http://www.ngs.noaa.gov/faq.shtml#WhatVD29VD88>* (See “North American Vertical Datum of 1988”)

Natural substrate refers to any naturally occurring immersed or submersed solid surface, such as a rock or tree, upon which an organism lives. (See also “Substrate”)

Nekton are the consumers in the aquatic environment and consist of large free-swimming organisms that are capable of sustained, directed mobility.

Nephelometric turbidity unit (NTU) is the measurement for reporting turbidity that is based on use of a standard suspension of formazin. Turbidity measured in NTU uses nephelometric methods that depend on passing specific light of a specific wavelength through the sample.

North American Vertical Datum of 1988 (NAVD 1988) is a fixed reference adopted as the official civilian vertical datum for elevations determined by Federal surveying and mapping activities in the United States. This datum was established in 1991 by minimum-constraint adjustment of the Canadian, Mexican, and United States first-order terrestrial leveling networks.

Open or screened interval is the length of unscreened opening or of well screen through which water enters a well, in feet below land surface.

Organic carbon (OC) is a measure of organic matter present in aqueous solution, suspension, or bottom sediment. May be reported as dissolved organic carbon (DOC), particulate organic carbon (POC), or total organic carbon (TOC).

Organic mass or volatile mass of a living substance is the difference between the dry mass and ash mass and represents the actual mass of the living matter. Organic mass is expressed in the same units as for ash mass and dry mass. (See also “Ash mass,” “Biomass,” and “Dry mass”)

Organism count/area refers to the number of organisms collected and enumerated in a sample and adjusted to the number per area habitat, usually square meter (m²), acre, or hectare. 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 milliliter (mL) or liter (L). Numbers of planktonic organisms can be expressed in these terms.

Organochlorine compounds are any chemicals that contain carbon and chlorine. Organochlorine compounds that are important in investigations of water, sediment, and biological quality include certain pesticides and industrial compounds.

Parameter code is a 5-digit number used in the USGS computerized data system, National Water Information System (NWIS), to uniquely identify a specific constituent or property.

Partial-record station is a site where discrete measurements of one or more hydrologic parameters are obtained over a period of time without continuous data being recorded or computed. A common example is a crest-stage gage partial-record station at which only peak stages and flows are recorded.

Particle size is the diameter, in millimeters (mm), of a particle determined by sieve or sedimentation methods. The sedimentation method utilizes the principle of Stokes law to calculate sediment particle sizes. Sedimentation methods (pipet, bottom-withdrawal tube, visual-accumulation tube, sedigraph) 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, as used in this report, agrees with the recommendation made by the American Geophysical Union Subcommittee on Sediment Terminology. The classification is as follows:

Classification	Size (millimeters)	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
Cobble	>64 - 256	Manual measurement
Boulder	>256	Manual measurement

The particle-size distributions given in this report are not necessarily representative of all particles in transport in the stream. For the sedimentation method, most of the organic matter 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.

Peak flow (peak stage) is an instantaneous local maximum value in the continuous time series of streamflows or stages, preceded by a period of increasing values and followed by a period of decreasing values. Several peak values ordinarily occur in a year. The maximum peak value in a year is called the annual peak; peaks lower than the annual peak are called secondary peaks. Occasionally, the annual peak may not be the maximum value for the year; in such cases, the maximum value occurs at midnight at the beginning or end of the year, on the recession from or rise toward a higher peak in the adjoining year. If values are recorded at a discrete series of times, the peak recorded value may be taken as an approximation of the true peak, which may occur between the recording instants. If the values are recorded with finite precision, a sequence of equal recorded values may occur at the peak; in this case, the first value is taken as the peak.

Percent composition or **percent of total** 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, numbers, weight, mass, or volume.

Percent shading is a measure of the amount of

sunlight potentially reaching the stream. A clinometer is used to measure left and right bank canopy angles. These values are added together, divided by 180, and multiplied by 100 to compute percentage of shade.

Periodic-record station is a site where stage, discharge, sediment, chemical, physical, or other hydrologic measurements are made one or more times during a year but at a frequency insufficient to develop a daily record.

Periphyton is the assemblage of microorganisms attached to and living upon submerged solid surfaces. Although primarily consisting of algae, they also include bacteria, fungi, protozoa, rotifers, and other small organisms. Periphyton are useful indicators of water quality.

Pesticides are chemical compounds used to control undesirable organisms. Major categories of pesticides include insecticides, miticides, fungicides, herbicides, and rodenticides.

pH of water is the negative logarithm of the hydrogen-ion activity. Solutions with pH less than 7.0 standard units are termed "acidic," and solutions with a pH greater than 7.0 are termed "basic." Solutions with a pH of 7.0 are neutral. The presence and concentration of many dissolved chemical constituents found in water are affected, in part, by the hydrogen-ion activity of water. Biological processes including growth, distribution of organisms, and toxicity of the water to organisms also are affected, in part, by the hydrogen-ion activity of water.

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 commonly are known as algae. (See also "Plankton")

Picocurie (PC, pCi) is one trillionth (1×10^{-12}) of the amount of radioactive nuclide represented by a curie (Ci). A curie is the quantity of radioactive nuclide that yields 3.7×10^{10} radioactive disintegrations per second (dps). A picocurie yields 0.037 dps, or 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. Concentrations are expressed as a number of cells per milliliter (cells/mL) of sample.

Polychlorinated biphenyls (PCBs) are industrial chemicals that are mixtures of chlorinated biphenyl compounds having various percentages of chlorine. They are similar in structure to organochlorine insecticides.

Polychlorinated naphthalenes (PCNs) are industrial chemicals that are mixtures of chlorinated naphthalene compounds. They have properties and applications similar to polychlorinated biphenyls (PCBs) and have been identified in commercial PCB preparations.

Pool, as used in this report, is a small part of a stream reach with little velocity, commonly with water deeper than surrounding areas.

Primary productivity is a measure of the rate at which new organic matter is formed and accumulated through photo-synthetic 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 (carbon method) by the plants.

Primary productivity (carbon method) is expressed as milligrams of carbon per area per unit time [$\text{mg C}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg C}/(\text{m}^3/\text{time})$] for phytoplankton. The carbon method defines the amount of carbon dioxide consumed as measured by radioactive carbon (carbon-14). The carbon-14 method is of greater sensitivity than the oxygen light and dark bottle method and is preferred for use with unenriched water samples. Unit time may be either the hour or day, depending on the incubation period. (See also “Primary productivity”)

Primary productivity (oxygen method) is expressed as milligrams of oxygen per area per unit time [$\text{mg O}/(\text{m}^2/\text{time})$] for periphyton and macrophytes or per volume [$\text{mg O}/(\text{m}^3/\text{time})$] for phytoplankton. The oxygen method defines 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. (See also “Primary productivity”)

Radioisotopes are isotopic forms of elements that exhibit radioactivity. Isotopes are varieties of a chemical element that differ in atomic weight but are very nearly alike in chemical properties. The difference arises because the atoms of the isotopic forms of an element differ in the number of neutrons in the nucleus; for example, ordinary chlorine is a mixture of isotopes having atomic weights of 35 and 37, and the natural mixture has an atomic weight of about 35.453. Many of the elements similarly exist as mixtures of isotopes, and a great many new isotopes have been produced in the operation of nuclear devices such as the cyclotron. There are 275 isotopes of the 81 stable elements, in addition to more than 800 radioactive isotopes.

Reach, as used in this report, is a length of stream that is chosen to represent a uniform set of physical, chemical, and biological conditions within a segment. It is the principal sampling unit for collecting physical, chemical, and biological data.

Recoverable from bed (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 readily soluble substances. Complete dissolution of all bottom material is not achieved by the digestion treatment and 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. (See also “Bed material”)

Recurrence interval, also referred to as return period, is the average time, usually expressed in years, between occurrences of hydrologic events of a specified type (such as exceedances of a specified high flow or nonexceedance of a specified low flow). The terms “return period” and “recurrence interval” do not imply regular cyclic occurrence. The actual times between occurrences vary randomly, with most of the times being less than the average and a few being substantially greater than the average. For example, the 100-year flood is the flow rate that is exceeded by the annual maximum peak flow at

intervals whose average length is 100 years (that is, once in 100 years, on average); almost two-thirds of all exceedances of the 100-year flood occur less than 100 years after the previous exceedance, half occur less than 70 years after the previous exceedance, and about one-eighth occur more than 200 years after the previous exceedance. Similarly, the 7-day, 10-year low flow ($7Q_{10}$) is the flow rate below which the annual minimum 7-day-mean flow dips at intervals whose average length is 10 years (that is, once in 10 years, on average); almost two-thirds of the nonexceedances of the $7Q_{10}$ occur less than 10 years after the previous nonexceedance, half occur less than 7 years after, and about one-eighth occur more than 20 years after the previous nonexceedance. The recurrence interval for annual events is the reciprocal of the annual probability of occurrence. Thus, the 100-year flood has a 1-percent chance of being exceeded by the maximum peak flow in any year, and there is a 10-percent chance in any year that the annual minimum 7-day-mean flow will be less than the $7Q_{10}$.

Replicate samples are a group of samples collected in a manner such that the samples are thought to be essentially identical in composition.

Return period (See “Recurrence interval”)

Riffle, as used in this report, is a shallow part of the stream where water flows swiftly over completely or partially submerged obstructions to produce surface agitation.

River mileage is the curvilinear distance, in miles, measured upstream from the mouth along the meandering path of a stream channel in accordance with Bulletin No. 14 (October 1968) of the Water Resources Council and typically is used to denote location along a river.

Run, as used in this report, is a relatively shallow part of a stream with moderate velocity and little or no surface turbulence.

Runoff is the quantity of water that is discharged (“runs off”) from a drainage basin during a given time period. Runoff data may be presented as volumes in acre-feet, as mean discharges per unit of drainage area in cubic feet per second per square mile, or as depths of water on the drainage basin in inches. (See also “Annual runoff”)

Sea level, as used in this report, refers to one of the two commonly used national vertical datums (NGVD

1929 or NAVD 1988). See separate entries for definitions of these datums.

Sediment is solid material that originates mostly from disintegrated rocks; when transported by, suspended in, or deposited from water, it is referred to as “fluvial sediment.” Sediment 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 affected by environmental and land-use factors. Some major factors are topography, soil characteristics, land cover, and depth and intensity of precipitation.

Sensible heat flux (often used interchangeably with latent sensible heat-flux density) is the amount of heat energy that moves by turbulent transport through the air across a specified cross-sectional area per unit time and goes to heating (cooling) the air. Usually expressed in watts per square meter.

Seven-day, 10-year low flow ($7Q_{10}$) is the discharge below which the annual 7-day minimum flow falls in 1 year out of 10 on the long-term average. The recurrence interval of the $7Q_{10}$ is 10 years; the chance that the annual 7-day minimum flow will be less than the $7Q_{10}$ is 10 percent in any given year. (See also “Annual 7-day minimum” and “Recurrence interval”)

Shelves, as used in this report, are streambank features extending nearly horizontally from the flood plain to the lower limit of persistent woody vegetation.

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. Sodium hazard in water is an index that can be used to evaluate the suitability of water for irrigating crops.

Soil heat flux (often used interchangeably with soil heat-flux density) is the amount of heat energy that moves by conduction across a specified cross-sectional area of soil per unit time and goes to heating (or cooling) the soil. Usually expressed in watts per square meter.

Soil-water content is the water lost from the soil upon drying to constant mass at 105 °C; expressed either as mass of water per unit mass of dry soil or as the volume of water per unit bulk volume of soil.

Specific electrical conductance (conductivity) is a

measure of the capacity of water (or other media) to conduct an electrical current. It is expressed in microsiemens per centimeter at 25 °C. Specific electrical conductance is a function of the types and quantity of dissolved substances in water and can be used for approximating the dissolved-solids content of the water. Commonly, the concentration of dissolved solids (in milligrams per liter) is from 55 to 75 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.

Stable isotope ratio (per MIL) is a unit expressing the ratio of the abundance of two radioactive isotopes. Isotope ratios are used in hydrologic studies to determine the age or source of specific water, to evaluate mixing of different water, as an aid in determining reaction rates, and other chemical or hydrologic processes.

Stage (See “Gage height”)

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

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

Substrate is the physical surface upon which an organism lives.

Substrate embeddedness class is a visual estimate of riffle streambed substrate larger than gravel that is surrounded or covered by fine sediment (<2mm, sand or finer). Below are the class categories expressed as the percentage covered by fine sediment:

- 0 < no gravel or larger substrate
- 1 > 75 percent
- 2 51-75 percent
- 3 26-51 percent
- 4 5-25 percent
- 5 < 5 percent

Surface area of a lake is that area (acres) encompassed by the boundary of the lake as shown on USGS topographic maps, or other available maps or

photographs. Because surface area changes with lake stage, surface areas listed in this report represent those determined for the stage at the time the maps or photographs were obtained.

Surficial bed material is the upper surface (0.1 to 0.2 foot) 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 undissolved material in a water-sediment mixture. It is defined operationally as the 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 suspended water-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 are 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 directly analyzing the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total recoverable concentrations of the constituent. (See also “Suspended”)

Suspended sediment is the sediment maintained in suspension by the upward components of turbulent currents or that exists in suspension as a colloid. (See also “Sediment”)

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 foot above the bed) expressed as milligrams of dry sediment per liter of water-sediment mixture (mg/L). The analytical technique uses the mass of all of the sediment and the net weight of the water-sediment mixture in a sample to compute the suspended-sediment concentration. (See also “Sediment” and “Suspended sediment”)

Suspended-sediment discharge (tons/d) is the rate of sediment transport, as measured by dry mass or volume, that passes a cross section in a given time. It is calculated in units of tons per day as follows: concentration (mg/L) x discharge (ft³/s) x 0.0027. (See also “Sediment,” “Suspended sediment,” and “Suspended-sediment concentration”)

Suspended-sediment load is a general term that refers to a given characteristic of the material in suspension that passes a point during a specified period of time. The term needs to be qualified, such as “annual suspended-sediment load” or “sand-size suspended-sediment load,” and so on. It is not synonymous with either suspended-sediment discharge or concentration. (See also “Sediment”)

Suspended, total is the total amount of a given constituent in the part of a water-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. 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 directly analyzing portions of the suspended material collected on the filter or, more commonly, by difference, on the basis of determinations of (1) dissolved and (2) total concentrations of the constituent. (See also “Suspended”)

Suspended solids, total residue at 105 °C concentration is the concentration of inorganic and organic material retained on a filter, expressed as milligrams of dry material per liter of water (mg/L). An aliquot of the sample is used for this analysis.

Synoptic studies are short-term investigations of specific water-quality conditions during selected seasonal or hydro-logic periods to provide improved spatial resolution for critical water-quality conditions. For the period and conditions sampled, they assess the spatial distribution of selected water-quality conditions in relation to causative factors, such as land use and contaminant sources.

Taxa (Species) richness is the number of species (taxa) present in a defined area or sampling unit.

Taxonomy is the division of biology concerned with the classification and naming of organisms. The

classification of organisms is based upon a hierarchical scheme beginning with Kingdom and ending with Species at the base. The higher the classification level, the fewer features the organisms have in common. For example, the taxonomy of a particular mayfly, *Hexagenia limbata*, is the following:

Kingdom:	Animal
Phylum:	Arthropoda
Class:	Insecta
Order:	Ephemeroptera
Family:	Ephemeridae
Genus:	<i>Hexagenia</i>
Species:	<i>Hexagenia limbata</i>

Thalweg is the line formed by connecting points of minimum streambed elevation (deepest part of the channel).

Thermograph is an instrument that continuously records variations of temperature on a chart. The more general term “temperature recorder” is used in the table descriptions 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 resulting from the mixing of flow proportionally to the duration of the concentration.

Tons per acre-foot (T/acre-ft) is the dry mass (tons) of a constituent per unit volume (acre-foot) of water. It is computed by multiplying the concentration of the constituent, in milligrams per liter, by 0.00136.

Tons per day (T/DAY, tons/d) is a common chemical or sediment discharge unit. It is the quantity of a substance in solution, in suspension, or as bedload that passes a stream section during a 24-hour period. It is equivalent to 2,000 pounds per day, or 0.9072 metric tons per day.

Total is the amount of a given constituent in a representative whole-water (unfiltered) 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 determined at least 95 percent of the constituent in the sample.)

Total coliform bacteria are a particular group of bacteria that are used as indicators of possible sewage pollution. This group includes coliforms that inhabit the intestine of warmblooded animals and those that inhabit soils. 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 all the organisms that produce colonies with a golden-green metallic sheen within 24 hours when incubated at 35 °C plus or minus 1.0 °C on M-Endo medium (nutrient medium for bacterial growth). Their concentrations are expressed as number of colonies per 100 milliliters of sample. (See also “Bacteria”)

Total discharge is the quantity of a given constituent, measured as dry mass or volume, that passes a stream cross section per unit of time. When referring to constituents other than water, this term needs to be qualified, such as “total sediment discharge,” “total chloride discharge,” and so on.

Total in bottom material is the 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 length (fish) is the straight-line distance from the anterior point of a fish specimen’s snout, with the mouth closed, to the posterior end of the caudal (tail) fin, with the lobes of the caudal fin squeezed together.

Total load refers to all of a constituent in transport. When referring to sediment, it includes suspended load plus bed load.

Total organism count is the number of organisms collected and enumerated in any particular sample. (See also “Organism count/volume”)

Total recoverable is the amount of a given constituent in a whole-water sample after a 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 for whole-water samples, equivalent digestion procedures are required of all laboratories performing such analyses because different digestion procedures may produce different analytical results.

Total sediment discharge is the mass of suspended-sediment plus bed-load transport, measured as dry weight, that passes a cross section in a given time. It is a rate and is reported as tons per day. (See also “Bedload,” “Bedload discharge,” “Sediment,” “Suspended sediment,” and “Suspended-sediment concentration”)

Total sediment load or total load is the sediment in transport as bedload and suspended-sediment load. The term may be qualified, such as “annual suspended-sediment load” or “sand-size suspended-sediment load,” and so on. It differs from total sediment discharge in that load refers to the material, whereas discharge refers to the quantity of material, expressed in units of mass per unit time. (See also “Sediment,” “Suspended-sediment load,” and “Total load”)

Transect, as used in this report, is a line across a stream perpendicular to the flow and along which measurements are taken, so that morphological and flow characteristics along the line are described from bank to bank. Unlike a cross section, no attempt is made to determine known elevation points along the line.

Turbidity is the reduction in the transparency of a solution due to the presence of suspended and some dissolved substances. The measurement technique records the collective optical properties of the solution that cause light to be scattered and attenuated rather than transmitted in straight lines; the higher the intensity of scattered or attenuated light, the higher the value of the turbidity. Turbidity is expressed in nephelometric turbidity units (NTU). Depending on the method used, the turbidity units as NTU can be

defined as the intensity of light of a specified wavelength scattered or attenuated by suspended particles or absorbed at a method specified angle, usually 90 degrees, from the path of the incident light. Currently approved methods for the measurement of turbidity in the USGS include those that conform to U.S. EPA Method 180.1, ASTM D1889-00, and ISO 7027. Measurements of turbidity by these different methods and different instruments are unlikely to yield equivalent values.

Ultraviolet (UV) absorbance (absorption) at 254 or 280 nanometers is a measure of the aggregate concentration of the mixture of UV absorbing organic materials dissolved in the analyzed water, such as lignin, tannin, humic substances, and various aromatic compounds. UV absorbance (absorption) at 254 or 280 nanometers is measured in UV absorption units per centimeter of pathlength of UV light through a sample.

Unconfined aquifer is an aquifer whose upper surface is a water table free to fluctuate under atmospheric pressure. (See “Water-table aquifer”)

Vertical datum (See “Datum”)

Volatile organic compounds (VOCs) are organic compounds that can be isolated from the water phase of a sample by purging the water sample with inert gas, such as helium, and subsequently analyzed by gas chromatography. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, adhesives, petroleum products, pharmaceuticals, and refrigerants. They are often components of fuels, solvents, hydraulic fluids, paint thinners, and dry cleaning agents commonly used in urban settings. VOC contamination of drinking-water supplies is a human health concern because many are toxic and are known or suspected human carcinogens.

Water table is that surface in a ground-water body at which the water pressure is equal to the atmospheric pressure.

Water-table aquifer is an unconfined aquifer within which the water table is found.

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, 2003, is called the “2003 water year.”

WDR is used as an abbreviation for “Water-Data Report” in the REVISED RECORDS paragraph to refer to State annual hydrologic-data reports. (WRD was used as an abbreviation for “Water-Resources Data” in reports published prior to 1976.)

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.

Wet mass is the mass of living matter plus contained water. (See also “Biomass” and “Dry mass”)

Wet weight refers to the weight of animal tissue or other substance including its contained water. (See also “Dry weight”)

WSP is used as an acronym for “Water-Supply Paper” in reference to previously published reports.

Zooplankton is the animal part of the plankton. Zooplankton are capable of extensive movements within the water column and often are 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. (See also “Plankton”)

TECHNIQUES OF WATER-RESOURCES INVESTIGATIONS OF THE U.S. GEOLOGICAL SURVEY

The USGS publishes a series of manuals titled the “Techniques of Water-Resources Investigations” that describe procedures for planning and conducting specialized work in water-resources investigations. The material in these manuals 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. Each chapter then is limited to a narrow field of the section subject matter. This publication format permits flexibility when revision or printing is required.

Manuals in the Techniques of Water-Resources Investigations series, which are listed below, are available online at <http://water.usgs.gov/pubs/twri/>. Printed copies are available for sale from the USGS, Information Services, Box 25286, Federal Center, Denver, Colorado 80225 (an authorized agent of the Superintendent of Documents, Government Printing Office). Please telephone “1-888-ASK-USGS” for current prices, and refer to the title, book number, section number, chapter number, and mention the “U.S. Geological Survey Techniques of Water-Resources Investigations.” Other products can be viewed online at <http://www.usgs.gov/sales.html>, or ordered by telephone or by FAX to (303)236-4693. Order forms for FAX requests are available online at <http://mac.usgs.gov/isb/pubs/forms/>. Prepayment by major credit card or by a check or money order payable to the “U.S. Geological Survey” is required.

Book 1. Collection of Water Data by Direct Measurement

Section D. Water Quality

- 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, chap. D1. 1975. 65 p.
- 1–D2. *Guidelines for collection and field analysis of ground-water samples for selected unstable constituents*, by W.W. Wood: USGS–TWRI book 1, chap. D2. 1976. 24 p.

Book 2. Collection of Environmental Data

Section D. Surface Geophysical Methods

- 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, chap. D1. 1974. 116 p.
- 2–D2. *Application of seismic-refraction techniques to hydrologic studies*, by F.P. Haeni: USGS–TWRI book 2, chap. D2. 1988. 86 p.

Section E. Subsurface Geophysical Methods

- 2–E1. *Application of borehole geophysics to water-resources investigations*, by W.S. Keys and L.M. MacCary: USGS–TWRI book 2, chap. E1. 1971. 126 p.
- 2–E2. *Borehole geophysics applied to ground-water investigations*, by W.S. Keys: USGS–TWRI book 2, chap. E2. 1990. 150 p.

Section F. Drilling and Sampling Methods

- 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, chap. F1. 1989. 97 p.

Book 3. Applications of Hydraulics

Section A. Surface-Water Techniques

- 3–A1. *General field and office procedures for indirect discharge measurements*, by M.A. Benson and Tate Dalrymple: USGS–TWRI book 3, chap. A1. 1967. 30 p.
- 3–A2. *Measurement of peak discharge by the slope-area method*, by Tate Dalrymple and M.A. Benson: USGS–TWRI book 3, chap. A2. 1967. 12 p.

- 3–A3. *Measurement of peak discharge at culverts by indirect methods*, by G.L. Bodhaine: USGS–TWRI book 3, chap. A3. 1968. 60 p.
- 3–A4. *Measurement of peak discharge at width contractions by indirect methods*, by H.F. Matthai: USGS–TWRI book 3, chap. A4. 1967. 44 p.
- 3–A5. *Measurement of peak discharge at dams by indirect methods*, by Harry Hulsing: USGS–TWRI book 3, chap. A5. 1967. 29 p.
- 3–A6. *General procedure for gaging streams*, by R.W. Carter and Jacob Davidian: USGS–TWRI book 3, chap. A6. 1968. 13 p.
- 3–A7. *Stage measurement at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A7. 1968. 28 p.
- 3–A8. *Discharge measurements at gaging stations*, by T.J. Buchanan and W.P. Somers: USGS–TWRI book 3, chap. A8. 1969. 65 p.
- 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, chap. A9. 1989. 27 p.
- 3–A10. *Discharge ratings at gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A10. 1984. 59 p.
- 3–A11. *Measurement of discharge by the moving-boat method*, by G.F. Smoot and C.E. Novak: USGS–TWRI book 3, chap. A11. 1969. 22 p.
- 3–A12. *Fluorometric procedures for dye tracing*, Revised, by J.F. Wilson, Jr., E.D. Cobb, and F.A. Kilpatrick: USGS–TWRI book 3, chap. A12. 1986. 34 p.
- 3–A13. *Computation of continuous records of streamflow*, by E.J. Kennedy: USGS–TWRI book 3, chap. A13. 1983. 53 p.
- 3–A14. *Use of flumes in measuring discharge*, by F.A. Kilpatrick and V.R. Schneider: USGS–TWRI book 3, chap. A14. 1983. 46 p.
- 3–A15. *Computation of water-surface profiles in open channels*, by Jacob Davidian: USGS–TWRI book 3, chap. A15. 1984. 48 p.
- 3–A16. *Measurement of discharge using tracers*, by F.A. Kilpatrick and E.D. Cobb: USGS–TWRI book 3, chap. A16. 1985. 52 p.
- 3–A17. *Acoustic velocity meter systems*, by Antonius Laenen: USGS–TWRI book 3, chap. A17. 1985. 38 p.
- 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, chap. A18. 1989. 52 p.
- 3–A19. *Levels at streamflow gaging stations*, by E.J. Kennedy: USGS–TWRI book 3, chap. A19. 1990. 31 p.
- 3–A20. *Simulation of soluble waste transport and buildup in surface waters using tracers*, by F.A. Kilpatrick: USGS–TWRI book 3, chap. A20. 1993. 38 p.
- 3–A21. *Stream-gaging cableways*, by C. Russell Wagner: USGS–TWRI book 3, chap. A21. 1995. 56 p.

Section B. Ground-Water Techniques

- 3–B1. *Aquifer-test design, observation, and data analysis*, by R.W. Stallman: USGS–TWRI book 3, chap. B1. 1971. 26 p.
- 3–B2. *Introduction to ground-water hydraulics, a programmed text for self-instruction*, by G.D. Bennett: USGS–TWRI book 3, chap. B2. 1976. 172 p.
- 3–B3. *Type curves for selected problems of flow to wells in confined aquifers*, by J.E. Reed: USGS–TWRI book 3, chap. B3. 1980. 106 p.
- 3–B4. *Regression modeling of ground-water flow*, by R.L. Cooley and R.L. Naff: USGS–TWRI book 3, chap. B4. 1990. 232 p.
- 3–B4. *Supplement 1. Regression modeling of ground-water flow—Modifications to the computer code for nonlinear regression solution of steady-state ground-water flow problems*, by R.L. Cooley: USGS–TWRI book 3, chap. B4. 1993. 8 p.
- 3–B5. *Definition of boundary and initial conditions in the analysis of saturated ground-water flow systems—An introduction*, by O.L. Franke, T.E. Reilly, and G.D. Bennett: USGS–TWRI book 3, chap. B5. 1987. 15 p.

- 3–B6. *The principle of superposition and its application in ground-water hydraulics*, by T.E. Reilly, O.L. Franke, and G.D. Bennett: USGS–TWRI book 3, chap. B6. 1987. 28 p.
- 3–B7. *Analytical solutions for one-, two-, and three-dimensional solute transport in ground-water systems with uniform flow*, by E.J. Wexler: USGS–TWRI book 3, chap. B7. 1992. 190 p.
- 3–B8. *System and boundary conceptualization in ground-water flow simulation*, by T.E. Reilly: USGS–TWRI book 3, chap. B8. 2001. 29 p.

Section C. Sedimentation and Erosion Techniques

- 3–C1. *Fluvial sediment concepts*, by H.P. Guy: USGS–TWRI book 3, chap. C1. 1970. 55 p.
- 3–C2. *Field methods for measurement of fluvial sediment*, by T.K. Edwards and G.D. Glysson: USGS–TWRI book 3, chap. C2. 1999. 89 p.
- 3–C3. *Computation of fluvial-sediment discharge*, by George Porterfield: USGS–TWRI book 3, chap. C3. 1972. 66 p.

Book 4. Hydrologic Analysis and Interpretation

Section A. Statistical Analysis

- 4–A1. *Some statistical tools in hydrology*, by H.C. Riggs: USGS–TWRI book 4, chap. A1. 1968. 39 p.
- 4–A2. *Frequency curves*, by H.C. Riggs: USGS–TWRI book 4, chap. A2. 1968. 15 p.
- 4–A3. *Statistical methods in water resources*, by D.R. Helsel and R.M. Hirsch: USGS–TWRI book 4, chap. A3. 1991. Available only online at <http://water.usgs.gov/pubs/twri/twri4a3/>. (Accessed August 30, 2002.)

Section B. Surface Water

- 4–B1. *Low-flow investigations*, by H.C. Riggs: USGS–TWRI book 4, chap. B1. 1972. 18 p.
- 4–B2. *Storage analyses for water supply*, by H.C. Riggs and C.H. Hardison: USGS–TWRI book 4, chap. B2. 1973. 20 p.
- 4–B3. *Regional analyses of streamflow characteristics*, by H.C. Riggs: USGS–TWRI book 4, chap. B3. 1973. 15 p.

Section D. Interrelated Phases of the Hydrologic Cycle

- 4–D1. *Computation of rate and volume of stream depletion by wells*, by C.T. Jenkins: USGS–TWRI book 4, chap. D1. 1970. 17 p.

Book 5. Laboratory Analysis

Section A. Water Analysis

- 5–A1. *Methods for determination of inorganic substances in water and fluvial sediments*, by M.J. Fishman and L.C. Friedman, editors: USGS–TWRI book 5, chap. A1. 1989. 545 p.
- 5–A2. *Determination of minor elements in water by emission spectroscopy*, by P.R. Barnett and E.C. Mallory, Jr.: USGS–TWRI book 5, chap. A2. 1971. 31 p.
- 5–A3. *Methods for the determination of organic substances in water and fluvial sediments*, edited by R.L. Wershaw, M.J. Fishman, R.R. Grabbe, and L.E. Lowe: USGS–TWRI book 5, chap. A3. 1987. 80 p.
- 5–A4. *Methods for collection and analysis of aquatic biological and microbiological samples*, by L.J. Britton and P.E. Greeson, editors: USGS–TWRI book 5, chap. A4. 1989. 363 p.
- 5–A5. *Methods for determination of radioactive substances in water and fluvial sediments*, by L.L. Thatcher, V.J. Janzer, and K.W. Edwards: USGS–TWRI book 5, chap. A5. 1977. 95 p.
- 5–A6. *Quality assurance practices for the chemical and biological analyses of water and fluvial sediments*, by L.C. Friedman and D.E. Erdmann: USGS–TWRI book 5, chap. A6. 1982. 181 p.

Section C. Sediment Analysis

- 5–C1. *Laboratory theory and methods for sediment analysis*, by H.P. Guy: USGS–TWRI book 5, chap. C1. 1969. 58 p.

Book 6. Modeling Techniques**Section A. Ground Water**

- 6–A1. *A modular three-dimensional finite-difference ground-water flow model*, by M.G. McDonald and A.W. Harbaugh: USGS–TWRI book 6, chap. A1. 1988. 586 p.
- 6–A2. *Documentation of a computer program to simulate aquifer-system compaction using the modular finite-difference ground-water flow model*, by S.A. Leake and D.E. Prudic: USGS–TWRI book 6, chap. A2. 1991. 68 p.
- 6–A3. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 1: Model Description and User's Manual*, by L.J. Torak: USGS–TWRI book 6, chap. A3. 1993. 136 p.
- 6–A4. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 2: Derivation of finite-element equations and comparisons with analytical solutions*, by R.L. Cooley: USGS–TWRI book 6, chap. A4. 1992. 108 p.
- 6–A5. *A modular finite-element model (MODFE) for areal and axisymmetric ground-water-flow problems, Part 3: Design philosophy and programming details*, by L.J. Torak: USGS–TWRI book 6, chap. A5. 1993. 243 p.
- 6–A6. *A coupled surface-water and ground-water flow model (MODBRANCH) for simulation of stream-aquifer interaction*, by Eric D. Swain and Eliezer J. Wexler: USGS–TWRI book 6, chap. A6. 1996. 125 p.
- 6–A7. *User's guide to SEAWAT: A computer program for simulation of three-dimensional variable-density ground-water flow*, by Weixing Guo and Christian D. Langevin: USGS–TWRI book 6, chap. A7. 2002. 77 p.

Book 7. Automated Data Processing and Computations**Section C. Computer Programs**

- 7–C1. *Finite difference model for aquifer simulation in two dimensions with results of numerical experiments*, by P.C. Trescott, G.F. Pinder, and S.P. Larson: USGS–TWRI book 7, chap. C1. 1976. 116 p.
- 7–C2. *Computer model of two-dimensional solute transport and dispersion in ground water*, by L.F. Konikow and J.D. Bredehoeft: USGS–TWRI book 7, chap. C2. 1978. 90 p.
- 7–C3. *A model for simulation of flow in singular and interconnected channels*, by R.W. Schaffranek, R.A. Baltzer, and D.E. Goldberg: USGS–TWRI book 7, chap. C3. 1981. 110 p.

Book 8. Instrumentation**Section A. Instruments for Measurement of Water Level**

- 8–A1. *Methods of measuring water levels in deep wells*, by M.S. Garber and F.C. Koopman: USGS–TWRI book 8, chap. A1. 1968. 23 p.
- 8–A2. *Installation and service manual for U.S. Geological Survey manometers*, by J.D. Craig: USGS–TWRI book 8, chap. A2. 1983. 57 p.

Section B. Instruments for Measurement of Discharge

- 8–B2. *Calibration and maintenance of vertical-axis type current meters*, by G.F. Smoot and C.E. Novak: USGS–TWRI book 8, chap. B2. 1968. 15 p.

Book 9. Handbooks for Water-Resources Investigations

Section A. National Field Manual for the Collection of Water-Quality Data

- 9–A1. *National field manual for the collection of water-quality data: Preparations for water sampling*, by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A1. 1998. 47 p.
- 9–A2. *National field manual for the collection of water-quality data: Selection of equipment for water sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A2. 1998. 94 p.
- 9–A3. *National field manual for the collection of water-quality data: Cleaning of equipment for water sampling*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A3. 1998. 75 p.
- 9–A4. *National field manual for the collection of water-quality data: Collection of water samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A4. 1999. 156 p.
- 9–A5. *National field manual for the collection of water-quality data: Processing of water samples*, edited by F.D. Wilde, D.B. Radtke, Jacob Gibs, and R.T. Iwatsubo: USGS–TWRI book 9, chap. A5. 1999. 149 p.
- 9–A6. *National field manual for the collection of water-quality data: Field measurements*, edited by F.D. Wilde and D.B. Radtke: USGS–TWRI book 9, chap. A6. 1998. Variously paginated.
- 9–A7. *National field manual for the collection of water-quality data: Biological indicators*, edited by D.N. Myers and F.D. Wilde: USGS–TWRI book 9, chap. A7. 1997 and 1999. Variously paginated.
- 9–A8. *National field manual for the collection of water-quality data: Bottom-material samples*, by D.B. Radtke: USGS–TWRI book 9, chap. A8. 1998. 48 p.
- 9–A9. *National field manual for the collection of water-quality data: Safety in field activities*, by S.L. Lane and R.G. Fay: USGS–TWRI book 9, chap. A9. 1998. 60 p.

SURFACE-WATER RECORDS
Beaver River Basin

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

LOCATION.—Latitude 41°10'21", longitude 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, Ohio.

DRAINAGE AREA.—854 mi²

PERIOD OF RECORD.—October 1987 to current year.

GAGE.—Water-stage recorder. Datum of gage is 843.08 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 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 Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	314	e220	314	e1800	e280	e680	e860	346	4570	391	3430	913
2	306	e210	306	e2000	e290	e620	e740	441	3300	394	3170	3380
3	306	e200	e200	e1500	e300	e640	e660	631	1790	378	3180	2800
4	312	e190	e190	e1100	e760	e620	e680	427	1610	439	2950	2050
5	320	e210	e200	e1000	e820	e1200	2580	477	1470	588	3120	1760
6	e300	e310	e200	e900	e740	e1500	3380	790	1360	704	3450	1540
7	e290	e280	e190	e1000	e740	e1400	2320	699	1050	876	3300	1400
8	e290	e250	e220	e1400	e520	e1300	2530	445	923	3030	2440	1370
9	e285	e240	e200	e1400	e500	e2700	2460	662	1160	4490	1840	1080
10	e280	e320	e190	e1400	e480	e2800	2030	2430	1290	3360	1950	945
11	e280	e800	e210	e1100	e460	e1800	1830	4080	1020	4100	1690	920
12	e275	e560	e270	e900	e440	e1300	1750	2350	1000	3430	1530	633
13	e270	e320	e330	e860	e410	e2100	1680	2190	1660	2400	1320	440
14	e265	226	e560	e700	e370	e2900	1550	2570	1830	1980	1270	407
15	e275	187	e600	e560	e340	e2700	1190	2430	1380	2210	1250	507
16	e360	208	e540	e410	e320	e2600	788	2470	1020	2350	1220	497
17	e350	247	e400	e320	e330	e2700	718	3390	1170	2140	1190	440
18	e300	272	e330	e290	e340	e2100	532	2890	1380	1980	1170	540
19	e270	267	e310	e290	e350	e1500	413	2180	1450	1770	912	1620
20	e300	250	e640	e270	e360	e1100	388	2100	1380	1580	600	1930
21	e280	229	e740	e270	e370	e1200	480	2950	1010	2010	464	1400
22	e260	257	e580	e260	e600	e1000	522	2830	759	9230	445	1330
23	e240	332	e460	e250	e1400	e900	452	2160	604	12600	418	2720
24	e220	367	e440	e255	e1300	e840	371	3870	474	8410	410	2730
25	e250	295	e500	e260	e940	e760	330	3200	413	3170	407	2160
26	e440	247	e480	e265	e820	e1200	306	2350	411	2560	498	1990
27	e340	240	e440	e250	e840	e1400	288	2050	416	3330	531	3210
28	e280	238	e420	e255	e760	e1100	273	1730	395	6100	466	4900
29	e260	234	e430	e270	---	e1150	256	1330	386	5330	580	3700
30	e240	225	e460	e260	---	e1500	319	970	393	3670	1590	2380
31	e230	---	e1000	e270	---	e1100	---	2400	---	3460	1100	---
TOTAL	8988	8431	12350	22065	16180	46410	32676	59838	37074	98460	47891	51692
MEAN	290	281	398	712	578	1497	1089	1930	1236	3176	1545	1723
MAX	440	800	1000	2000	1400	2900	3380	4080	4570	12600	3450	4900
MIN	220	187	190	250	280	620	256	346	386	378	407	407
MED	280	247	400	410	470	1300	699	2180	1110	2400	1250	1470
CFSM	0.34	0.33	0.47	0.83	0.68	1.75	1.28	2.26	1.45	3.72	1.81	2.02
IN.	0.39	0.37	0.54	0.96	0.70	2.02	1.42	2.61	1.61	4.29	2.09	2.25

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2003, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	545	668	879	1125	1155	1126	1183	1020	946	786	597	622				
MAX	2074	1935	2736	3088	2853	2881	2946	3113	3117	3176	1545	1723				
(WY)	1991	1993	1997	1993	1990	1993	1994	1996	1989	2003	2003	2003				
MIN	247	212	272	268	333	421	540	293	293	370	392	326				
(WY)	1989	1992	1992	1992	1992	2000	1988	1992	1992	1988	2001	2001				

	SUMMARY STATISTICS		FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1988 - 2003	
	2002	2003	2002	2003	2003	2003	1988 - 2003	1988 - 2003
ANNUAL TOTAL			256976		442055			
ANNUAL MEAN			704		1211		886	
HIGHEST ANNUAL MEAN							1262	1997
LOWEST ANNUAL MEAN							546	1992
HIGHEST DAILY MEAN			6060	May 14	12600	Jul 23	12600	Jul 23 2003
LOWEST DAILY MEAN			187	Nov 15	187	Nov 15	183	Feb 9 1992
ANNUAL SEVEN-DAY MINIMUM			199	Dec 4	199	Dec 4	196	Feb 5 1992
MAXIMUM PEAK FLOW					13000	Jul 23	13000	Jul 23 2003
MAXIMUM PEAK STAGE					15.42	Jul 23	15.42	Jul 23 2003
INSTANTANEOUS LOW FLOW							183	Feb 9 1992
ANNUAL RUNOFF (CFSM)			0.82		1.42		1.04	
ANNUAL RUNOFF (INCHES)			11.19		19.26		14.09	
10 PERCENT EXCEEDS			1550		2810		2150	
50 PERCENT EXCEEDS			436		704		479	
90 PERCENT EXCEEDS			250		256		277	

e Estimated.

SURFACE-WATER RECORDS
Beaver River Basin

03098600 MAHONING RIVER BELOW WEST AVENUE AT YOUNGSTOWN, OHIO

LOCATION.—Latitude 41°06'18", longitude 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, Ohio.

DRAINAGE AREA.—978 mi².

PERIOD OF RECORD.—October 1987 to current year.

GAGE.—Water-stage recorder. Datum of gage is 824.10 ft above sea level.

REMARKS.—Records excellent except for periods of estimated record, which are fair. 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. Water-quality data collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e344	274	267	2220	355	823	1120	515	5580	589	3710	1460
2	e317	263	260	2490	365	796	959	588	3820	613	3370	5090
3	e315	247	250	1770	372	827	854	782	1930	567	4120	3750
4	e311	245	236	1320	884	807	876	604	1710	714	3690	2520
5	e335	255	243	1260	976	1320	3140	698	1580	835	3650	2020
6	e312	347	242	1180	800	1830	3910	942	1480	982	3820	1660
7	e310	312	231	1370	803	1630	2740	874	1190	1070	3600	1500
8	e310	285	255	1480	660	1560	2960	587	1120	4060	2610	1440
9	e306	273	237	1500	557	3050	2790	932	1490	6210	2880	1150
10	e303	369	232	1510	552	3220	2220	3400	1490	5170	4490	990
11	e301	1120	278	1320	541	2480	1960	5230	1160	5700	2400	967
12	e290	736	330	1050	516	1710	1840	2910	1160	4110	1810	742
13	e289	462	358	934	489	2340	1750	2430	1920	2680	1490	557
14	e283	328	640	885	469	3280	1630	2780	2160	2110	1380	522
15	e288	281	721	688	423	3120	1310	2600	1560	2290	1320	642
16	e380	326	607	568	391	2950	935	2690	1160	2440	1280	624
17	e380	390	458	456	398	3050	857	3610	1300	2210	1230	541
18	e314	411	385	368	419	2680	694	3130	1570	2030	1210	569
19	e290	387	374	369	438	1970	577	2310	1610	1790	1010	2240
20	e319	373	806	348	454	1560	561	2300	1520	1580	735	2200
21	297	332	904	341	472	1370	781	3310	1150	2500	604	1570
22	285	373	650	330	706	1440	733	3090	912	12400	582	1610
23	260	458	508	314	1730	1290	655	2480	762	15600	552	3230
24	253	469	499	316	1620	1060	563	4910	660	11700	536	3050
25	283	385	546	321	1370	972	510	3750	600	4010	533	2280
26	503	323	516	326	1060	1380	467	2580	596	2770	784	2020
27	376	307	487	315	956	1630	435	2190	605	4740	807	3950
28	319	301	460	319	964	1260	422	1860	580	9110	639	5910
29	288	290	467	334	---	1320	417	1450	568	6760	1050	4280
30	286	286	494	324	---	1750	467	1090	593	4200	2230	2510
31	277	---	1240	334	---	1500	---	3000	---	3720	1270	---
TOTAL	9724	11208	14181	26660	19740	55975	39133	69622	43536	125260	59392	61594
MEAN	314	374	457	860	705	1806	1304	2246	1451	4041	1916	2053
MAX	503	1120	1240	2490	1730	3280	3910	5230	5580	15600	4490	5910
MIN	253	245	231	314	355	796	417	515	568	567	533	522

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1988 - 2003, BY WATER YEAR (WY)

	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	611	749	1033	1333	1318	1337	1437	1192	1103	945	679	720				
MAX	2303	2117	3184	3608	3323	3456	3502	3639	3693	4041	1916	2053				
(WY)	1991	1993	1997	1993	1990	1993	1994	1996	1989	2003	2003	2003				
MIN	264	222	312	302	432	517	684	437	377	430	419	346				
(WY)	1992	1992	1992	1992	1992	2000	1995	1992	1988	1988	1991	1991				

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1988 - 2003	
	VALUE	DATE	VALUE	DATE	VALUE	DATE
ANNUAL TOTAL	291496		536025			
ANNUAL MEAN	799		1469		1036	
HIGHEST ANNUAL MEAN					1469	2003
LOWEST ANNUAL MEAN					643	1988
HIGHEST DAILY MEAN	7410	May 14	15600	Jul 23	15600	Jul 23 2003
LOWEST DAILY MEAN	231	Dec 7	231	Dec 7	181	Oct 17 1988
ANNUAL SEVEN-DAY MINIMUM	239	Dec 4	239	Dec 4	202	Nov 24 1991
MAXIMUM PEAK FLOW			15800	Jul 23	15800	Jul 23 2003
MAXIMUM PEAK STAGE			17.49	Jul 23	17.49	Jul 23 2003
INSTANTANEOUS LOW FLOW			211	Dec 7	181	Oct 17 1988
10 PERCENT EXCEEDS	1720		3290		2440	
50 PERCENT EXCEEDS	488		884		546	
90 PERCENT EXCEEDS	294		302		328	

e Estimated

SURFACE-WATER RECORDS
Little Beaver Creek Basin

03109500 LITTLE BEAVER CREEK NEAR EAST LIVERPOOL, OHIO

LOCATION.—Latitude 40°40'33", longitude 80°32'27", Columbiana County, Hydrologic Unit 05030101, on right bank at downstream side of Grimms Bridge, 1.5 mi upstream from Island Run, 4 mi upstream from mouth, and 4 mi northeast of East Liverpool, Ohio.

DRAINAGE AREA.—496 mi².

PERIOD OF RECORD.—May 1915 to current year.

REVISED RECORDS.—WSP 873: 1937(M). WSP 1305: 1916-18(M), 1921-22(M), 1924-30(M), 1933(M), 1936(M). WSP 1907: 1950(P), drainage area.

GAGE.—Water-stage recorder. Datum of gage is 702.77 ft, National Geodetic Vertical Datum of 1912. Prior to Sept. 22, 1926, nonrecording gage at same site and datum.

REMARKS.—Records good except for periods of estimated record, which are poor. Water-quality and sediment data formerly collected at this site. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	77	104	e150	1130	e160	540	e590	255	1010	207	820	903
2	65	89	e150	1870	e200	591	554	380	693	197	652	4010
3	60	82	e150	1120	e310	595	504	347	576	175	966	3380
4	100	78	e145	828	e1400	622	481	e320	668	198	1810	2670
5	86	77	e140	642	e900	1380	e1400	e480	617	294	1620	1720
6	72	97	e135	550	e560	1870	e1300	e640	522	265	1080	1180
7	65	110	e130	468	e420	999	e1200	e440	479	213	944	891
8	59	115	e125	452	e320	1070	e1600	e1100	496	2890	1530	704
9	55	102	e120	509	e260	2670	1060	e2500	979	3990	1510	579
10	53	98	e115	567	e220	1750	875	e4300	782	2720	4000	515
11	53	197	148	467	e200	1020	762	e2400	557	2770	3120	435
12	51	320	190	352	e180	887	683	e1900	546	2060	1470	385
13	55	188	228	e300	e170	1690	598	e1600	763	1140	909	347
14	54	142	430	e280	e1000	2460	530	e1400	713	757	680	338
15	53	123	880	e250	e400	1620	488	889	545	597	541	375
16	70	134	450	e240	308	1510	448	1520	450	559	556	427
17	107	185	337	e230	279	1460	414	1240	406	459	815	339
18	101	220	270	e220	361	1280	384	909	537	740	609	285
19	87	221	245	e210	396	1080	362	753	522	1360	417	1870
20	94	227	600	e200	405	974	344	703	436	667	353	2300
21	90	209	700	e195	377	935	456	1500	383	562	320	1150
22	83	206	480	e190	485	852	509	1140	347	1750	294	902
23	70	245	409	e185	2120	736	412	887	305	2230	271	2560
24	63	229	342	e180	1470	650	e370	1900	268	3490	244	1670
25	61	201	329	e175	887	590	321	1490	241	2220	224	1040
26	112	e184	311	e170	646	696	306	1050	223	1210	210	790
27	135	e180	267	e170	e530	745	287	832	209	1200	392	968
28	112	e170	229	e165	e540	609	266	738	201	6120	410	1660
29	91	e160	251	e165	---	611	263	669	188	2830	261	1010
30	97	e154	228	e165	---	e760	261	595	184	1450	1990	730
31	104	---	360	e160	---	e660	---	649	---	1030	1250	---
TOTAL	2435	4847	9044	12805	15504	33912	18028	35526	14846	46350	30268	36133
MEAN	78.5	162	292	413	554	1094	601	1146	495	1495	976	1204
MAX	135	320	880	1870	2120	2670	1600	4300	1010	6120	4000	4010
MIN	51	77	115	160	160	540	261	255	184	175	210	285
MED	72	165	245	240	398	935	485	889	509	1140	680	903
CFSM	0.16	0.33	0.59	0.83	1.12	2.21	1.21	2.31	1.00	3.01	1.97	2.43
IN.	0.18	0.36	0.68	0.96	1.16	2.54	1.35	2.66	1.11	3.48	2.27	2.71

	STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 2003, BY WATER YEAR (WY)											
MEAN	175	317	534	708	847	1105	916	655	393	263	179	153
MAX (WY)	1380	2102	2012	3993	1957	2493	2187	1876	1784	1554	1567	1452
MIN (WY)	1955	1986	1991	1937	1956	1945	1940	1929	1989	1990	1980	1926
	25.7	38.2	50.7	63.9	50.8	241	202	79.9	40.8	29.6	22.0	17.4
	1964	1931	1931	1931	1934	1969	1946	1934	1934	1930	1930	1932

	SUMMARY STATISTICS		FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1916 - 2003	
ANNUAL TOTAL			130683			259698		
ANNUAL MEAN			358			712		519
HIGHEST ANNUAL MEAN								899
LOWEST ANNUAL MEAN								207
HIGHEST DAILY MEAN				5470	Apr 15	6120	Jul 28	18900
LOWEST DAILY MEAN				22	Sep 12	51	Oct 12	12
ANNUAL SEVEN-DAY MINIMUM				25	Sep 9	53	Oct 9	12
MAXIMUM PEAK FLOW						8010	Jul 28a	25000
MAXIMUM PEAK STAGE						10.55	Jul 28	17.40
INSTANTANEOUS LOW FLOW						51	Oct 12	12
ANNUAL RUNOFF (CFSM)			0.72			1.43		1.05
ANNUAL RUNOFF (INCHES)			9.80			19.48		14.21
10 PERCENT EXCEEDS			711			1640		1220
50 PERCENT EXCEEDS			230			452		250
90 PERCENT EXCEEDS			42			109		51

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

SURFACE-WATER RECORDS
Short Creek Basin

57

03111500 SHORT CREEK NEAR DILLONVALE, OHIO

LOCATION.—Latitude 40°11'36", longitude 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, Ohio, 2.2 mi downstream from Jug Run, and 2.9 mi upstream from Little Short Creek.

DRAINAGE AREA.—123 mi².

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 good except for periods of estimated record, which are poor. Water-quality and sediment data formerly 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34	49	43	407	e57	141	116	89	172	63	96	126
2	29	42	40	379	e74	209	111	86	127	65	75	186
3	26	38	32	226	e100	250	104	80	150	61	231	203
4	24	37	e30	179	495	229	103	82	171	65	281	251
5	27	37	e29	146	222	401	388	141	142	73	134	143
6	27	64	e28	133	186	395	252	134	123	70	104	115
7	24	60	e27	114	e110	263	363	148	145	67	185	100
8	21	49	e26	116	e100	346	367	344	141	75	221	92
9	21	43	e25	132	e92	703	264	730	193	88	394	86
10	21	46	e37	124	e86	353	218	530	142	154	902	81
11	25	184	e43	107	e82	264	198	357	127	294	279	74
12	28	96	54	88	e78	253	177	275	128	113	180	70
13	29	63	62	e80	e88	395	159	272	139	86	146	68
14	27	52	209	e76	111	397	145	209	119	71	119	68
15	25	44	163	e72	95	316	138	188	110	63	223	79
16	115	52	113	e68	112	320	131	429	99	68	277	76
17	94	63	87	e66	172	300	126	259	151	64	152	65
18	53	70	80	e64	192	259	120	215	209	58	118	64
19	48	66	77	e63	109	222	117	184	150	55	103	544
20	53	79	207	e62	98	204	112	189	128	50	91	258
21	41	63	154	e61	89	197	144	383	114	49	86	150
22	35	120	114	e60	127	181	121	243	105	73	83	141
23	31	131	96	e60	601	162	108	210	94	260	80	274
24	30	87	83	e60	357	151	99	199	87	283	73	157
25	30	70	100	e59	218	142	97	174	82	122	69	130
26	96	59	102	e59	211	149	93	156	77	89	69	113
27	68	54	84	e59	191	136	90	144	79	78	84	131
28	47	49	77	e58	133	129	88	139	73	90	78	152
29	45	46	73	e58	---	134	87	132	68	75	72	116
30	71	47	70	e58	---	132	84	125	65	65	214	102
31	61	---	84	e57	---	121	---	168	---	66	126	---
TOTAL	1306	1960	2449	3351	4586	7854	4720	7014	3710	2953	5345	4215
MEAN	42.1	65.3	79.0	108	164	253	157	226	124	95.3	172	140
MAX	115	184	209	407	601	703	388	730	209	294	902	544
MIN	21	37	25	57	57	121	84	80	65	49	69	64
CFSM	0.34	0.53	0.64	0.88	1.33	2.06	1.28	1.84	1.01	0.77	1.40	1.14
IN.	0.39	0.59	0.74	1.01	1.39	2.38	1.43	2.12	1.12	0.89	1.62	1.27

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1942 - 2003, BY WATER YEAR (WY)												
	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	51.6	73.9	114	155	199	242	220	172	115	76.7	62.5	51.1
MAX	195	515	414	469	459	725	488	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1942 - 2003	
ANNUAL TOTAL		32655		49463			
ANNUAL MEAN		89.5		136		127	
HIGHEST ANNUAL MEAN						225	
LOWEST ANNUAL MEAN						46.1	
HIGHEST DAILY MEAN		723	Jun 6	902	Aug 10	3620	Mar 6 1945
LOWEST DAILY MEAN		14	Sep 12	21	Oct 8	2.8	Sep 21 1947
ANNUAL SEVEN-DAY MINIMUM		15	Sep 9	24	Oct 4	4.9	Dec 14 1943
MAXIMUM PEAK FLOW				2180	Aug 9a	8200	Jun 15 1990
MAXIMUM PEAK STAGE				7.14	Aug 9	12.27	Jun 15 1990
INSTANTANEOUS LOW FLOW				20	Oct 8	2.8	Sep 21 1947
ANNUAL RUNOFF (CFSM)		0.73		1.10		1.04	
ANNUAL RUNOFF (INCHES)		9.88		14.96		14.07	
10 PERCENT EXCEEDS		189		264		264	
50 PERCENT EXCEEDS		54		102		78	
90 PERCENT EXCEEDS		24		44		22	

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.—Latitude 40°04'01", longitude 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, Ohio, and 4.8 mi upstream from mouth.

DRAINAGE AREA.—97.7 mi².

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 good except for periods of estimated record, which are poor. U.S. Army Corps of Engineers satellite telemeter at station. Sediment data formerly collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23	36	41	528	e53	121	91	79	149	59	125	209
2	21	30	37	321	e70	163	88	76	98	66	65	265
3	20	28	e34	197	e140	179	84	72	127	52	214	144
4	19	27	e32	156	708	158	84	68	158	52	260	112
5	24	29	e31	127	184	436	232	114	116	54	101	91
6	21	58	e30	117	119	430	154	105	97	58	79	80
7	19	47	e29	104	103	244	310	92	154	57	79	73
8	18	38	e28	105	88	380	297	100	131	83	96	67
9	17	34	e27	118	e80	967	201	334	174	72	159	62
10	17	38	e34	103	e74	346	169	471	118	164	484	60
11	21	155	e43	91	e68	254	164	245	109	463	232	58
12	25	78	57	e80	e64	261	147	172	115	114	117	56
13	25	52	66	e74	e62	362	129	155	108	83	93	53
14	24	42	230	e70	e60	339	119	125	96	69	79	52
15	21	39	154	e68	e58	290	113	111	87	63	73	63
16	129	49	103	e66	e56	296	110	239	80	66	98	59
17	75	69	78	e64	124	283	106	145	119	55	85	51
18	41	72	71	e62	87	245	102	128	199	51	70	51
19	37	66	70	e60	79	209	99	111	123	50	65	559
20	40	68	195	e59	71	188	93	121	100	46	60	175
21	32	53	122	e58	64	179	134	281	89	47	58	85
22	27	121	94	e58	123	166	109	161	82	51	63	85
23	24	102	83	e57	540	150	96	138	74	95	64	118
24	24	67	73	e57	226	141	88	126	70	151	53	76
25	24	53	99	e56	151	129	86	111	65	70	51	63
26	64	48	94	e56	128	125	85	102	63	53	50	56
27	44	46	77	e55	114	113	80	97	62	47	64	65
28	32	42	71	e55	111	104	78	93	60	50	60	77
29	34	41	68	e54	---	106	79	89	55	47	52	58
30	56	42	68	e54	---	103	77	86	54	43	339	51
31	45	---	85	e53	---	94	---	144	---	41	133	---
TOTAL	1043	1670	2324	3183	3805	7561	3804	4491	3132	2472	3621	3074
MEAN	33.6	55.7	75.0	103	136	244	127	145	104	79.7	117	102
MAX	129	155	230	528	708	967	310	471	199	463	484	559
MIN	17	27	27	53	53	94	77	68	54	41	50	51
CFSM	0.34	0.57	0.77	1.05	1.39	2.50	1.30	1.48	1.07	0.82	1.20	1.05
IN.	0.40	0.64	0.88	1.21	1.45	2.88	1.45	1.71	1.19	0.94	1.38	1.17

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2003, BY WATER YEAR (WY)

MEAN	42.4	83.5	104	136	150	181	161	145	118	71.4	48.5	42.5
MAX	138	402	395	294	262	330	279	344	345	230	127	102
(WY)	1991	1986	1991	1991	1986	1993	1994	1996	1998	1990	1997	2003
MIN	17.9	23.7	44.4	51.5	66.0	72.7	73.9	52.8	34.7	31.3	16.6	9.53
(WY)	1989	1992	1989	1992	2002	1987	1986	1986	1992	1999	1986	1985

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1984 - 2003
ANNUAL TOTAL	29791	40180	
ANNUAL MEAN	81.6	110	107
HIGHEST ANNUAL MEAN			148
LOWEST ANNUAL MEAN			70.6
HIGHEST DAILY MEAN	1110 Jun 6	967 Mar 9	3900 Jan 28 1994
LOWEST DAILY MEAN	14 Sep 12	17 Oct 9	7.0 Sep 21 1985
ANNUAL SEVEN-DAY MINIMUM	15 Sep 8	19 Oct 4	7.4 Sep 17 1985
MAXIMUM PEAK FLOW		1560 Mar 9a	5470 Jun 28 1998
MAXIMUM PEAK STAGE		4.57 Mar 9	8.21 Jun 28 1998
INSTANTANEOUS LOW FLOW		16 Oct 10	7.0 Sep 21 1985
ANNUAL RUNOFF (CFSM)	0.84	1.13	1.09
ANNUAL RUNOFF (INCHES)	11.34	15.30	14.83
10 PERCENT EXCEEDS	153	211	208
50 PERCENT EXCEEDS	58	79	69
90 PERCENT EXCEEDS	20	37	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
Captina Creek Basin

03114000 CAPTINA CREEK AT ARMSTRONGS MILLS, OHIO

LOCATION.—Latitude 39°54'31", longitude 80°55'27", in NE ¼ sec. 10, T.5 N., R.4 W., Belmont County, Hydrologic Unit 05030106, on left bank at downstream side of bridge on State Highway 148, 0.5 mi east of Armstrongs Mills, Ohio, and 0.7 mi downstream from Anderson Run.

DRAINAGE AREA.—134 mi².

PERIOD OF RECORD.—August 1926 to September 1935, October 1958 to March 2003 (discontinued).

REVISED RECORDS.—WSP 1907: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 739.53 ft above sea level. Aug. 20, 1926-Sept. 30, 1935, nonrecording gage at same site, at datum 1.0 ft higher.

REMARKS.—Records good except for periods of estimated record, which are poor. Water-quality and sediment data formerly collected at this site. Station relocated 1.5 mi upstream. Station 03113990 Captina Creek at State Route 148 at Armstrong Mills.

EXTREMES FOR CURRENT YEAR.—Maximum discharge, 2,870 ft³/s Feb. 23, gage height, 7.12 ft; minimum daily, 3.5 ft³/s Oct. 12.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.3	42	55	1120	e44	193	---	---	---	---	---	---
2	7.7	30	45	781	e44	301	---	---	---	---	---	---
3	6.2	27	39	471	e66	348	---	---	---	---	---	---
4	6.6	25	32	346	1200	297	---	---	---	---	---	---
5	6.5	24	e28	249	430	797	---	---	---	---	---	---
6	4.8	65	e26	205	260	880	---	---	---	---	---	---
7	7.2	70	e25	162	e140	523	---	---	---	---	---	---
8	5.4	48	e24	156	e110	723	---	---	---	---	---	---
9	4.6	40	e23	192	e90	1400	---	---	---	---	---	---
10	3.9	39	e26	190	e74	614	---	---	---	---	---	---
11	3.6	177	e31	152	e64	401	---	---	---	---	---	---
12	3.5	112	62	128	e56	359	---	---	---	---	---	---
13	6.0	70	89	e110	e50	475	---	---	---	---	---	---
14	8.1	50	487	e94	e46	527	---	---	---	---	---	---
15	7.1	41	311	e81	e42	441	---	---	---	---	---	---
16	116	79	194	e74	e39	445	---	---	---	---	---	---
17	118	129	127	e68	e44	374	---	---	---	---	---	---
18	47	141	107	e64	e110	286	---	---	---	---	---	---
19	33	109	99	e60	170	219	---	---	---	---	---	---
20	41	128	297	e56	139	183	---	---	---	---	---	---
21	32	91	222	e54	117	167	---	---	---	---	---	---
22	22	190	153	e52	203	145	---	---	---	---	---	---
23	17	197	120	e50	1470	125	---	---	---	---	---	---
24	15	130	97	e48	523	113	---	---	---	---	---	---
25	13	96	145	e48	321	104	---	---	---	---	---	---
26	31	76	148	e47	252	93	---	---	---	---	---	---
27	45	69	110	e46	199	85	---	---	---	---	---	---
28	27	61	99	e46	178	e70	---	---	---	---	---	---
29	25	54	92	e46	---	e64	---	---	---	---	---	---
30	89	55	86	e45	---	e66	---	---	---	---	---	---
31	64	---	112	e45	---	e58	---	---	---	---	---	---
TOTAL	825.5	2465	3511	5286	6481	10876	---	---	---	---	---	---
MEAN	26.6	82.2	113	171	231	351	---	---	---	---	---	---
MAX	118	197	487	1120	1470	1400	---	---	---	---	---	---
MIN	3.5	24	23	45	39	58	---	---	---	---	---	---
CFSM	0.20	0.61	0.85	1.27	1.73	2.62	---	---	---	---	---	---
IN.	0.23	0.68	0.97	1.47	1.80	3.02	---	---	---	---	---	---

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 2003, BY WATER YEAR (WY)

	44.8	104	195	232	285	336	270	196	118	70.6	61.3	47.7
MEAN	44.8	104	195	232	285	336	270	196	118	70.6	61.3	47.7
MAX	294	885	681	579	594	805	679	568	676	409	675	628
(WY)	1976	1986	1991	1979	1975	1963	1961	1967	1981	1969	1980	1975
MIN	0.090	1.55	6.64	14.6	20.8	59.1	55.5	19.5	4.89	0.22	0.32	0.25
(WY)	1931	1964	1964	1931	1934	1969	1971	1934	1934	1930	1930	1966

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

WATER YEARS 1927 - 2003

ANNUAL TOTAL	50886.61	
ANNUAL MEAN	139	163
HIGHEST ANNUAL MEAN		275
LOWEST ANNUAL MEAN		75.2
HIGHEST DAILY MEAN	2050	May 18
LOWEST DAILY MEAN	0.02	Sep 2
ANNUAL SEVEN-DAY MINIMUM	0.07	Aug 28
MAXIMUM PEAK FLOW		21900
MAXIMUM PEAK STAGE		17.48
INSTANTANEOUS LOW FLOW		0.00
ANNUAL RUNOFF (CFSM)	1.04	1.22
ANNUAL RUNOFF (INCHES)	14.13	16.53
10 PERCENT EXCEEDS	326	377
50 PERCENT EXCEEDS	79	66
90 PERCENT EXCEEDS	2.0	4.8

e Estimated.

SURFACE-WATER RECORDS

Little Muskingum River Basin

03115400 LITTLE MUSKINGUM RIVER AT BLOOMFIELD, OHIO

LOCATION.—Latitude 39°33'47", longitude 81°12'14", in sec. 22, T.3 N., R.6 W., Washington County, Hydrologic Unit 05030201, on left bank 400 ft upstream from bridge on State Highway 260 at Bloomfield, Ohio, 2.2 mi downstream from Wilson Run.

DRAINAGE AREA.—210 mi².

PERIOD OF RECORD.—October 1958 to September 1981, October 1995 to current year.

REVISED RECORDS.—WSP 1705: 1959.

GAGE.—Water-stage recorder. Datum of gage is 645.99 ft above sea level.

REMARKS.—Records fair except for periods of estimated record, which are poor. Water-quality and sediment data formerly collected at this site. Satellite telemeter at gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	91	78	1530	e20	456	82	119	284	23	456	625
2	16	70	e62	2340	e20	913	80	94	166	20	172	1430
3	14	54	e52	802	e70	919	74	77	658	18	1140	1530
4	15	44	e45	645	2010	655	72	67	4240	16	2010	621
5	19	41	e41	418	1000	1370	231	163	1050	14	519	297
6	22	70	e37	329	413	2090	316	275	414	13	306	188
7	21	158	e34	258	e220	1030	325	189	642	21	372	135
8	19	119	e31	238	e160	958	765	220	705	52	849	101
9	17	86	e29	291	e120	1640	453	616	539	83	570	79
10	17	76	e36	298	e90	837	326	1280	340	153	495	62
11	24	270	e42	250	e70	482	520	1100	232	353	312	48
12	28	249	84	176	e60	383	744	534	174	184	210	40
13	33	143	209	e140	e54	368	422	367	147	140	151	34
14	33	98	1560	e110	e48	587	314	272	125	106	105	29
15	33	77	860	e90	e44	426	260	205	151	57	84	32
16	126	106	396	e70	e40	367	222	190	146	229	966	57
17	228	257	251	e60	e37	319	193	283	510	205	363	51
18	121	307	198	e50	e70	269	171	392	1200	294	198	35
19	77	198	174	e42	115	225	158	292	484	1760	121	2480
20	62	223	288	e37	106	202	138	231	288	359	86	1220
21	53	172	390	e34	119	192	264	2240	198	186	64	346
22	45	320	262	e31	785	174	327	799	148	416	55	242
23	38	384	201	e29	6450	155	235	436	108	3270	45	872
24	31	240	159	e28	1610	139	187	313	79	5720	38	416
25	30	167	206	e27	648	125	164	233	61	791	32	248
26	27	123	315	e26	450	118	154	183	49	367	27	174
27	29	102	237	e25	389	107	131	145	42	235	29	146
28	41	88	198	e24	340	97	105	126	38	207	63	181
29	59	77	173	e23	---	93	95	108	32	201	61	142
30	125	75	149	e22	---	98	98	92	27	133	510	108
31	120	---	151	e21	---	88	---	106	---	93	697	---
TOTAL	1542	4485	6948	8464	15558	15882	7626	11747	13277	15719	11106	11969
MEAN	49.7	150	224	273	556	512	254	379	443	507	358	399
MAX	228	384	1560	2340	6450	2090	765	2240	4240	5720	2010	2480
MIN	14	41	29	21	20	88	72	67	27	13	27	29
CFSM	0.24	0.71	1.07	1.30	2.65	2.44	1.21	1.80	2.11	2.41	1.71	1.90
IN.	0.27	0.79	1.23	1.50	2.76	2.81	1.35	2.08	2.35	2.78	1.97	2.12

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1958 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	(WY)	MIN	(WY)
1958	66.0	476	1980	0.43	1967
1959	143	518	1971	2.28	1964
1960	295	918	1979	16.3	1964
1961	380	1008	1979	28.0	1977
1962	491	1121	2000	59.0	1964
1963	571	1387	1963	119	1969
1964	461	1004	1964	78.8	1971
1965	321	899	1968	48.4	1976
1966	236	1479	1998	10.6	1999
1967	99.4	507	2003	0.98	1966
1968	87.6	401	1979	0.90	1962
1969	85.0	719	1975	0.34	1999

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1958 - 2003
ANNUAL TOTAL	86061.22	124323	
ANNUAL MEAN	236	341	268
HIGHEST ANNUAL MEAN			461
LOWEST ANNUAL MEAN			151
HIGHEST DAILY MEAN	3820	May 18	21600
LOWEST DAILY MEAN	0.04	Sep 14	0.00
ANNUAL SEVEN-DAY MINIMUM	0.08	Aug 28	0.05
MAXIMUM PEAK FLOW		7760	Feb 23
MAXIMUM PEAK STAGE		21.84	Feb 23
INSTANTANEOUS LOW FLOW		12	Jul 6
ANNUAL RUNOFF (CFSM)	1.12	1.62	1.28
ANNUAL RUNOFF (INCHES)	15.25	22.02	17.37
10 PERCENT EXCEEDS	507	794	628
50 PERCENT EXCEEDS	98	158	91
90 PERCENT EXCEEDS	0.60	29	4.7

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

03115973 SCHOCALOG RUN AT COPLEY JUNCTION, OHIO

LOCATION.—Latitude 41°06'11", longitude 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, Ohio, 0.3 mi downstream of Schocalog Lake, and 0.8 mi southeast of intersection of I-77 and Ridgewood Road.

DRAINAGE AREA.—3.65 mi².

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

GAGE.—Water-stage recorder. Datum of gage is 963.39 ft above sea level (North American Vertical Datum of 1988).

REMARKS.—Records fair except for periods of estimated record, and discharges less than 0.5 ft³/s, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e1.0	2.0	2.2	20	2.5	3.3	4.1	2.6	19	2.9	4.2	15
2	e0.86	1.1	2.3	11	2.7	4.3	3.3	20	5.8	1.4	6.4	18
3	e0.81	0.47	1.8	5.0	3.1	3.9	2.6	4.4	5.6	1.3	6.1	4.0
4	e0.83	0.63	1.5	3.7	18	2.9	8.5	2.5	5.4	1.1	4.4	1.9
5	e1.3	2.1	1.5	2.9	6.0	13	45	11	4.6	3.2	3.8	1.9
6	e0.98	3.8	1.6	2.9	3.3	6.9	10	5.7	3.2	2.2	5.2	1.6
7	e1.1	1.9	1.5	3.2	2.8	4.5	19	2.5	2.5	4.8	9.9	1.7
8	e1.2	1.5	1.3	3.3	2.6	8.0	16	25	5.7	96	8.7	1.7
9	e0.88	1.2	1.3	5.8	2.2	24	7.3	28	14	55	4.0	1.6
10	e0.77	3.1	1.4	5.3	2.3	7.1	5.5	16	4.2	11	4.3	0.98
11	e0.82	14	1.5	3.0	2.5	5.2	4.5	7.1	4.8	7.2	3.2	1.0
12	0.92	3.7	2.3	2.1	2.4	6.2	3.6	17	23	4.6	2.4	0.87
13	0.82	2.1	2.8	2.0	2.5	23	3.3	13	44	2.7	2.2	0.88
14	0.74	1.5	11	2.0	2.6	12	3.1	6.4	23	2.1	1.7	0.82
15	0.77	1.1	5.6	1.8	2.6	9.2	3.0	5.0	7.9	2.2	2.0	4.3
16	1.9	3.0	3.6	1.6	2.5	9.3	2.8	17	4.7	2.3	2.5	2.1
17	2.0	4.2	2.4	1.6	3.1	8.8	2.9	6.5	3.6	2.0	4.3	1.2
18	1.3	3.3	2.0	1.7	3.0	5.8	3.0	4.5	4.3	1.8	1.5	1.6
19	5.7	3.5	4.4	1.8	3.0	5.0	2.7	3.2	4.4	1.6	1.3	41
20	3.2	3.3	15	1.9	3.4	5.3	2.7	12	3.9	1.2	1.2	9.3
21	1.5	1.9	5.0	1.8	4.4	4.8	8.6	20	2.2	45	1.2	2.5
22	1.2	14	4.0	1.8	19	4.5	4.0	6.2	2.8	174	1.4	14
23	1.2	9.1	3.3	1.7	35	3.3	2.9	4.9	2.2	30	1.4	13
24	1.1	4.2	1.9	1.8	7.2	2.8	2.6	4.8	1.8	11	0.98	3.3
25	2.7	2.8	2.1	2.2	4.4	2.8	2.3	3.6	1.9	8.3	0.95	6.0
26	11	2.2	2.0	2.4	3.4	12	2.4	3.3	1.7	5.5	1.8	3.1
27	2.9	2.3	1.8	2.1	2.9	4.7	2.1	3.0	2.1	32	2.9	62
28	1.7	2.2	1.6	2.1	2.8	3.7	1.9	3.0	1.9	88	1.9	16
29	1.7	1.8	1.4	2.2	---	13	1.7	2.8	1.9	14	2.0	4.9
30	3.1	1.8	7.8	2.0	---	7.0	1.4	3.0	5.1	4.9	3.8	2.5
31	2.3	---	30	2.1	---	4.4	---	39	---	4.1	2.0	---
TOTAL	58.30	99.80	127.9	104.8	152.2	230.7	182.8	303.0	217.2	623.4	99.63	238.75
MEAN	1.88	3.33	4.13	3.38	5.44	7.44	6.09	9.77	7.24	20.1	3.21	7.96
MAX	11	14	30	20	35	24	45	39	44	174	9.9	62
MIN	0.74	0.47	1.3	1.6	2.2	2.8	1.4	2.5	1.7	1.1	0.95	0.82
CFSM	0.52	0.91	1.13	0.93	1.49	2.04	1.67	2.68	1.98	5.51	0.88	2.18
IN.	0.59	1.02	1.30	1.07	1.55	2.35	1.86	3.09	2.21	6.35	1.02	2.43

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2003, BY WATER YEAR (WY)

	2.56	4.16	4.24	5.81	4.64	5.94	7.51	5.53	5.15	5.14	3.27	3.77
MEAN	2.56	4.16	4.24	5.81	4.64	5.94	7.51	5.53	5.15	5.14	3.27	3.77
MAX	5.32	9.51	9.83	10.9	6.80	11.0	12.2	10.0	9.73	20.1	6.96	9.96
(WY)	1997	1993	1997	1993	1997	1993	1994	1996	1997	2003	1992	1992
MIN	0.28	1.44	1.81	2.37	1.99	3.18	4.09	2.52	1.86	0.95	0.28	0.61
(WY)	1995	2001	1996	2002	1995	2000	2001	1992	1999	1993	1993	1994

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1992 - 2003

ANNUAL TOTAL	1399.79	2438.48	
ANNUAL MEAN	3.84	6.68	4.81
HIGHEST ANNUAL MEAN			6.68
LOWEST ANNUAL MEAN			3.04
HIGHEST DAILY MEAN	52	May 13	174
LOWEST DAILY MEAN	0.29	Sep 11	0.47
ANNUAL SEVEN-DAY MINIMUM	0.39	Sep 6	0.82
MAXIMUM PEAK FLOW			275
MAXIMUM PEAK STAGE			13.64
INSTANTANEOUS LOW FLOW			0.24
ANNUAL RUNOFF (CFSM)	1.05		1.83
ANNUAL RUNOFF (INCHES)	14.27		24.85
10 PERCENT EXCEEDS	8.2		14
50 PERCENT EXCEEDS	2.0		3.0
90 PERCENT EXCEEDS	0.77		1.3

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

03116077 CHIPPEWA CREEK AT MILLER ROAD AT STERLING, OHIO

LOCATION.—Latitude 40°57'59", longitude 81°51'02", Wayne County, Hydrologic Unit 05040001, on right upstream bridge abutment of Miller Road bridge, 800 ft southwest of Seville Road and Chestnut Street in the Village of Sterling.

DRAINAGE AREA.—50.4 mi².

PERIOD OF RECORD.—October 2001 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 960 ft above sea level (from topographic map).

REMARKS.—Records good except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.4	2.3	11	182	e6.0	55	73	26	94	3.8	313	23
2	1.3	2.6	10	140	e5.8	58	66	102	71	13	198	54
3	1.6	4.1	e8.8	104	e9.0	55	57	67	65	3.7	167	21
4	2.0	4.5	e7.8	86	52	52	63	57	62	2.4	138	13
5	2.1	4.5	e7.4	73	68	119	382	79	55	2.4	119	9.1
6	1.5	7.3	e7.0	65	77	112	171	80	48	2.3	171	6.8
7	1.4	3.2	e6.6	60	24	85	200	62	43	3.3	127	5.5
8	1.7	2.8	e6.2	52	e20	107	211	91	55	110	100	4.4
9	2.1	2.6	e5.8	61	e18	303	151	286	125	427	85	3.9
10	2.0	4.1	e5.6	68	e16	146	125	223	70	196	68	3.5
11	1.8	32	e5.4	53	e14	113	106	150	58	179	52	3.6
12	2.0	9.1	e5.2	e40	e12	123	91	147	169	107	37	3.3
13	2.1	6.0	e5.0	e32	e11	336	78	158	412	78	27	3.5
14	1.4	4.9	e10	e26	e10	222	66	118	428	56	20	3.5
15	1.5	4.3	34	e22	e9.6	211	59	99	246	39	17	3.7
16	2.5	5.4	50	e17	e9.2	227	51	102	168	27	21	3.3
17	2.3	5.4	41	e14	e8.8	207	44	87	128	19	33	2.7
18	2.0	4.9	36	e13	e8.6	174	37	75	102	13	17	1.4
19	3.6	5.4	38	e12	e8.4	145	33	66	84	9.0	11	39
20	2.4	5.8	82	e11	e8.2	127	31	67	68	6.3	8.1	30
21	1.5	5.7	60	e10	e8.0	112	35	105	54	44	9.2	15
22	1.5	19	47	e9.2	e20	99	31	78	42	785	5.6	61
23	1.4	20	43	e8.6	298	87	28	66	33	314	4.0	101
24	1.2	14	37	e8.2	123	76	26	60	28	202	3.0	45
25	1.7	13	34	e7.8	96	66	23	53	24	155	2.6	31
26	7.8	12	31	e7.4	82	95	22	46	20	124	2.5	22
27	2.3	12	28	e7.0	71	81	20	40	16	221	3.1	437
28	1.6	11	25	e6.8	61	67	21	37	10	938	2.3	183
29	1.5	9.7	23	e6.6	---	102	27	33	8.3	363	2.4	111
30	2.6	11	34	e6.4	---	103	25	30	7.1	224	5.6	85
31	2.7	---	196	e6.2	---	82	---	61	---	172	2.6	---
TOTAL	64.5	248.6	940.8	1215.2	1154.6	3947	2353	2751	2793.4	4839.2	1772.0	1329.2
MEAN	2.08	8.29	30.3	39.2	41.2	127	78.4	88.7	93.1	156	57.2	44.3
MAX	7.8	32	196	182	298	336	382	286	428	938	313	437
MIN	1.2	2.3	5.0	6.2	5.8	52	20	26	7.1	2.3	2.3	1.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

	2001	2002	2003	2001	2002	2003	2001	2002	2003	2001	2002	2003
MEAN	8.25	8.89	29.1	28.6	56.6	99.9	98.6	86.3	84.7	56.1	22.3	17.4
MAX	14.4	9.49	30.3	39.2	71.9	127	119	88.7	93.1	156	57.2	44.3
(WY)	2002	2002	2003	2003	2002	2003	2002	2003	2003	2003	2003	2003
MIN	2.08	8.29	27.9	18.0	41.2	72.5	78.4	83.9	76.3	5.54	3.82	2.44
(WY)	2003	2003	2002	2002	2003	2002	2003	2002	2002	2002	2002	2002

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 2001 - 2003
ANNUAL TOTAL	14888.11	23408.5	
ANNUAL MEAN	40.8	64.1	52.9
HIGHEST ANNUAL MEAN			64.1
LOWEST ANNUAL MEAN			41.7
HIGHEST DAILY MEAN	480	Jun 14	938
LOWEST DAILY MEAN	0.82	Sep 12	1.2
ANNUAL SEVEN-DAY MINIMUM	1.2	Sep 6	1.6
MAXIMUM PEAK FLOW			1010
MAXIMUM PEAK STAGE			9.77
INSTANTANEOUS LOW FLOW			0.33
10 PERCENT EXCEEDS	111	168	136
50 PERCENT EXCEEDS	14	31	23
90 PERCENT EXCEEDS	1.6	2.6	2.3

e Estimated.

SURFACE-WATER RECORDS
Muskingum River Basin

03117000 TUSCARAWAS RIVER AT MASSILLON, OHIO

LOCATION.—Latitude 40°46'13", longitude 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, Ohio, and 3 mi downstream from Newman Creek.

DRAINAGE AREA.—518 mi²

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, National Geodetic Vertical Datum of 1912. Prior to Aug. 19, 1944, nonrecording gage at same site and datum.

REMARKS.—Records excellent except for periods of estimated record, which are poor. 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 formerly collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	134	141	137	1760	e86	380	571	175	1060	203	1230	440
2	e100	115	e130	1690	e84	410	489	280	732	394	1110	1710
3	e76	105	e120	1070	e120	487	405	474	500	269	882	1140
4	e90	98	e110	653	605	460	400	313	533	211	748	620
5	e110	101	e100	460	719	1360	1520	340	463	185	762	378
6	e100	124	e98	376	488	1580	2180	588	384	163	903	311
7	e92	174	e96	326	338	917	1750	407	326	171	861	253
8	e88	140	e94	335	263	790	1890	430	317	761	768	225
9	e84	97	e92	376	e220	2400	1540	1080	673	1960	561	226
10	e80	219	e90	471	e200	1970	1010	1940	646	2420	571	204
11	e78	743	e100	380	e190	1160	718	1820	436	2310	451	182
12	e76	493	123	275	e180	839	594	1230	446	1490	412	170
13	e74	355	139	e230	e160	1750	498	1140	1610	876	340	158
14	e72	223	209	e200	e150	2570	424	872	2150	546	289	148
15	e70	162	335	e180	e140	2170	385	597	1880	402	294	162
16	e78	165	317	e160	e130	1720	349	1420	1100	364	562	190
17	e96	182	304	e150	e120	1510	321	1320	677	323	586	161
18	e98	190	251	e140	e170	1290	295	814	553	281	410	145
19	e92	179	267	e130	281	1010	276	545	464	244	313	1110
20	e88	179	721	e125	248	790	254	529	395	206	254	1350
21	e100	176	679	e120	208	709	317	1640	331	219	224	642
22	152	235	435	e115	415	629	345	1480	284	2180	189	610
23	196	411	373	e110	1990	539	315	860	253	3590	173	1650
24	200	324	299	e105	1760	506	273	654	247	3440	160	1050
25	255	245	265	e100	1060	463	234	511	213	2130	157	567
26	368	203	257	e98	640	668	222	421	175	1060	177	446
27	281	166	229	e96	487	767	195	356	159	1210	183	1870
28	156	153	211	e94	417	568	172	317	148	4150	161	2870
29	146	143	206	e92	---	601	175	306	132	4030	154	2220
30	167	137	220	e90	---	932	182	292	157	3220	282	1110
31	181	---	1050	e88	---	724	---	438	---	1810	241	---
TOTAL	3978	6378	8057	10595	11869	32669	18299	23589	17444	40818	14408	22318
MEAN	128	213	260	342	424	1054	610	761	581	1317	465	744
MAX	368	743	1050	1760	1990	2570	2180	1940	2150	4150	1230	2870
MIN	70	97	90	88	84	380	172	175	132	163	154	145

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2003, BY WATER YEAR (WY)

	207	300	441	543	708	872	740	519	398	318	234	216
MEAN	207	300	441	543	708	872	740	519	398	318	234	216
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 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1938 - 2003

ANNUAL TOTAL	145601	210422		
ANNUAL MEAN	399	576		457
HIGHEST ANNUAL MEAN				661
LOWEST ANNUAL MEAN				245
HIGHEST DAILY MEAN	3120	Apr 15	4150	Jul 28
LOWEST DAILY MEAN	70	Oct 15	70	Oct 15
ANNUAL SEVEN-DAY MINIMUM	75	Oct 10	75	Oct 10
MAXIMUM PEAK FLOW			4240	Jul 28
MAXIMUM PEAK STAGE			9.98	Jul 28
INSTANTANEOUS LOW FLOW				16.43
10 PERCENT EXCEEDS	837		1560	1060
50 PERCENT EXCEEDS	223		317	234
90 PERCENT EXCEEDS	97		100	101

e Estimated.

SURFACE-WATER RECORDS
Muskingum River Basin

03117500 SANDY CREEK AT WAYNESBURG, OHIO

LOCATION.—Latitude 40°40'21", longitude 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, Ohio, 300 ft downstream from Little Sandy Creek, and 0.6 mi upstream from Indian Run.

DRAINAGE AREA.—253 mi².

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, National Geodetic Vertical Datum of 1912.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	61	103	484	e44	e200	310	130	311	101	514	742
2	34	57	e86	838	e43	e230	295	138	265	130	406	2210
3	33	53	e76	659	e70	286	262	146	221	129	486	2090
4	36	51	e70	572	346	281	244	132	264	109	747	1700
5	35	55	e68	457	419	742	594	168	245	105	755	1120
6	32	70	e66	338	353	902	628	257	206	102	1010	765
7	31	79	e64	284	201	659	614	195	188	105	812	545
8	28	85	e62	241	e140	556	786	181	191	550	641	376
9	28	78	e60	267	e120	1230	637	303	403	2100	527	310
10	28	78	e58	300	e100	887	530	706	337	1420	1090	270
11	28	305	e56	e230	e96	689	440	840	266	2440	662	233
12	28	210	e62	e180	e90	465	376	700	284	946	436	205
13	28	141	94	e140	e84	754	320	695	494	698	348	188
14	27	114	167	e120	e80	1100	274	518	392	428	294	184
15	27	104	274	e100	e78	824	241	370	322	318	257	184
16	36	102	223	e90	e76	755	219	1010	265	278	287	234
17	42	107	187	e80	e74	699	202	653	228	251	438	182
18	41	117	153	e74	e72	619	189	437	252	214	299	150
19	40	118	152	e68	e70	524	180	352	268	302	223	1110
20	43	120	372	e64	e68	456	168	314	211	228	192	1670
21	41	120	404	e62	e66	429	279	592	187	188	176	982
22	39	159	334	e60	e90	403	274	537	172	628	157	767
23	33	219	274	e58	793	345	214	431	150	979	136	1390
24	32	184	212	e56	725	299	184	550	135	1020	120	1050
25	33	150	185	e54	567	267	168	604	124	872	110	770
26	53	132	182	e52	e430	393	158	539	117	605	99	e580
27	62	121	160	e50	e330	391	145	431	119	471	183	e1400
28	55	114	135	e48	e250	311	137	340	111	4160	185	e2300
29	48	110	136	e47	---	326	134	285	106	2450	138	e1600
30	52	108	126	e46	---	415	132	269	103	1120	362	e900
31	62	---	258	e45	---	341	---	260	---	734	620	---
TOTAL	1173	3522	4859	6164	5875	16778	9334	13083	6937	24181	12710	26207
MEAN	37.8	117	157	199	210	541	311	422	231	780	410	874
MAX	62	305	404	838	793	1230	786	1010	494	4160	1090	2300
MIN	27	51	56	45	43	200	132	130	103	101	99	150
CFSM	0.15	0.46	0.62	0.79	0.83	2.14	1.23	1.67	0.91	3.08	1.62	3.45
IN.	0.17	0.52	0.71	0.91	0.86	2.47	1.37	1.92	1.02	3.56	1.87	3.85

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1938 - 2003, BY WATER YEAR (WY)

	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	1999	2000	2001	2002	2003
MEAN	95.8	166	280	347	458	551	474	337	219	146	97.9	91.3																																																						
MAX	476	1008	1104	1111	987	1179	867	961	750	780	871	874																																																						
(WY)	1991	1986	1991	1952	1956	1945	1957	1996	1989	2003	1980	2003																																																						
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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1939 - 2003	
ANNUAL TOTAL	78173		130822			
ANNUAL MEAN	214		358		271	
HIGHEST ANNUAL MEAN					429	
LOWEST ANNUAL MEAN					140	
HIGHEST DAILY MEAN	3040		4160		11000	
LOWEST DAILY MEAN	23		27		12	
ANNUAL SEVEN-DAY MINIMUM	25		28		12	
MAXIMUM PEAK FLOW			5280		15000	
MAXIMUM PEAK STAGE			8.19		10.05	
INSTANTANEOUS LOW FLOW			26		6.9	
ANNUAL RUNOFF (CFSM)	0.85		1.42		1.07	
ANNUAL RUNOFF (INCHES)	11.49		19.24		14.56	
10 PERCENT EXCEEDS	424		776		632	
50 PERCENT EXCEEDS	137		219		140	
90 PERCENT EXCEEDS	32		53		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

03118500 NIMISHILLEN CREEK AT NORTH INDUSTRY, OHIO

LOCATION.—Latitude 40°44'03", longitude 81°21'08", in sec. 34, T.10 N., R.8 W., Stark County, Hydrologic Unit 05040001, on left bank upstream abutment of Baum Road bridge, 400 ft northeast of Ridge Street in North Industry, Ohio, and 2.1 mi downstream from Sherrick Run.

DRAINAGE AREA.—175 mi².

PERIOD OF RECORD.—October 1921 to current year.

REVISED RECORDS.—WSP 1113: 1924-30, 1932-37, 1938(M), 1939-40, 1943(M), 1945(P). WSP 1555: 1929, 1935, 1937(M), 1940(M), 1950(M).

GAGE.—Water-stage recorder. Datum of gage is 976.72 ft, National Geodetic Vertical Datum of 1912. Prior to Dec. 13, 1923, nonrecording gage at present site at different datum; prior to Dec. 11, 1990, at site 0.9 mi downstream at datum 5.95 ft lower.

REMARKS.—Records good. Low flow slightly regulated by plants at Canton. Records include diversion from Sugar Creek well field. Mean pumpage for the 2003 water year, 15.2 ft³/s. See REMARKS for station 03124500. Water-quality data formerly collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	79	73	103	878	112	188	238	130	257	289	362	907
2	76	69	101	766	110	255	215	147	212	658	311	1130
3	131	69	97	393	121	246	198	126	272	191	396	661
4	116	74	94	267	653	257	308	123	245	175	360	337
5	102	97	94	216	281	1060	796	347	211	156	416	246
6	72	125	95	201	175	640	394	175	193	146	764	204
7	68	86	92	179	155	342	643	142	180	262	346	179
8	67	80	90	189	134	477	621	213	323	2240	293	164
9	67	75	89	237	126	1200	390	579	394	2220	280	158
10	68	373	89	252	129	484	302	986	233	1270	375	149
11	69	1020	111	186	124	295	260	643	256	1040	251	141
12	67	303	122	154	115	276	230	482	294	486	217	136
13	64	174	130	143	112	1060	200	378	346	333	199	130
14	64	137	244	136	109	829	188	265	256	276	192	130
15	65	119	208	127	106	519	178	486	211	251	187	137
16	124	137	175	120	99	457	172	2740	191	252	430	129
17	86	137	145	119	102	427	166	1020	193	218	489	122
18	72	124	134	113	112	365	159	504	201	257	233	122
19	104	138	204	112	111	307	153	359	183	203	190	1840
20	84	127	452	112	118	278	177	479	172	184	178	653
21	73	128	257	110	115	259	324	794	160	276	164	307
22	69	289	188	105	637	244	181	412	153	1650	148	672
23	70	207	163	102	1380	211	164	447	151	1410	145	892
24	69	154	144	102	559	197	153	404	147	621	138	361
25	146	134	144	103	299	216	146	298	145	366	134	258
26	183	124	134	100	224	478	142	267	139	287	138	292
27	89	122	124	100	191	286	131	243	139	1380	197	2080
28	76	110	120	103	190	230	129	231	132	5880	137	932
29	98	107	115	105	---	464	141	222	129	1230	160	441
30	97	109	175	104	---	338	129	208	169	561	406	313
31	80	---	502	104	---	258	---	316	---	412	164	---
TOTAL	2695	5021	4935	6038	6699	13143	7628	14166	6287	25180	8400	14223
MEAN	86.9	167	159	195	239	424	254	457	210	812	271	474
MAX	183	1020	502	878	1380	1200	796	2740	394	5880	764	2080
MIN	64	69	89	100	99	188	129	123	129	146	134	122

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2003, 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	1999	2000	2001	2002	2003
MEAN	104	140	193	234	270	326	286	224	181	158	128	115																																																																						
MAX	438	649	733	843	586	569	584	615	689	812	445	474																																																																						
(WY)	1991	1986	1991	1937	1981	1963	1994	1996	1989	2003	1935	2003																																																																						
MIN	27.4	30.1	35.5	46.7	33.5	75.5	71.1	37.3	44.9	31.4	28.0	30.0																																																																						
(WY)	1931	1931	1931	1945	1934	1931	1935	1934	1932	1930	1932	1932																																																																						

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1922 - 2003	
ANNUAL TOTAL	70529		114415			
ANNUAL MEAN	193		313		196	
HIGHEST ANNUAL MEAN					313	
LOWEST ANNUAL MEAN					72.4	
HIGHEST DAILY MEAN	1530	Apr 15	5880	Jul 28	5880	Jul 28 2003
LOWEST DAILY MEAN	58	Sep 13	64	Oct 13	14	Aug 20 1923
ANNUAL SEVEN-DAY MINIMUM	61	Sep 7	66	Oct 9	20	Sep 10 1932
MAXIMUM PEAK FLOW			9310	Jul 28a	9310	Jul 28 2003
MAXIMUM PEAK STAGE			14.18	Jul 28	14.18	Jul 28 2003
INSTANTANEOUS LOW FLOW			46	Oct 15	3.6	Sep 2 1934
10 PERCENT EXCEEDS	355		641		378	
50 PERCENT EXCEEDS	134		188		124	
90 PERCENT EXCEEDS	70		96		55	

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.—Latitude 40°35'50", longitude 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, Ohio, and 1.4 mi upstream from Conotton Creek.
 DRAINAGE AREA.—12.3 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1997 to current year.

GAGE.—Water-stage recorder. Datum of gage is 886.98 ft above sea level.

REMARKS.—Records good except for periods of estimated record, which are poor. Data Collection Platform at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1.6	2.5	3.0	27	e2.3	8.2	15	6.6	17	7.7	12	e20
2	1.4	2.3	2.8	29	e3.1	11	13	6.2	13	6.2	11	e120
3	1.5	2.3	2.4	17	e4.0	9.4	12	5.8	16	6.0	23	73
4	2.7	2.6	2.0	11	26	10	14	5.5	15	5.8	44	49
5	2.5	3.0	e1.8	8.9	11	46	35	13	12	5.6	70	31
6	1.8	5.1	e1.7	9.2	7.9	26	25	10	11	5.4	227	23
7	1.8	4.0	e1.6	8.6	e5.6	15	28	9.4	11	7.7	46	18
8	1.4	2.4	e1.5	9.1	e4.4	20	28	25	15	14	31	15
9	1.3	2.4	e1.4	11	e3.8	41	23	40	28	17	24	13
10	1.4	3.2	e1.4	10	e3.6	20	19	38	17	25	37	11
11	1.3	11	e1.8	8.4	e3.4	13	14	24	23	25	20	9.6
12	1.4	6.6	3.6	7.2	e3.2	13	14	16	26	13	15	8.9
13	1.3	4.0	4.1	e6.0	e3.0	34	11	12	42	10	12	8.3
14	1.2	3.3	9.0	e5.0	e2.8	31	9.9	16	30	8.7	10	8.1
15	1.2	3.1	9.1	e4.4	e2.7	17	7.0	21	23	8.8	11	8.6
16	4.0	3.9	7.5	e4.0	e2.6	20	7.7	323	18	16	34	8.2
17	3.3	4.3	5.8	e3.7	e2.5	19	9.5	72	19	8.8	30	7.3
18	2.2	4.1	5.1	e3.5	e2.4	19	11	43	20	8.7	18	7.2
19	2.6	4.1	6.1	e3.3	e2.3	19	8.6	31	17	7.9	14	153
20	2.6	3.8	20	e3.1	e2.2	19	8.3	35	14	6.8	12	50
21	2.0	3.5	13	e3.0	e2.1	18	18	74	12	7.4	9.9	26
22	2.3	8.2	10	e2.9	e4.5	16	11	40	11	47	9.1	38
23	1.7	6.6	9.1	e2.8	62	13	9.8	32	9.7	31	8.2	48
24	1.8	5.0	7.5	e2.7	20	13	10	27	8.9	32	7.4	30
25	2.2	4.1	8.2	e2.6	12	11	8.3	23	8.3	19	7.0	22
26	6.6	3.6	7.6	e2.6	8.6	19	8.2	22	7.9	15	e6.8	19
27	3.9	3.4	5.8	e2.5	7.3	15	7.5	18	11	19	e6.6	55
28	2.2	3.1	5.4	e2.5	7.2	14	7.1	16	8.0	45	e6.4	39
29	2.5	3.1	5.1	e2.4	---	17	7.3	16	7.2	22	e6.2	28
30	4.1	3.1	5.3	e2.4	---	16	6.7	15	7.8	17	e8.8	21
31	3.1	---	9.3	e2.3	---	15	---	18	---	14	e7.0	---
TOTAL	70.9	121.7	178.0	218.1	222.5	577.6	406.9	1053.5	478.8	482.5	784.4	968.2
MEAN	2.29	4.06	5.74	7.04	7.95	18.6	13.6	34.0	16.0	15.6	25.3	32.3
MAX	6.6	11	20	29	62	46	35	323	42	47	227	153
MIN	1.2	2.3	1.4	2.3	2.1	8.2	6.7	5.5	7.2	5.4	6.2	7.2
CFSM	0.19	0.33	0.47	0.57	0.65	1.51	1.10	2.76	1.30	1.27	2.06	2.62
IN.	0.21	0.37	0.54	0.66	0.67	1.75	1.23	3.19	1.45	1.46	2.37	2.93
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1998 - 2003, BY WATER YEAR (WY)												
MEAN	3.71	4.19	8.33	16.9	14.7	16.7	25.5	19.4	9.69	8.96	8.50	8.21
MAX	5.78	4.85	14.6	40.6	20.2	23.4	41.0	34.0	16.0	21.1	25.3	32.3
(WY)	2001	2001	2001	1999	1999	1999	2000	2003	2003	2000	2003	2003
MIN	2.29	3.47	4.49	6.28	7.95	10.2	13.6	11.1	4.53	2.63	1.54	2.06
(WY)	2003	1999	2000	2002	2003	2000	2003	1999	1999	2002	2001	2001

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1998 - 2003	
	3224.93	8.84	5563.1	15.2	12.0	
ANNUAL TOTAL	3224.93	8.84	5563.1	15.2	12.0	
ANNUAL MEAN						
HIGHEST ANNUAL MEAN					15.2	2003
LOWEST ANNUAL MEAN					9.30	2001
HIGHEST DAILY MEAN	130	Apr 15	323	May 16	323	May 16 2003
LOWEST DAILY MEAN	0.91	Sep 1	1.2	Oct 14	0.91	Sep 1 2002
ANNUAL SEVEN-DAY MINIMUM	1.1	Aug 8	1.3	Oct 9	1.1	Aug 8 2002
MAXIMUM PEAK FLOW			839	May 16a	1090	Jul 15 2000
MAXIMUM PEAK STAGE			4.63	May 16	5.16	Jul 15 2000
INSTANTANEOUS LOW FLOW			1.0	Oct 14	0.73	Aug 12 2002
ANNUAL RUNOFF (CFSM)	0.72		1.24		0.98	
ANNUAL RUNOFF (INCHES)	9.75		16.82		13.30	
10 PERCENT EXCEEDS	20		31		25	
50 PERCENT EXCEEDS	5.1		9.1		6.5	
90 PERCENT EXCEEDS	1.5		2.4		2.3	

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 current year.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: October 1997 to current year.

pH: October 1997 to current year.

WATER TEMPERATURE: October 1997 to current year.

DISSOLVED OXYGEN: October 1997 to current year.

INSTRUMENTATION.— Water-quality monitor. Electronic data logger. Set for 1-hour interval. Satellite telemeter at station.

REMARKS.— Interruptions in the water-quality record are due to malfunction of the instrument. Water temperature records are good. Specific conductance records are good except Oct. 4-Dec. 2 and Sept. 9-30, which are fair. pH records are good except Sept. 9-29, which are fair. Dissolved oxygen records are poor.

EXTREMES FOR PERIOD OF RECORD.—

SPECIFIC CONDUCTANCE: Maximum, 1,950 microsiemens, Sept. 22, 1999; minimum, 197 microsiemens, Jan. 23, 1999.

pH: Maximum, 7.8 units, Jan. 30, 2000; minimum, 3.8 units, Aug. 13 and 23, 2002.

WATER TEMPERATURE: Maximum, 28.5°C, July 23, 1998; minimum, 0.0°C, on many days during winter.

DISSOLVED OXYGEN: Maximum, 15.4 mg/L, Mar. 31, 2001; minimum, 3.4 mg/L, Sept. 11 and 12, 2000.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum, 1,760 microsiemens, Oct. 10; minimum, 204 microsiemens, Sept. 19 and 20.

pH: Maximum, 7.1 units, on several days; minimum, 5.6 units, Oct. 21 and Feb. 23.

WATER TEMPERATURE: Maximum, 24.0°C, July 8; minimum, 0.0°C, on many days during winter.

DISSOLVED OXYGEN: Maximum, 13.8 mg/L, Apr. 6; minimum, 5.2 mg/L, July 11.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	1490	1460	1480	1700	1560	1630	1490	1450	1480	1060	635	895	
2	1520	1480	1500	1580	1540	1560	1510	1480	1490	646	559	595	
3	1550	1470	1520	1570	1520	1550	1550	1490	1530	670	592	632	
4	1720	1460	1580	1540	1510	1520	1640	1540	1600	737	670	703	
5	1640	1530	1600	1550	1410	1510	1610	1560	1580	796	737	767	
6	1650	1610	1630	1610	1470	1570	1600	1560	1580	874	796	830	
7	1650	1600	1630	1620	1460	1520	1640	1600	1620	905	874	892	
8	1680	1640	1660	1460	1340	1420	1630	1580	1600	933	902	918	
9	1710	1640	1680	1340	1310	1330	1660	1590	1640	940	877	909	
10	1760	1700	1730	1410	1180	1380	1690	1620	1650	884	867	878	
11	1730	1690	1710	1400	1120	1300	1660	1580	1630	909	867	885	
12	1710	1670	1690	1330	1120	1190	1660	1600	1630	962	909	947	
13	1700	1650	1680	1190	1160	1180	1610	1500	1570	995	961	984	
14	1690	1660	1680	1210	1170	1190	1500	1280	1400	1030	995	1020	
15	1700	1660	1680	1320	1210	1270	1280	1030	1110	1050	1030	1040	
16	1690	1480	1620	1390	1310	1350	1100	1030	1080	1100	1080	1100	
17	1690	1650	1680	1420	1370	1390	1110	1070	1100	1140	1100	1120	
18	1690	1590	1650	1430	1420	1420	1140	1080	1120	1190	1140	1170	
19	1600	1490	1560	1440	1350	1400	1200	1080	1160	1180	1170	1180	
20	1620	1530	1580	1420	1390	1400	1130	786	970	1180	1180	1180	
21	1560	1530	1540	1430	1320	1420	846	786	813	1220	1180	1200	
22	1610	1530	1570	1330	1210	1270	936	846	891	1270	1220	1250	
23	1550	1510	1530	1260	1210	1240	950	930	940	1290	1270	1280	
24	1560	1520	1550	1240	1220	1230	986	932	962	1300	1280	1290	
25	1580	1250	1520	1270	1240	1260	1020	980	998	1310	1300	1300	
26	1530	1250	1450	1320	1270	1310	1020	978	996	1320	1290	1300	
27	1450	1370	1410	1370	1320	1350	1090	983	1040	1480	1320	1400	
28	1380	1360	1380	1420	1370	1400	1140	1090	1130	1460	1400	1430	
29	1410	1270	1360	1450	1420	1430	1170	1140	1150	1380	1350	1370	
30	1480	1310	1400	1450	1420	1440	1180	1150	1170	1380	1350	1370	
31	1650	1480	1540	---	---	---	1160	1060	1130	1380	1350	1360	
MONTH	1760	1250	1570	1700	1120	1380	1690	786	1280	1480	559	1070	

SURFACE-WATER RECORDS
Muskingum River Basin

03121850 HUFF RUN AT MINERAL CITY, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	---	---	---	6.4	6.2	6.3	6.1	6.0	6.0	6.5	6.2	6.4
2	---	---	---	6.5	6.3	6.4	6.2	6.0	6.1	6.6	6.2	6.3
3	---	---	---	6.5	6.4	6.4	6.3	6.1	6.1	6.5	6.3	6.3
4	---	---	---	6.5	6.3	6.4	6.2	6.1	6.1	6.3	6.2	6.3
5	---	---	---	6.5	6.3	6.4	6.2	6.1	6.1	6.6	6.2	6.3
6	---	---	---	6.7	6.1	6.3	6.2	6.1	6.1	6.4	6.2	6.3
7	---	---	---	6.3	6.1	6.2	6.3	6.1	6.2	6.3	6.1	6.2
8	---	---	---	6.3	6.2	6.2	6.2	6.1	6.1	6.3	6.1	6.2
9	---	---	---	6.2	6.0	6.1	6.2	6.1	6.1	6.3	6.2	6.2
10	---	---	---	6.1	5.9	6.0	6.2	6.1	6.2	6.4	6.2	6.2
11	---	---	---	6.4	5.9	6.1	6.4	6.1	6.3	6.3	6.1	6.1
12	---	---	---	6.4	6.2	6.3	6.4	6.1	6.3	6.2	6.1	6.1
13	---	---	---	6.3	6.2	6.2	6.5	6.2	6.3	6.2	6.1	6.1
14	---	---	---	6.2	6.1	6.2	6.5	6.2	6.3	6.2	6.1	6.1
15	---	---	---	6.2	6.0	6.0	6.4	6.2	6.3	6.2	6.1	6.1
16	---	---	---	6.2	6.0	6.1	6.4	6.2	6.3	6.2	6.0	6.1
17	6.5	6.3	6.4	6.2	6.0	6.1	6.4	6.2	6.2	6.2	6.0	6.1
18	6.6	6.3	6.4	6.2	6.1	6.1	6.5	6.2	6.2	6.2	6.0	6.1
19	6.6	6.3	6.5	6.2	6.0	6.1	6.4	6.2	6.3	6.2	6.0	6.1
20	6.7	6.4	6.5	6.3	6.1	6.2	6.4	6.1	6.3	6.3	6.0	6.1
21	6.6	5.6	6.4	6.2	6.0	6.1	6.7	6.3	6.4	6.2	6.0	6.1
22	6.6	6.2	6.4	6.2	6.0	6.1	6.6	6.3	6.3	6.2	6.0	6.1
23	6.6	6.3	6.4	6.2	6.1	6.1	6.3	6.3	6.3	6.3	6.0	6.1
24	6.5	6.1	6.3	6.2	6.1	6.1	6.3	6.2	6.2	6.3	6.0	6.1
25	6.4	6.2	6.2	6.2	6.1	6.1	6.6	6.3	6.4	6.1	5.9	6.0
26	6.6	6.2	6.4	6.2	6.0	6.1	6.3	6.2	6.3	6.4	6.0	6.3
27	6.6	6.4	6.5	6.2	6.0	6.1	6.3	6.2	6.2	6.4	5.9	6.1
28	6.6	6.4	6.5	6.2	6.0	6.1	6.4	6.2	6.2	6.3	5.9	6.0
29	6.5	6.4	6.4	6.2	6.0	6.0	6.4	6.2	6.3	6.5	6.4	6.5
30	6.5	6.3	6.4	6.2	6.0	6.0	6.5	6.2	6.3	6.5	6.1	6.4
31	6.4	6.3	6.3	---	---	---	6.6	6.2	6.4	6.5	6.1	6.4
MONTH	6.7	5.6	6.4	6.7	5.9	6.2	6.7	6.0	6.2	6.6	5.9	6.2
DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		FEBRUARY			MARCH			APRIL			MAY	
1	6.5	6.5	6.5	6.3	5.8	6.0	6.8	6.6	6.7	6.4	6.4	6.4
2	6.5	6.1	6.2	6.7	5.8	6.1	6.8	6.7	6.7	6.4	6.4	6.4
3	6.6	6.1	6.3	5.9	5.8	5.8	6.8	6.7	6.7	6.5	6.4	6.4
4	6.6	6.1	6.2	6.0	5.8	5.9	6.9	6.6	6.7	6.4	6.4	6.4
5	6.2	6.0	6.1	6.5	5.8	6.0	6.8	6.6	6.7	6.7	6.4	6.5
6	6.2	6.1	6.1	6.5	5.8	6.1	6.7	6.6	6.7	6.7	6.6	6.7
7	6.2	6.1	6.2	6.4	6.2	6.3	6.7	6.5	6.6	6.7	6.5	6.6
8	6.2	6.0	6.1	6.8	6.3	6.4	6.7	6.5	6.5	6.8	6.5	6.4
9	6.3	6.0	6.2	6.8	6.1	6.3	6.7	6.4	6.5	---	---	---
10	6.6	6.1	6.2	6.3	6.3	6.3	6.7	6.4	6.5	---	---	---
11	6.2	6.1	6.1	6.4	6.2	6.3	6.7	6.4	6.6	---	---	---
12	6.2	6.1	6.1	6.5	6.3	6.4	6.7	6.6	6.7	---	---	---
13	6.2	6.0	6.1	6.8	6.2	6.4	6.7	6.6	6.6	---	---	---
14	6.2	6.0	6.1	6.3	6.2	6.3	6.7	6.6	6.6	---	---	---
15	6.1	6.0	6.0	6.3	6.1	6.2	6.6	6.5	6.6	---	---	---
16	6.2	6.0	6.1	6.4	6.2	6.3	6.6	6.5	6.5	---	---	---
17	6.4	6.1	6.3	6.4	6.2	6.3	6.6	6.4	6.5	---	---	---
18	6.5	6.0	6.3	6.5	6.2	6.3	6.7	6.4	6.5	---	---	---
19	6.5	6.0	6.2	6.8	6.2	6.5	6.7	6.3	6.5	---	---	---
20	6.2	5.8	6.0	6.8	6.7	6.7	6.6	6.4	6.4	6.8	6.6	6.7
21	6.4	5.8	6.0	6.8	6.7	6.7	6.7	6.4	6.6	6.9	6.6	6.8
22	6.5	6.2	6.4	6.8	6.7	6.7	6.7	6.4	6.6	6.8	6.7	6.8
23	6.3	5.6	5.9	6.7	6.7	6.7	6.8	6.7	6.7	6.8	6.7	6.7
24	6.0	5.7	5.8	6.8	6.6	6.7	6.8	6.6	6.7	6.8	6.7	6.7
25	5.8	5.7	5.7	6.8	6.6	6.6	6.8	6.5	6.6	6.8	6.7	6.7
26	5.8	5.7	5.7	6.8	6.6	6.7	6.6	6.5	6.6	6.7	6.6	6.7
27	5.9	5.7	5.8	6.8	6.6	6.7	6.6	6.5	6.5	6.7	6.6	6.7
28	5.9	5.8	5.8	6.7	6.6	6.6	6.6	6.5	6.5	6.7	6.6	6.7
29	---	---	---	6.8	6.7	6.7	6.5	6.4	6.5	6.7	6.6	6.6
30	---	---	---	6.8	6.7	6.7	6.5	6.4	6.4	6.6	6.6	6.6
31	---	---	---	6.7	6.7	6.7	---	---	---	6.7	6.6	6.7
MONTH	6.6	5.6	6.1	6.8	5.8	6.4	6.9	6.3	6.6	6.9	6.4	6.6

SURFACE-WATER RECORDS
Muskingum River Basin

03121850 HUFF RUN AT MINERAL CITY, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003—Continued

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	6.7	6.7	6.7	6.8	6.6	6.7	6.9	6.8	6.9	---	---	---
2	6.7	6.7	6.7	6.7	6.6	6.7	6.9	6.8	6.8	---	---	---
3	6.9	6.7	6.8	6.6	6.5	6.5	7.0	6.8	6.9	---	---	---
4	6.9	6.7	6.8	6.6	6.5	6.6	7.1	6.8	7.0	---	---	---
5	6.8	6.7	6.7	6.6	6.5	6.6	7.1	6.9	7.0	---	---	---
6	6.7	6.7	6.7	6.6	6.5	6.6	6.9	6.4	6.6	---	---	---
7	6.7	6.6	6.7	6.6	6.5	6.5	6.9	6.6	6.7	---	---	---
8	6.8	6.6	6.7	7.0	6.6	6.8	6.8	6.7	6.7	---	---	---
9	6.9	6.6	6.8	6.9	6.7	6.9	6.7	6.6	6.7	---	---	---
10	6.8	6.8	6.8	6.9	6.6	6.8	7.0	6.7	6.8	6.3	6.2	6.3
11	6.9	6.7	6.8	6.9	6.7	6.8	6.8	6.7	6.7	6.4	6.3	6.3
12	6.9	6.6	6.8	6.9	6.8	6.9	6.8	6.7	6.7	6.4	6.3	6.3
13	6.9	6.6	6.7	6.9	6.8	6.8	6.7	6.7	6.7	6.4	6.2	6.3
14	6.9	6.5	6.7	6.8	6.7	6.8	6.7	6.6	6.7	6.4	6.2	6.3
15	6.9	6.5	6.7	6.8	6.7	6.7	6.7	6.6	6.7	6.7	6.4	6.5
16	6.9	6.9	6.9	7.0	6.7	6.8	7.0	6.3	6.8	6.5	6.4	6.4
17	6.9	6.8	6.9	6.8	6.7	6.7	6.9	6.9	6.9	6.5	6.3	6.4
18	6.8	6.5	6.7	6.7	6.6	6.7	6.9	6.8	6.9	6.8	6.4	6.5
19	6.9	6.8	6.8	6.7	6.6	6.7	6.8	6.8	6.8	6.8	6.2	6.5
20	6.9	6.8	6.8	6.7	6.6	6.6	6.8	6.7	6.8	6.7	6.2	6.5
21	6.8	6.7	6.8	6.7	6.6	6.6	---	---	---	6.7	6.4	6.5
22	6.7	6.7	6.7	7.0	6.6	6.9	---	---	---	6.9	6.5	6.7
23	6.7	6.6	6.7	7.1	6.8	7.0	---	---	---	7.0	6.7	6.8
24	6.6	6.6	6.6	7.1	6.9	7.0	---	---	---	6.7	6.6	6.7
25	6.6	6.5	6.6	7.0	6.9	7.0	---	---	---	6.7	6.6	6.6
26	6.9	6.5	6.6	7.0	6.9	6.9	---	---	---	6.8	6.6	6.6
27	6.8	6.6	6.7	6.9	6.8	6.9	---	---	---	6.8	6.5	6.7
28	6.7	6.6	6.7	7.0	6.9	7.0	---	---	---	6.8	6.5	6.7
29	6.7	6.6	6.6	7.0	7.0	7.0	---	---	---	6.7	6.6	6.7
30	6.7	6.6	6.6	7.0	6.9	6.9	---	---	---	---	---	---
31	---	---	---	6.9	6.9	6.9	---	---	---	---	---	---
MONTH	6.9	6.5	6.7	7.1	6.5	6.8	7.1	6.3	6.8	7.0	6.2	6.5
YEAR	7.1	5.6	6.4									

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	17.5	15.5	16.5	7.0	5.5	6.0	2.5	1.0	1.5	6.0	3.5	4.0
2	18.0	16.0	17.0	6.0	4.5	5.5	2.5	1.0	1.5	10.0	3.0	5.0
3	18.5	16.5	17.5	6.0	3.0	4.5	1.5	0.5	0.5	3.5	3.0	3.5
4	19.5	17.5	18.5	6.5	5.5	6.0	1.0	0.5	0.5	3.0	2.0	2.5
5	19.0	15.5	17.5	7.0	6.0	6.5	1.5	0.5	1.0	2.5	1.5	2.0
6	15.5	12.5	14.0	8.0	6.5	7.0	1.5	0.5	1.0	2.5	1.0	2.0
7	15.0	13.0	14.5	7.0	6.5	6.5	1.5	0.5	0.5	1.0	0.0	0.5
8	13.0	10.0	11.5	8.0	5.5	6.5	2.0	0.5	1.0	2.5	0.5	1.5
9	12.5	10.0	11.5	9.5	7.5	8.5	1.0	0.5	0.5	3.5	2.0	2.5
10	13.0	11.0	12.0	12.5	9.5	11.0	1.0	0.5	0.5	3.5	1.0	2.5
11	14.5	13.0	13.5	12.5	11.0	12.0	1.5	0.5	1.0	1.0	0.0	0.5
12	14.5	13.5	14.0	11.0	8.5	9.5	2.0	1.0	1.5	0.5	0.0	0.5
13	14.5	13.0	14.0	9.0	7.5	8.5	1.5	1.0	1.5	1.0	0.0	0.5
14	13.0	9.5	11.0	9.0	7.0	8.0	1.5	1.0	1.0	1.0	0.0	0.5
15	11.0	8.5	10.0	8.5	7.0	8.0	2.0	0.5	1.5	0.5	0.0	0.5
16	12.0	11.0	11.5	8.0	7.0	7.5	2.0	0.5	1.5	0.5	0.0	0.5
17	11.0	9.5	10.0	7.0	5.5	6.5	1.5	0.0	0.5	0.5	0.0	0.5
18	10.0	7.5	8.5	5.5	4.0	5.0	3.5	1.5	2.5	0.5	0.0	0.5
19	11.0	10.0	10.5	6.0	4.0	5.0	5.5	3.0	4.0	0.5	0.5	0.5
20	10.0	7.5	9.0	5.5	3.5	4.5	5.5	4.0	4.5	0.5	0.5	0.5
21	9.0	7.0	8.0	6.0	4.0	5.0	4.5	3.0	3.5	0.5	0.5	0.5
22	9.0	6.5	8.0	6.0	5.0	5.5	3.5	2.5	3.0	0.5	0.0	0.5
23	9.0	7.5	8.5	5.0	4.0	4.5	3.0	2.0	2.5	0.5	0.0	0.5
24	9.0	8.0	8.5	5.5	4.0	4.5	2.0	1.0	1.5	0.5	0.5	0.5
25	9.5	7.5	8.5	5.0	4.0	4.5	1.5	1.0	1.5	0.5	0.5	0.5
26	10.0	9.0	9.5	5.0	3.5	4.0	1.5	1.0	1.5	0.5	0.5	0.5
27	10.5	9.5	10.0	4.0	2.5	3.0	1.5	0.5	1.0	0.5	0.0	0.5
28	10.5	9.0	9.5	2.5	0.5	1.5	1.5	0.5	1.0	0.5	0.5	0.5
29	9.5	7.0	7.5	4.0	1.5	2.5	2.0	0.5	1.0	0.5	0.5	0.5
30	7.0	6.5	6.5	4.0	2.5	3.5	2.5	0.5	1.5	1.0	0.0	0.5
31	8.0	6.0	7.0	---	---	---	4.5	2.5	3.5	1.0	0.0	0.5
MONTH	19.5	6.0	11.5	12.5	0.5	6.0	5.5	0.0	1.5	10.0	0.0	1.0

SURFACE-WATER RECORDS
Muskingum River Basin

03121850 HUFF RUN AT MINERAL CITY, OHIO—Continued

WATER-QUALITY RECORDS—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER		MAX	NOVEMBER		MAX	DECEMBER		MAX	JANUARY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	6.6	6.3	6.4	10.7	10.1	10.5	12.7	11.6	12.3	11.9	9.9	11.5
2	7.0	6.3	6.7	11.3	10.7	11.0	12.6	11.8	12.2	13.4	7.7	11.0
3	7.6	6.9	7.2	12.1	11.0	11.6	12.6	11.8	12.3	12.0	11.6	11.8
4	---	---	---	11.2	10.4	10.7	12.5	11.8	12.2	12.4	12.0	12.2
5	---	---	---	11.0	9.7	10.5	12.3	11.7	12.0	12.5	12.1	12.3
6	---	---	---	11.0	9.4	10.3	12.4	11.9	12.2	12.8	12.1	12.4
7	---	---	---	11.2	10.5	11.0	12.5	12.0	12.2	13.2	12.6	12.9
8	---	---	---	11.1	9.9	10.7	12.3	11.9	12.1	12.6	11.8	12.3
9	---	---	---	10.2	9.3	10.0	12.7	12.1	12.4	12.0	11.4	11.8
10	---	---	---	9.3	7.1	8.7	12.5	11.9	12.2	12.3	11.5	11.8
11	---	---	---	9.3	7.1	8.8	12.1	11.2	11.7	12.8	12.3	12.6
12	---	---	---	10.4	9.3	10.0	12.3	11.4	12.0	12.7	12.3	12.5
13	---	---	---	10.4	9.8	10.1	12.5	11.5	12.1	12.5	12.1	12.3
14	---	---	---	10.5	9.8	10.2	12.8	11.5	12.3	12.4	12.0	12.2
15	---	---	---	10.3	8.9	10.0	12.9	12.3	12.7	12.3	12.0	12.2
16	---	---	---	10.4	9.5	9.9	13.0	12.3	12.6	12.2	11.6	11.8
17	---	---	---	10.7	9.5	10.2	13.2	12.8	13.0	11.8	11.6	11.7
18	---	---	---	11.7	10.7	11.3	12.9	12.0	12.5	11.8	11.1	11.4
19	---	---	---	11.7	10.4	11.4	12.2	10.6	11.7	11.3	11.2	11.2
20	---	---	---	12.3	11.6	11.9	11.5	10.8	11.2	11.4	11.2	11.3
21	---	---	---	12.1	10.4	11.5	12.1	11.3	11.9	11.5	11.4	11.5
22	---	---	---	11.3	10.2	10.8	12.3	11.9	12.1	11.5	11.0	11.2
23	---	---	---	11.9	11.3	11.6	12.6	12.1	12.4	11.2	10.8	11.0
24	9.1	8.1	8.5	11.9	11.2	11.5	13.2	12.6	12.9	11.1	10.8	11.0
25	8.4	7.7	8.2	11.6	11.3	11.5	12.9	12.5	12.7	11.2	11.0	11.1
26	8.6	7.9	8.4	12.0	11.4	11.7	13.2	12.9	13.1	11.2	10.9	11.0
27	8.8	8.1	8.5	12.2	11.4	12.0	13.4	13.0	13.2	11.2	11.0	11.2
28	8.7	8.3	8.5	13.0	12.2	12.6	13.4	12.8	13.1	11.3	10.8	11.2
29	9.6	8.6	9.2	12.6	11.2	12.1	13.3	12.7	13.0	11.4	11.1	11.2
30	10.4	9.1	9.8	11.6	11.2	11.3	13.3	12.2	12.8	11.5	11.2	11.4
31	10.4	9.9	10.2	---	---	---	12.4	11.4	12.0	11.4	11.1	11.3
MONTH	10.4	6.3	8.3	13.0	7.1	10.8	13.4	10.6	12.4	13.4	7.7	11.7

DAY	MAX	FEBRUARY		MAX	MARCH		MAX	APRIL		MAX	MAY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	11.3	11.1	11.1	10.4	9.3	10	12.4	11.2	11.7	9.9	7.9	9.0
2	11.5	11.2	11.4	9.9	7.3	9.1	12.0	10.4	11.3	9.5	7.7	8.6
3	11.6	11.0	11.4	10.2	9.9	10.1	11.3	10.2	10.8	10.6	8.7	9.6
4	11.9	10.9	11.5	10.3	9.5	10.0	11.0	10.3	10.8	11.0	8.9	10.0
5	11.9	11.5	11.7	---	---	---	11.6	9.6	10.6	9.9	8.8	9.2
6	---	---	---	11.7	11.4	11.5	13.8	8.4	10.9	9.6	7.8	8.4
7	---	---	---	12.2	11.5	11.9	12.9	8.9	10.6	9.1	7.7	8.4
8	---	---	---	12.3	11.0	11.8	---	---	---	---	---	---
9	---	---	---	12.2	8.3	10.3	---	---	---	---	---	---
10	11.5	11.0	11.3	13.3	7.2	10.5	---	---	---	---	---	---
11	11.6	11.3	11.4	13.2	12.3	12.5	---	---	---	---	---	---
12	11.3	11.1	11.2	13.2	11.5	12.4	---	---	---	---	---	---
13	11.2	10.8	11.0	11.6	7.3	9.9	---	---	---	---	---	---
14	11.1	10.4	10.7	13.1	5.6	9.1	---	---	---	---	---	---
15	11.1	10.6	10.8	13.2	8.4	10.2	---	---	---	9.1	8.1	8.7
16	11.2	11.0	11.1	12.7	8.2	10.4	---	---	---	---	---	---
17	11.0	9.9	10.4	11.9	9.2	10.3	---	---	---	---	---	---
18	11.3	9.9	10.4	12.2	9.3	10.4	---	---	---	9.5	6.3	8.4
19	11.3	9.9	10.9	11.9	10.3	11.0	---	---	---	10.4	8.0	9.5
20	11.6	10.7	11.3	11.6	11.0	11.3	---	---	---	9.8	9.3	9.5
21	11.5	11.1	11.3	11.5	10.9	11.3	---	---	---	10.3	9.5	9.9
22	11.1	8.3	9.1	12.0	11.1	11.6	10.7	9.4	10.2	10.9	9.8	10.3
23	10.3	7.4	9.2	12.4	11.4	11.9	11.5	10.6	11.0	10.3	9.8	10.1
24	10.6	10.0	10.3	12.5	10.5	11.6	11.9	10.5	11.2	10.5	9.8	10.1
25	10.9	10.6	10.7	11.4	9.6	10.6	11.5	10.2	10.8	10.1	9.2	9.8
26	11.0	10.6	10.7	10.6	9.6	10.1	11.0	9.9	10.4	9.6	9.1	9.4
27	10.8	10.3	10.5	11.1	9.7	10.4	11.8	10.0	10.8	9.5	8.7	9.2
28	10.4	10.1	10.2	10.5	8.9	9.8	11.4	9.4	10.5	9.0	8.5	8.8
29	---	---	---	10.6	8.9	9.6	10.2	8.8	9.5	8.8	8.3	8.6
30	---	---	---	11.6	10.6	11.2	10.4	8.5	9.5	8.6	8.1	8.4
31	---	---	---	12.6	11.4	12.0	---	---	---	8.4	8.1	8.2
MONTH	11.9	7.4	10.8	13.3	5.6	10.8	13.8	8.4	10.7	11.0	6.3	9.2

SURFACE-WATER RECORDS
Muskingum River Basin

03124500 SUGAR CREEK AT STRASBURG, OHIO

LOCATION.—Latitude 40°35'15", longitude 81°31'24", in NW ¼ 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, Ohio.

DRAINAGE AREA.—311 mi².

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, National Geodetic Vertical Datum of 1912. July 29, 1931-Mar. 31, 1933, and Dec. 10, 1934-July 31, 1939, nonrecording gage; Oct. 1, 1961-May 26, 1964, water-stage recorder at datum 2.00 ft higher.

REMARKS.—Records fair except for periods of estimated record, which are poor. Flood flow regulated by Beach City Lake 5 mi upstream, since August 1937. Part of municipal water supply for City of Canton, starting May 1962, is pumped from well field; pumpage is returned to Nimishillen Creek. Mean pumpage for water year 2003, 15.2 ft³/s. Water-quality data formerly collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25	50	79	596	e22	218	346	88	294	76	171	886
2	19	40	69	580	e21	232	310	87	239	69	160	1400
3	18	33	e54	503	e40	184	264	87	186	65	172	1780
4	79	30	e43	345	147	241	234	81	254	62	197	1830
5	98	31	e38	295	341	423	507	101	239	57	242	1420
6	65	41	e36	238	185	428	963	230	194	59	215	569
7	37	73	e34	124	195	383	665	155	165	62	176	361
8	25	63	e33	186	97	443	946	192	160	121	171	271
9	19	48	e32	205	110	426	829	432	254	503	121	218
10	18	48	e31	263	101	287	574	1340	292	661	129	181
11	18	341	e30	187	80	469	456	1600	228	1100	160	155
12	18	481	e34	109	e66	622	383	817	402	1020	107	136
13	18	202	52	e90	e56	659	317	589	551	443	86	121
14	16	123	74	e74	e50	933	264	477	658	252	74	111
15	16	93	155	e66	e45	899	228	350	498	179	67	106
16	20	84	142	e60	e40	877	198	590	341	180	124	111
17	33	97	115	e52	e36	780	180	1050	256	184	325	96
18	36	92	94	e45	e43	701	165	697	254	162	307	87
19	29	83	97	e42	65	588	152	433	245	189	148	441
20	30	83	261	e39	65	484	142	347	207	135	97	1580
21	37	84	470	e36	64	430	182	783	172	104	78	1130
22	28	102	267	e34	82	386	212	1050	146	180	69	548
23	24	184	198	e32	284	331	161	604	124	456	63	1200
24	21	165	156	e30	262	283	135	524	107	418	62	1510
25	23	127	137	e29	224	250	118	445	97	260	52	791
26	55	105	131	e28	226	358	112	356	89	148	51	477
27	115	93	106	e27	172	548	105	301	84	117	81	967
28	68	86	83	e26	233	394	95	255	82	515	118	1830
29	47	82	95	e25	---	346	90	225	73	790	94	1700
30	41	79	91	e24	---	510	92	204	70	561	333	1710
31	55	---	226	e23	---	413	---	196	---	251	964	---
TOTAL	1151	3243	3463	4413	3352	14526	9425	14686	6961	9379	5214	23723
MEAN	37.1	108	112	142	120	469	314	474	232	303	168	791
MAX	115	481	470	596	341	933	963	1600	658	1100	964	1830
MIN	16	30	30	23	21	184	90	81	70	57	51	87

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2003, BY WATER YEAR (WY)

MEAN	89.7	175	308	390	473	616	495	314	232	185	147	110
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	0.000	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 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1932 - 2003

ANNUAL TOTAL	64053.1	99536		
ANNUAL MEAN	175	273		
HIGHEST ANNUAL MEAN			520	1980
LOWEST ANNUAL MEAN			160	1988
HIGHEST DAILY MEAN	1770	Apr 16	1830	Sep 4
LOWEST DAILY MEAN	7.5	Sep 14	16	Oct 14
ANNUAL SEVEN-DAY MINIMUM	9.2	Sep 8	18	Oct 9
MAXIMUM PEAK FLOW			2020	Sep 28
MAXIMUM PEAK STAGE			5.60	Sep 28
INSTANTANEOUS LOW FLOW			16	Oct 3
10 PERCENT EXCEEDS	357		658	
50 PERCENT EXCEEDS	97		155	
90 PERCENT EXCEEDS	18		33	

e Estimated.

SURFACE-WATER RECORDS
Muskingum River Basin

03129000 TUSCARAWAS RIVER AT NEWCOMERSTOWN, OHIO

LOCATION.—Latitude 40°15'41", longitude 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, Ohio, 2 mi upstream from Buckhorn Creek, and 4 mi downstream from Dunlap Creek.

DRAINAGE AREA.—2,443 mi².

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, National Geodetic Vertical Datum of 1912. 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; Sept. 28, 1925-Oct. 1, 1934, recording gage at 785.03 ft above sea level. Gage moved to current location Oct. 1, 1934. From Oct. 1, 1934-July 17, 1935, recording gage at 780.03 ft above sea level; July 18, 1935-Feb. 13, 1939, non-recording gage at 780.03 ft above sea level; Feb. 13, 1939 to present, recording gage at 780.00 ft above sea level.

REMARKS.—Records good except for periods of estimated record, which are fair. 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 formerly collected at this site. U.S. Army of Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood in Mar. 1913 reached a stage of about 21.5 ft, at site and datum used prior to Oct. 1, 1934, discharge, 83,000 ft³/s computed by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	669	634	1190	3680	e770	2450	3380	1240	3060	1050	4840	3980
2	524	605	1090	7330	e770	2400	3030	1210	3630	1070	4500	6850
3	457	558	1040	7350	e760	2610	2710	1200	3360	1610	5110	8290
4	629	531	942	6070	e1250	2830	2730	1370	3310	1290	5440	8940
5	676	511	870	4590	3480	4220	3510	1410	3260	1080	5540	8200
6	610	572	827	3700	3370	7290	6700	1880	2920	1020	5560	6980
7	520	648	822	3250	2480	7760	7320	2320	2470	970	5610	5660
8	451	756	926	2850	1800	6340	7430	2260	2170	1120	5650	4990
9	420	961	939	2590	1390	7630	7880	4000	2780	2570	5100	4700
10	397	957	918	e2200	e1200	8780	7210	6880	3570	4890	5010	3380
11	392	1420	847	e1800	e1000	8780	6090	9420	3260	5610	4470	2480
12	390	3260	878	e1600	e920	7630	5010	8500	3040	5750	4150	2250
13	393	2730	981	e1400	e840	6140	3910	7410	3280	5220	3790	2100
14	382	2010	1250	e1300	e760	8060	3360	7130	4580	5070	2500	2000
15	371	1560	1730	e1200	e660	8800	2780	6560	4890	4660	1870	1950
16	419	1520	2110	e1100	e600	8070	2420	7290	4190	3980	1950	1930
17	485	1610	2010	e1000	e530	7570	2240	8370	3200	3310	3290	1960
18	544	1660	2110	e940	e700	7370	2110	7710	2810	1920	3900	1720
19	550	1660	2070	e900	1010	6060	1990	6490	2850	1860	3190	3590
20	534	1640	2550	e880	1100	4860	1880	5760	2750	1620	2580	7660
21	514	1630	3790	e860	938	4820	1880	6400	2440	1390	2110	7950
22	506	1850	3490	e840	918	4620	2300	7290	2110	1280	1830	6620
23	475	2250	2690	e820	3610	3560	2220	6950	1870	3410	1650	7800
24	488	2510	2340	e800	6530	3150	1950	5310	1680	5140	1330	8410
25	526	2230	2240	e800	6650	2880	1770	4730	1520	5250	1220	7830
26	730	1970	2130	e790	4890	3040	1640	4230	1420	5140	1130	6720
27	977	1880	2150	e790	3380	3900	1540	3790	1320	4440	1170	6580
28	981	1750	1790	e780	2700	3740	1440	3550	1270	4200	1380	8020
29	752	1630	1310	e780	---	3200	1340	3150	1160	5470	1310	7740
30	625	1450	1150	e780	---	3630	1260	2710	1080	5500	2850	7170
31	604	---	1310	e770	---	3970	---	2770	---	5300	4800	---
TOTAL	16991	44953	50490	64540	55006	166160	101030	149290	81250	102190	104830	164450
MEAN	548	1498	1629	2082	1964	5360	3368	4816	2708	3296	3382	5482
MAX	981	3260	3790	7350	6650	8800	7880	9420	4890	5750	5650	8940
MIN	371	511	822	770	530	2400	1260	1200	1080	970	1130	1720
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2003, BY WATER YEAR (WY)												
MEAN	942	1678	2589	3324	3862	4856	4359	3126	2159	1519	1160	995
MAX	4257	7201	8471	16130	9762	11090	7909	9194	8339	7663	8648	5482
(WY)	1991	1986	1928	1937	1959	1945	1948	1996	1981	1969	1935	2003
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												
ANNUAL TOTAL				FOR 2002 CALENDAR YEAR				FOR 2003 WATER YEAR		WATER YEARS 1922 - 2003		
ANNUAL MEAN				802714				1101180				
HIGHEST ANNUAL MEAN				2199				3017		2540		
LOWEST ANNUAL MEAN										4227		
HIGHEST DAILY MEAN				12500				Apr 24		967		
LOWEST DAILY MEAN				312				Sep 14		1931		
ANNUAL SEVEN-DAY MINIMUM				324				Sep 9		45000		
MAXIMUM PEAK FLOW								9420		Jan 26 1937		
MAXIMUM PEAK STAGE								7.36		170		
INSTANTANEOUS LOW FLOW								367		Aug 6 1930		
10 PERCENT EXCEEDS				5090				7040		197		
50 PERCENT EXCEEDS				1500				2240		Dec 18 1930		
90 PERCENT EXCEEDS				421				673		46800		
										Jan 26 1937		
										20.65		
										Jan 26 1937		
										216		
										Aug 15 1944		
										6580		
										1470		
										421		

e Estimated.

SURFACE-WATER RECORDS
Muskingum River Basin

03136175 KOKOSING RIVER NEAR LUCERNE, OHIO

LOCATION.—Latitude 40°27'51", longitude 82°36'36", Knox County, Hydrologic Unit 05040003, on left bank 100 ft upstream from Vail Road bridge, 700 ft south of State Route 95, 2 mi east of Lucerne, Ohio, 3.7 mi west of Fredricktown, Ohio, and 4.2 mi east of Chesterville, Ohio.

DRAINAGE AREA.—59.5 mi².

PERIOD OF RECORD.—January 2000 to current year.

GAGE.—Water-stage recorder. Datum of gage is 1,065 ft above sea level.

REMARKS.—Records fair except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	6.1	6.9	321	e8.2	47	103	42	79	16	9.6	155
2	2.4	5.4	6.3	210	e8.0	57	92	82	47	15	12	620
3	2.3	5.7	e5.4	105	e9.0	e62	82	72	105	14	20	213
4	2.4	6.0	e4.8	67	218	66	78	59	124	14	26	117
5	3.0	6.6	e4.5	50	192	355	413	219	73	17	20	75
6	2.6	7.6	e4.2	42	94	e500	217	201	52	15	15	55
7	2.4	7.6	e4.0	e33	e45	e180	257	120	42	24	13	43
8	2.1	7.7	e3.8	e27	e25	152	299	111	47	64	20	36
9	2.2	7.9	e3.6	e24	e19	538	172	633	130	189	14	32
10	2.3	10	e3.5	e22	e15	138	133	612	66	99	27	29
11	2.2	48	e3.8	e21	e14	e120	114	362	447	81	17	26
12	2.1	26	e4.0	e19	e13	109	99	164	456	46	13	24
13	2.0	14	4.5	e17	e12	621	86	130	439	30	11	23
14	1.9	8.7	6.0	e15	e11	508	78	91	182	22	9.4	22
15	2.2	6.8	7.0	e14	e10	263	72	172	165	19	9.1	21
16	2.4	6.3	7.7	e13	e9.6	259	67	413	95	23	9.3	21
17	2.2	5.8	7.4	e12	e9.2	218	65	148	71	17	8.3	20
18	2.1	5.2	7.6	e11	e8.8	175	67	97	65	14	7.8	19
19	2.8	5.4	14	e11	e8.6	143	63	73	53	13	7.3	85
20	3.2	5.4	155	e10	e8.4	143	60	145	45	12	7.0	100
21	2.7	5.1	87	e10	e8.2	134	81	454	38	12	6.9	48
22	2.6	8.3	50	e9.8	e30	127	71	138	33	14	6.6	118
23	2.5	14	40	e9.4	430	108	62	86	28	14	6.4	281
24	2.6	13	29	e9.0	267	95	56	66	25	16	6.3	116
25	3.3	12	26	e8.8	e110	88	54	54	23	12	6.2	75
26	6.9	11	21	e8.8	e70	134	51	48	21	11	6.5	54
27	5.0	10	16	e8.6	e60	119	48	41	20	10	11	929
28	4.7	8.4	15	e8.6	54	97	45	39	18	16	10	705
29	5.1	7.6	14	e8.4	---	153	45	35	17	15	7.9	167
30	6.2	7.5	33	e8.4	---	168	43	31	17	11	24	103
31	7.7	---	326	e8.2	---	118	---	62	---	10	25	---
TOTAL	96.8	299.1	921.0	1142.0	1767.0	5995	3173	5000	3023	885	392.6	4332
MEAN	3.12	9.97	29.7	36.8	63.1	193	106	161	101	28.5	12.7	144
MAX	7.7	48	326	321	430	621	413	633	456	189	27	929
MIN	1.9	5.1	3.5	8.2	8.0	47	43	31	17	10	6.2	19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

	2002	2001	2000	2000	2000	2003	2002	2003	2003	2003	2003	2003
MEAN	12.9	25.9	84.0	45.8	87.5	101	169	101	57.7	15.0	7.31	39.4
MAX	27.1	38.1	111	73.2	103	193	270	161	101	28.5	12.7	144
(WY)	2002	2001	2001	2000	2000	2003	2002	2003	2003	2003	2003	2003
MIN	3.12	9.97	29.7	32.1	63.1	35.8	106	64.0	25.7	6.78	4.60	3.20
(WY)	2003	2003	2003	2002	2003	2001	2003	2000	2002	2002	2002	2002

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1999 - 2003

ANNUAL TOTAL	20899.7	27026.5	
ANNUAL MEAN	57.3	74.0	
HIGHEST ANNUAL MEAN		74.0	2003
LOWEST ANNUAL MEAN		48.0	2001
HIGHEST DAILY MEAN	1000	Apr 20	929 Sep 27
LOWEST DAILY MEAN	1.5	Sep 12	1.9 Oct 14
ANNUAL SEVEN-DAY MINIMUM	1.9	Sep 8	2.1 Oct 8
MAXIMUM PEAK FLOW			1350 Sep 27
MAXIMUM PEAK STAGE			8.02 Sep 27
INSTANTANEOUS LOW FLOW			1.6 Oct 14
10 PERCENT EXCEEDS	126	181	145
50 PERCENT EXCEEDS	15	23	23
90 PERCENT EXCEEDS	2.8	4.9	4.0

e Estimated.

SURFACE-WATER RECORDS Muskingum River Basin

03136500 KOKOSING RIVER AT MOUNT VERNON, OHIO

LOCATION.—Latitude 40°24'20", longitude 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, Ohio, 0.8 mi downstream from North Branch, and 2.7 mi upstream from Dry Creek.

DRAINAGE AREA.—202 mi².

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 good 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 mi upstream on North Branch Kokosing River, beginning in June 1972. Water-quality data formerly collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32	32	44	739	51	145	243	88	286	80	59	190
2	30	30	41	584	51	150	218	121	204	77	63	1370
3	28	28	e39	335	52	162	192	153	275	72	96	807
4	30	28	e37	231	236	169	179	126	409	67	130	404
5	29	30	e35	183	281	605	779	318	281	69	113	249
6	28	39	e34	159	182	835	747	528	217	70	90	183
7	27	36	e33	129	e120	414	662	307	183	83	76	144
8	27	33	e32	e110	e96	390	905	309	179	141	78	121
9	26	30	e31	e100	e82	1300	560	1380	316	499	79	103
10	26	31	e30	e94	e76	735	393	1770	242	436	74	84
11	28	92	e32	e90	e72	415	310	1200	576	374	69	74
12	26	95	34	e84	e68	363	262	698	1270	246	60	72
13	24	69	34	e76	e64	1040	223	530	1510	177	54	66
14	23	56	e36	e70	e62	1510	195	378	824	138	51	62
15	24	49	e38	e66	e60	813	175	376	584	114	53	60
16	25	46	e39	e62	e58	736	162	908	388	122	63	58
17	26	44	e40	e60	e56	640	153	538	296	103	61	57
18	25	41	42	e58	e54	508	148	359	262	89	57	55
19	26	41	52	e56	e52	398	140	282	227	79	47	149
20	28	40	271	e54	e50	368	132	302	195	72	39	250
21	27	41	236	e52	e49	335	174	1080	170	72	37	157
22	27	49	166	e50	e70	306	165	609	149	78	37	275
23	26	54	137	e49	593	265	142	367	134	76	35	737
24	26	57	111	e48	570	230	126	278	121	74	31	383
25	29	54	104	e48	314	208	118	233	109	69	31	244
26	43	52	91	e47	230	302	112	205	99	64	31	183
27	40	51	76	e47	179	291	103	185	95	61	e40	1910
28	35	48	69	e48	162	238	96	174	88	78	e47	2170
29	34	45	65	54	---	287	95	163	81	82	43	991
30	37	44	73	53	---	383	92	149	82	69	100	492
31	33	---	490	51	---	286	---	206	---	62	100	---
TOTAL	895	1385	2592	3887	3990	14827	8001	14320	9852	3893	1944	12100
MEAN	28.9	46.2	83.6	125	142	478	267	462	328	126	62.7	403
MAX	43	95	490	739	593	1510	905	1770	1510	499	130	2170
MIN	23	28	30	47	49	145	92	88	81	61	31	55

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1953 - 2003, BY WATER YEAR (WY)

MEAN	62.0	135	233	268	336	410	384	274	202	145	77.9	69.9
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	14.2	16.7
(WY)	1964	1972	1964	1964	1964	1983	1971	1955	1955	1965	2001	1954

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1953 - 2003
ANNUAL TOTAL	61227	77686	
ANNUAL MEAN	168	213	217
HIGHEST ANNUAL MEAN			325
LOWEST ANNUAL MEAN			78.7
HIGHEST DAILY MEAN	2050	Apr 15	14600
LOWEST DAILY MEAN	16	Sep 11	8.6
ANNUAL SEVEN-DAY MINIMUM	17	Sep 8	11
MAXIMUM PEAK FLOW		2910	38000
MAXIMUM PEAK STAGE		8.55	18.19
INSTANTANEOUS LOW FLOW		23	8.6
10 PERCENT EXCEEDS	387	547	476
50 PERCENT EXCEEDS	76	92	102
90 PERCENT EXCEEDS	26	32	30

e Estimated.

SURFACE-WATER RECORDS
Muskingum River Basin

03139000 KILLBUCK CREEK AT KILLBUCK, OHIO

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

DRAINAGE AREA.—464 mi².

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; Oct. 1, 1949-Oct. 5, 1976, water-stage recorder and nonrecording gage, at site 0.9 mi upstream at same datum.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	98	128	902	e120	460	621	239	410	231	746	838
2	57	93	119	985	e120	446	555	257	368	215	679	2140
3	56	84	e110	798	e140	455	489	383	385	241	650	2020
4	70	77	e100	642	645	447	464	342	429	224	581	1620
5	72	80	e96	502	487	1160	968	420	391	214	502	1160
6	65	105	e92	408	402	1350	1030	483	344	208	507	762
7	59	116	e88	322	286	1050	1150	418	331	226	459	443
8	58	100	e86	e280	e230	1040	1410	797	321	553	424	325
9	56	92	e84	e250	e180	1690	1390	1470	378	1720	376	278
10	53	132	e82	e230	e150	1650	1320	2140	379	1630	567	237
11	54	1170	e80	e220	e140	1510	1180	1910	531	1870	364	212
12	54	527	e86	e210	e135	1420	939	1710	661	1570	324	190
13	51	272	100	e200	e130	1550	737	1560	932	1230	286	171
14	48	198	140	e190	e125	1870	615	1330	945	859	256	157
15	49	164	178	e180	e120	1790	525	1130	1010	633	237	149
16	56	157	183	e170	e120	1800	469	2110	1030	579	290	144
17	63	161	163	e165	e115	1770	419	2060	989	434	576	134
18	68	147	153	e160	e115	1650	374	1590	879	351	477	129
19	67	139	179	e155	e115	1470	356	1190	731	326	362	805
20	69	139	731	e150	e110	1280	338	884	583	289	315	995
21	68	134	585	e145	e110	1070	387	1310	483	272	278	570
22	65	202	422	e145	e180	850	370	1170	404	379	253	600
23	64	266	325	e140	1530	718	342	947	345	618	236	1430
24	61	224	253	e140	1260	616	326	783	320	835	210	1210
25	64	187	233	e135	927	544	316	657	290	776	194	942
26	142	163	212	e135	743	720	300	563	269	661	186	646
27	130	152	189	e130	655	736	287	482	255	527	272	1180
28	96	146	171	e130	546	638	275	439	237	949	252	1750
29	90	138	165	e125	---	646	262	393	224	822	227	1540
30	97	135	167	e125	---	732	252	365	221	857	1170	1380
31	103	---	555	e120	---	685	---	396	---	820	1150	---
TOTAL	2170	5798	6255	8589	9936	33813	18466	29928	15075	21119	13406	24157
MEAN	70.0	193	202	277	355	1091	616	965	502	681	432	805
MAX	142	1170	731	985	1530	1870	1410	2140	1030	1870	1170	2140
MIN	48	77	80	120	110	446	252	239	221	208	186	129
CFSM	0.15	0.42	0.43	0.60	0.76	2.35	1.33	2.08	1.08	1.47	0.93	1.74
IN.	0.17	0.46	0.50	0.69	0.80	2.71	1.48	2.40	1.21	1.69	1.07	1.94

	STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2003, BY WATER YEAR (WY)											
MEAN	135	222	379	540	659	854	749	520	402	284	198	150
MAX (WY)	1991	1986	1991	1937	1975	1978	1957	1996	1947	1969	1935	1979
MIN (WY)	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1931 - 2003	
	ANNUAL TOTAL	ANNUAL MEAN	HIGHEST ANNUAL MEAN	ANNUAL TOTAL	ANNUAL MEAN	DATE	ANNUAL TOTAL	ANNUAL MEAN	DATE
ANNUAL TOTAL	126155	346	2060	188712	517	Jun 6	47500	207	Jul 5 1969
ANNUAL MEAN						Sep 12	26.40	207	Jul 5 1969
HIGHEST ANNUAL MEAN						Sep 8	26.40	207	Jul 5 1969
LOWEST ANNUAL MEAN						Sep 8	26.40	207	Jul 5 1969
HIGHEST DAILY MEAN						Sep 8	26.40	207	Jul 5 1969
LOWEST DAILY MEAN						Sep 8	26.40	207	Jul 5 1969
ANNUAL SEVEN-DAY MINIMUM						Sep 8	26.40	207	Jul 5 1969
MAXIMUM PEAK FLOW						Sep 8	26.40	207	Jul 5 1969
MAXIMUM PEAK STAGE						Sep 8	26.40	207	Jul 5 1969
INSTANTANEOUS LOW FLOW						Sep 8	26.40	207	Jul 5 1969
ANNUAL RUNOFF (CFSM)	0.74			1.11		Sep 8	26.40	207	Jul 5 1969
ANNUAL RUNOFF (INCHES)	10.11			15.13		Sep 8	26.40	207	Jul 5 1969
10 PERCENT EXCEEDS	1040			1310		Sep 8	26.40	207	Jul 5 1969
50 PERCENT EXCEEDS	173			326		Sep 8	26.40	207	Jul 5 1969
90 PERCENT EXCEEDS	54			92		Sep 8	26.40	207	Jul 5 1969

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

03140000 MILL CREEK NEAR COSHOCTON, OHIO

LOCATION.—Latitude 40°21'46", longitude 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, Ohio.

DRAINAGE AREA.—27.2 mi².

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, National Geodetic Vertical Datum of 1912.

REMARKS.—Records good except for periods of estimated record, which are poor. Water-quality data formerly collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.92	2.2	5.1	160	e4.3	e24	34	10	36	5.0	7.8	142
2	0.69	1.7	4.6	93	e4.2	e43	30	9.0	26	5.1	9.8	429
3	8.4	1.8	4.1	52	e9.0	e56	26	8.1	42	5.7	14	212
4	18	1.9	3.2	37	e180	e40	26	7.6	37	7.6	12	109
5	7.7	2.7	e2.4	30	e70	e110	106	34	30	9.5	8.4	63
6	3.0	6.4	e2.2	27	e33	e120	55	20	25	5.5	9.3	46
7	1.9	3.7	e2.0	22	e24	e54	75	15	24	7.9	21	35
8	1.5	2.8	e1.9	23	e18	e80	72	152	30	13	9.3	29
9	1.2	2.5	e1.8	27	e13	e170	55	290	51	25	28	24
10	1.1	9.0	e2.3	25	e10	e70	46	124	28	63	43	20
11	0.98	64	e3.0	19	e8.4	e44	39	79	40	34	19	18
12	1.0	13	6.9	e16	e7.2	e37	33	56	36	18	13	15
13	0.88	9.1	8.6	e13	e6.6	e70	28	48	38	13	11	13
14	0.69	7.0	22	e10	e6.2	e80	24	40	39	10	8.9	12
15	0.78	6.3	17	e9.0	e5.8	e66	22	38	33	8.6	7.9	14
16	1.6	7.8	14	e8.0	e5.4	e50	20	91	25	11	34	11
17	2.5	6.7	10	e7.4	e7.0	e63	18	50	22	6.9	46	9.5
18	1.4	5.9	11	e6.8	e18	53	16	43	22	6.8	17	9.3
19	1.3	5.7	14	e6.4	e27	44	15	37	20	7.7	13	209
20	3.0	5.6	67	e6.0	e22	42	14	61	16	5.1	10	56
21	1.6	5.3	30	e5.8	e19	39	25	118	14	5.3	9.1	34
22	1.3	14	23	e5.6	e50	34	17	53	12	6.0	8.6	185
23	1.1	14	19	e5.4	e160	29	15	47	11	12	12	144
24	1.1	10	16	e5.2	e70	26	13	43	9.4	16	6.6	59
25	1.4	8.8	20	e5.0	e40	24	13	34	8.2	6.7	5.6	42
26	16	7.3	16	e4.9	e30	67	12	35	7.3	5.0	5.3	39
27	4.5	6.8	13	e4.8	e25	45	10	28	7.2	9.6	68	367
28	3.2	5.8	13	e4.7	e22	36	9.6	25	5.9	23	38	116
29	2.4	5.7	12	e4.6	---	49	11	22	5.3	8.8	26	64
30	3.9	5.7	14	e4.5	---	45	9.6	21	6.2	5.9	873	47
31	3.0	---	39	e4.4	---	37	---	57	---	7.0	102	---
TOTAL	98.04	249.2	418.1	652.5	895.1	1747	889.2	1695.7	706.5	373.7	1496.6	2572.8
MEAN	3.16	8.31	13.5	21.0	32.0	56.4	29.6	54.7	23.6	12.1	48.3	85.8
MAX	18	64	67	160	180	170	106	290	51	63	873	429
MIN	0.69	1.7	1.8	4.4	4.2	24	9.6	7.6	5.3	5.0	5.3	9.3
CFSM	0.12	0.31	0.50	0.77	1.18	2.07	1.09	2.01	0.87	0.44	1.77	3.15
IN.	0.13	0.34	0.57	0.89	1.22	2.39	1.22	2.32	0.97	0.51	2.05	3.52

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2003, 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	1999	2000	2001	2002	2003
MEAN	6.57	14.4	28.6	40.7	48.2	56.9	52.6	32.7	23.2	14.4	7.87	7.35																																																							
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	0.10	0.42	0.60	1.49	2.69	15.2	7.87	5.59	1.28	0.57	0.28	0.14																																																							
(WY)	1964	1954	1964	1977	1954	1969	1971	1986	1988	1944	1962	1963																																																							

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1937 - 2003	
ANNUAL TOTAL	7535.52		11794.44			
ANNUAL MEAN	20.6		32.3		27.4	
HIGHEST ANNUAL MEAN					54.5	
LOWEST ANNUAL MEAN					7.66	
HIGHEST DAILY MEAN					2360	
LOWEST DAILY MEAN	0.25		0.69		0.00	
ANNUAL SEVEN-DAY MINIMUM	0.31		0.95		0.06	
MAXIMUM PEAK FLOW			2630		8720	
MAXIMUM PEAK STAGE			12.28		15.38	
INSTANTANEOUS LOW FLOW			0.60		0.00	
ANNUAL RUNOFF (CFSM)	0.76		1.19		1.01	
ANNUAL RUNOFF (INCHES)	10.31		16.13		13.68	
10 PERCENT EXCEEDS	50		66		62	
50 PERCENT EXCEEDS	10		15		10	
90 PERCENT EXCEEDS	0.67		3.0		1.0	

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

03140500 MUSKINGUM RIVER NEAR COSHOCTON, OHIO

LOCATION.—Latitude 40°14'54", longitude 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, Ohio, and 2 mi downstream from confluence of Tuscarawas and Walhonding Rivers.

DRAINAGE AREA.—4,859 mi².

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, National Geodetic Vertical Datum of 1912. Prior to Sept. 19, 1936, nonrecording gage and Sept. 20, 1936-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 formerly collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood in Mar. 1913 reached a stage of about 28.8 ft, discharge, 202,000 ft³/s, computed by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1510	1190	2600	6700	e1350	5320	7000	2440	5710	1980	7030	7540
2	1230	1150	2390	12600	e1350	4820	6230	2360	5930	2010	6740	14400
3	982	1110	2250	13100	e1800	4910	5410	3790	5830	2310	8090	19000
4	900	1080	e1800	10700	e2400	5130	5220	3640	6510	2330	9030	19800
5	1050	1090	e1600	8590	4780	7700	7040	3800	6080	2140	9050	16100
6	1020	1300	e1500	7110	5720	13600	12600	5440	5420	1990	8380	12500
7	951	1290	e1400	6150	4500	14200	13200	5430	4750	1960	8300	9450
8	837	1280	e1300	5430	3750	11800	15700	6640	4290	2340	8120	7770
9	741	1280	e1250	4890	e3100	14700	16900	12500	4960	6250	7360	6920
10	701	1340	e1200	e4700	e2700	17100	14700	17900	5900	10600	7200	5720
11	670	2340	e1400	e3700	e2400	17000	12300	19700	5860	12200	6400	4370
12	651	4130	e1600	e3000	e2200	14900	10400	19800	7560	11700	5600	3900
13	639	4620	1840	e2700	e2000	14100	8260	18400	9280	10000	5190	3580
14	626	4160	2250	e2400	e1800	16900	6730	17000	11300	8850	3940	3350
15	610	3050	2360	e2200	e1700	18600	5630	16400	10200	7380	3190	3210
16	856	2660	2580	e2100	e1600	18800	4840	17300	8540	6090	3200	3090
17	793	2490	2780	e2000	e1400	17600	4450	18400	6880	5390	4690	3050
18	743	2470	2990	e1900	e1300	16100	4130	15800	5930	3950	6060	2930
19	829	2520	3140	e1850	e1500	13400	3870	12400	5580	3290	5270	5410
20	859	2500	4270	e1800	e1800	11600	3640	10600	5180	3010	4480	12300
21	844	2540	5910	e1750	1870	10200	3710	12300	4600	2650	3420	11600
22	822	2860	6250	e1700	1970	9320	4210	14300	4030	2660	3040	10300
23	790	2970	5380	e1650	6470	7350	4100	12700	3580	5440	2730	15400
24	750	3200	4740	e1600	10800	6460	3620	10200	3220	8100	2390	15100
25	783	3350	4740	e1550	11500	5940	3310	8340	2910	8010	2160	13500
26	1060	3300	4460	e1500	9370	6500	3050	7460	2700	7280	2030	10800
27	1200	3210	4200	e1500	6960	7510	2860	6560	2510	6440	3020	13600
28	1380	3090	3640	e1450	5870	7190	2700	5990	2370	6000	3500	19000
29	1460	2930	2950	e1450	---	6490	2570	5510	2190	8480	2620	18700
30	1410	2790	2660	e1400	---	7290	2460	4820	2070	8030	9110	17300
31	1250	---	2870	e1400	---	7650	---	5100	---	7600	10300	---
TOTAL	28947	73290	90300	120570	103960	340180	200840	323020	161870	176460	171640	309690
MEAN	934	2443	2913	3889	3713	10970	6695	10420	5396	5692	5537	10320
MAX	1510	4620	6250	13100	11500	18800	16900	19800	11300	12200	10300	19800
MIN	610	1080	1200	1400	1300	4820	2460	2360	2070	1960	2030	2930

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 2003, BY WATER YEAR (WY)

	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	1999	2000	2001	2002	2003
MEAN	1694	2956	4754	6284	7774	9628	8898	6282	4657	3193	2152	1795	1936	2512	3193	4657	6282	8898	9628	7774	6284	4754	2956	1694																																												
MAX	7981	12310	14860	30880	20990	21070	16400	19350	17480	16640	12430	10320	1936	2512	3193	4657	6282	8898	9628	7774	6284	4754	2956	1694																																												
(WY)	1991	1986	1991	1937	1959	1945	1957	1996	1947	1969	1980	2003	1936	1954	1969	1980	1996	1947	1959	1945	1937	1991	1991																																													
MIN	636	566	558	923	929	2520	2189	1611	921	637	645	499	1936	1954	1969	1980	1996	1947	1959	1945	923	566	636																																													
(WY)	1992	1954	1964	1977	1964	1969	1946	1941	1988	1954	1954	1954	1936	1954	1969	1980	1996	1947	1959	1945	1977	1954	1992																																													

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1936 - 2003

ANNUAL TOTAL	1517788	2100767	
ANNUAL MEAN	4158	5756	4991
HIGHEST ANNUAL MEAN			7545
LOWEST ANNUAL MEAN			2082
HIGHEST DAILY MEAN	22600	Apr 15	19800
LOWEST DAILY MEAN	565	Sep 15	610
ANNUAL SEVEN-DAY MINIMUM	597	Sep 10	663
MAXIMUM PEAK FLOW			20300
MAXIMUM PEAK STAGE			14.46
INSTANTANEOUS LOW FLOW			600
10 PERCENT EXCEEDS	10900	13400	12800
50 PERCENT EXCEEDS	2620	4210	2940
90 PERCENT EXCEEDS	776	1290	865

e Estimated.

SURFACE-WATER RECORDS
Muskingum River Basin

03141870 LEATHERWOOD CREEK NEAR KIPLING, OHIO

LOCATION.—Latitude 39°59'24", longitude 81°29'45", Guernsey County, Hydrologic Unit 05040005, on left bank at Deerfield Road bridge, 0.5 mi southeast of village of Kipling, Ohio, and 0.75 mi downstream from Hawkins Run.

DRAINAGE AREA.—69.5 mi².

PERIOD OF RECORD.—February 2000 to current year.

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

GAGE.—Water-stage recorder. Datum of gage is 795.78 ft above sea level.

REMARKS.—Records fair except for periods of estimated record, which are poor. Satellite telemeter at gage.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.1	e16	e22	442	e14	64	42	23	251	34	90	256
2	1.0	e13	e19	637	e15	148	39	23	101	32	54	612
3	0.49	e11	e16	228	e25	159	35	20	134	30	146	317
4	0.67	e10	e14	139	519	119	33	18	210	28	378	189
5	1.4	e9.2	e12	94	259	400	141	61	128	26	114	102
6	1.0	e23	e11	80	93	457	93	62	96	53	78	69
7	0.27	e25	e10	64	64	224	161	56	101	43	65	51
8	0.20	e19	e9.4	71	e44	279	219	60	106	90	98	42
9	0.38	e17	e9.0	118	e32	594	111	348	234	103	114	35
10	0.65	e16	e12	85	e23	258	81	415	126	101	154	30
11	2.0	e70	e15	62	e17	140	68	212	135	159	86	25
12	3.1	e62	e30	68	e15	125	60	137	282	75	66	23
13	2.5	e27	e47	44	e14	176	49	116	176	58	56	21
14	2.9	e20	e200	33	e13	195	43	91	125	46	50	19
15	2.2	e17	e140	e25	e12	136	38	86	103	38	112	25
16	40	e35	e86	e23	e11	123	35	171	84	41	867	31
17	39	e56	e54	e21	e22	107	33	115	150	36	233	19
18	e17	e60	e47	e20	63	89	31	97	258	34	82	16
19	e11	e48	e44	e19	50	75	31	85	138	85	50	713
20	e17	e51	e180	e18	38	77	28	77	106	44	36	778
21	e12	e41	121	e17	36	73	63	190	98	33	28	165
22	e7.0	e80	65	e16	97	70	50	113	82	29	90	180
23	e5.4	e86	47	e16	832	58	38	90	69	54	83	427
24	e4.7	e66	36	e15	410	51	32	95	61	104	37	127
25	e4.3	e40	59	e15	170	47	30	77	54	57	26	73
26	e11	e31	62	e15	100	48	35	70	49	39	21	56
27	e17	e26	42	e14	69	42	29	63	51	31	177	93
28	e10	e23	35	e14	45	39	24	63	48	35	250	108
29	e9.0	e21	33	e14	---	49	26	59	41	33	91	64
30	e30	e23	32	e14	---	56	25	57	38	27	387	51
31	e20	---	56	e14	---	45	---	162	---	39	264	---
TOTAL	275.26	1042.2	1565.4	2455	3102	4523	1723	3312	3635	1637	4383	4717
MEAN	8.88	34.7	50.5	79.2	111	146	57.4	107	121	52.8	141	157
MAX	40	86	200	637	832	594	219	415	282	159	867	778
MIN	0.20	9.2	9.0	14	11	39	24	18	38	26	21	16
CFSM	0.13	0.50	0.73	1.14	1.59	2.10	0.83	1.54	1.74	0.76	2.03	2.26
IN.	0.15	0.56	0.84	1.31	1.66	2.42	0.92	1.77	1.95	0.88	2.35	2.52

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2000 - 2003, BY WATER YEAR (WY)

	2000	2001	2002	2003	2000	2001	2002	2003	2000	2001	2002	2003
MEAN	6.82	19.1	62.1	60.1	106	120	121	97.0	81.3	19.5	42.0	42.4
MAX	8.88	34.7	81.8	79.2	175	146	194	151	121	52.8	141	157
(WY)	2003	2003	2001	2003	2000	2003	2000	2002	2003	2003	2003	2003
MIN	3.82	9.67	50.5	45.2	33.8	96.7	57.4	63.9	44.3	5.50	1.42	1.52
(WY)	2002	2001	2003	2002	2002	2002	2003	2001	2000	2002	2002	2002

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 2000 - 2003
ANNUAL TOTAL	18347.69	32369.86	
ANNUAL MEAN	50.3	88.7	64.6
HIGHEST ANNUAL MEAN			88.7
LOWEST ANNUAL MEAN			48.3
HIGHEST DAILY MEAN			1060
LOWEST DAILY MEAN	0.00	0.20	0.00
ANNUAL SEVEN-DAY MINIMUM	0.00	0.63	0.00
MAXIMUM PEAK FLOW		1230	1240
MAXIMUM PEAK STAGE		11.89	12.06
INSTANTANEOUS LOW FLOW		0.18	0.00
ANNUAL RUNOFF (CFSM)	0.72	1.28	0.93
ANNUAL RUNOFF (INCHES)	9.82	17.33	12.63
10 PERCENT EXCEEDS	120	192	149
50 PERCENT EXCEEDS	23	50	27
90 PERCENT EXCEEDS	0.12	13	1.4

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**

83

03142000 WILLS CREEK AT CAMBRIDGE, OHIO

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

DRAINAGE AREA.—406 mi².

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–Sept. 30, 1928, and May 22, 1937–Oct. 18, 1938, nonrecording gage at present site and datum.

REMARKS.—Records fair except for periods of estimated record, which are poor. Flow regulated by Senecaville Lake on Seneca Fork, 22 mi upstream, beginning in 1937. Water-quality data formerly collected at this site. U.S. Army Corps of Engineers satellite telemeter at gage.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18	81	357	839	e38	e640	286	211	809	70	138	1200
2	16	52	347	2300	e37	e820	399	198	428	251	408	2020
3	12	43	334	2220	e90	e1100	253	150	367	202	519	2360
4	14	36	319	1440	835	e1050	175	108	1020	64	1160	1860
5	21	35	325	1050	1520	e1550	458	204	842	51	1070	1170
6	17	102	321	913	568	e1800	745	663	596	139	874	1030
7	15	185	313	806	348	e1500	550	502	406	216	1020	920
8	12	123	314	646	232	e1300	1390	354	457	222	1020	861
9	13	79	308	678	e160	e1700	1010	678	1000	1030	1010	e760
10	16	74	218	548	e120	e1600	700	2090	999	1210	1180	e660
11	34	329	200	372	e90	e1200	586	1800	949	1210	1100	e580
12	33	430	264	272	e74	956	447	792	871	776	865	e500
13	36	210	440	319	e66	1190	330	972	580	676	782	436
14	22	147	934	e210	e60	1350	290	989	392	541	741	299
15	26	114	1200	e150	e56	789	269	946	300	396	416	287
16	175	310	697	e110	e54	525	306	1740	262	237	679	211
17	272	511	682	e82	e52	462	313	1420	513	228	1160	110
18	116	474	730	e72	e100	396	199	613	1160	312	907	66
19	60	343	735	e66	164	336	163	467	1230	508	841	1090
20	51	335	1140	e62	145	345	153	283	1050	532	792	2520
21	46	307	1240	e58	141	380	212	967	555	461	769	2260
22	32	584	537	e54	222	337	459	1250	239	434	1040	1300
23	22	914	382	e50	1680	290	360	1020	175	354	1030	2150
24	19	623	404	e48	2420	260	370	593	141	786	552	1900
25	27	490	284	e46	e1700	315	251	288	115	749	468	1040
26	97	559	312	e44	e1200	338	163	224	94	414	187	885
27	134	463	299	e43	e940	270	134	195	85	304	176	748
28	77	381	279	e42	e860	204	114	175	95	293	474	985
29	52	365	266	e41	---	218	181	340	79	277	567	705
30	86	361	259	e40	---	287	220	358	65	135	1130	757
31	126	---	295	e38	---	248	---	360	---	86	1590	---
TOTAL	1697	9060	14735	13659	13972	23756	11486	20950	15874	13164	24665	31670
MEAN	54.7	302	475	441	499	766	383	676	529	425	796	1056
MAX	272	914	1240	2300	2420	1800	1390	2090	1230	1210	1590	2520
MIN	12	35	200	38	37	204	114	108	65	51	138	66

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2003, BY WATER YEAR (WY)

	MEAN	MAX	MIN
1937	98.4	835	3.18
1938	303	1912	4.31
1939	491	1615	7.55
1940	604	1674	48.1
1941	772	1789	25.0
1942	859	2361	109
1943	766	1710	87.7
1944	545	1890	30.5
1945	382	1602	20.6
1946	204	1690	11.6
1947	161	1937	3.77
1948	119	1139	3.59
1949		1974	
1950		1980	
1951		1998	
1952		1963	

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1937 - 2003
ANNUAL TOTAL	126746.8	194688	
ANNUAL MEAN	347	533	438
HIGHEST ANNUAL MEAN			762
LOWEST ANNUAL MEAN			118
HIGHEST DAILY MEAN	3160 Jun 8	2520 Sep 20	10800 Jun 29 1998
LOWEST DAILY MEAN	8.9 Sep 1	12 Oct 3	0.70 Oct 6 1960
ANNUAL SEVEN-DAY MINIMUM	9.6 Aug 27	15 Oct 3	1.6 Sep 13 1966
MAXIMUM PEAK FLOW		2680 Sep 20	11400 Jun 29 1998
MAXIMUM PEAK STAGE		11.77 Sep 20	26.91 Jun 29 1998
INSTANTANEOUS LOW FLOW		11 Oct 4	0.70 Oct 6 1960
10 PERCENT EXCEEDS	932	1200	1170
50 PERCENT EXCEEDS	198	354	180
90 PERCENT EXCEEDS	15	52	18

e Estimated.

SURFACE-WATER RECORDS
Muskingum River Basin

03144000 WAKATOMIKA CREEK NEAR FRAZEYSBURG, OHIO

LOCATION.—Latitude 40°07'57", longitude 82°08'53", in NW ¼ sec. 13, T.3 N., R.9 W., Muskingum County, Hydrologic Unit 05040004, on right bank 2.0 mi northwest of Frazeysburg, Ohio, 2 mi downstream from Fivemile Run, and 2.5 mi upstream from Black Run.

DRAINAGE AREA.—140 mi².

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, National Geodetic Vertical Datum of 1912. Prior to Oct. 31, 1936, nonrecording gage at same site and datum.

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

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	29	39	387	e31	e130	214	93	231	36	40	94
2	13	24	33	554	e30	e160	189	79	148	34	33	483
3	12	24	30	269	e60	198	163	73	352	33	48	1060
4	24	25	e27	189	250	196	158	66	454	31	49	380
5	43	26	e25	153	e180	884	885	231	296	41	82	191
6	36	50	e23	137	e120	754	561	241	221	45	45	134
7	22	51	e22	110	e78	333	546	165	192	40	40	101
8	16	42	e21	e94	e68	361	744	152	196	55	39	80
9	14	38	e20	e84	e62	1130	475	825	361	67	44	67
10	13	38	e19	e74	e58	472	346	887	200	64	129	58
11	13	355	e20	e66	e56	291	276	615	171	106	53	52
12	13	137	e27	e60	e54	270	229	387	167	60	39	46
13	13	79	36	e56	e52	483	187	286	191	46	30	42
14	12	60	63	e52	e50	620	160	213	170	38	25	40
15	11	50	80	e50	e48	407	145	240	156	32	22	38
16	16	50	68	e48	e45	403	135	1890	133	30	20	36
17	24	51	54	e46	e43	361	125	798	126	28	19	32
18	18	45	51	e45	e41	307	115	425	133	24	17	28
19	17	41	55	e44	e39	255	103	309	116	22	16	326
20	22	44	422	e43	e38	268	95	285	100	20	15	227
21	21	41	239	e42	e37	259	146	1080	85	19	13	108
22	19	79	151	e41	e90	221	130	453	75	20	13	204
23	17	99	116	e40	1380	188	105	329	65	22	13	887
24	15	73	90	e39	511	167	93	265	58	35	12	254
25	16	60	95	e38	324	154	89	218	53	35	12	174
26	78	52	85	e37	e200	427	88	214	48	29	11	133
27	65	48	67	e36	e160	343	80	178	49	24	16	1460
28	40	44	59	e35	e140	261	74	162	44	22	19	836
29	31	40	61	e34	---	278	76	146	40	24	23	333
30	35	41	59	e33	---	289	76	129	38	24	363	224
31	36	---	124	e32	---	235	---	192	---	23	175	---
TOTAL	740	1836	2281	2968	4245	11105	6808	11626	4669	1129	1475	8128
MEAN	23.9	61.2	73.6	95.7	152	358	227	375	156	36.4	47.6	271
MAX	78	355	422	554	1380	1130	885	1890	454	106	363	1460
MIN	11	24	19	32	30	130	74	66	38	19	11	28
MED	17	46	55	48	59	289	146	240	141	32	25	133
CFSM	0.17	0.44	0.53	0.68	1.08	2.56	1.62	2.68	1.11	0.26	0.34	1.94
IN.	0.20	0.49	0.61	0.79	1.13	2.95	1.81	3.09	1.24	0.30	0.39	2.16
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1937 - 2003, BY WATER YEAR (WY)												
MEAN	36.7	82.4	155	215	251	305	300	198	126	77.5	55.7	39.7
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												
ANNUAL TOTAL				FOR 2002	CALENDAR YEAR			FOR 2003	WATER YEAR		WATER YEARS 1937 - 2003	
ANNUAL MEAN				48379.5				57010				
HIGHEST ANNUAL MEAN				133				156			153	
LOWEST ANNUAL MEAN											270	1979
HIGHEST DAILY MEAN				2060	Apr 15				1890	May 16	9200	Jun 28 1998
LOWEST DAILY MEAN				5.4	Sep 14				11	Oct 15	2.6	Oct 3 1963
ANNUAL SEVEN-DAY MINIMUM				6.1	Sep 9				13	Oct 9	2.7	Sep 25 1953
MAXIMUM PEAK FLOW								2530	May 16a	16800	Sep 14 1979	
MAXIMUM PEAK STAGE								6.04	May 16	14.07	Sep 14 1979	
INSTANTANEOUS LOW FLOW								11	Oct 3	2.0	Oct 3 1963	
ANNUAL RUNOFF (CFSM)				0.95				1.12			1.09	
ANNUAL RUNOFF (INCHES)				12.86				15.15			14.83	
10 PERCENT EXCEEDS				302				362			342	
50 PERCENT EXCEEDS				61				65			63	
90 PERCENT EXCEEDS				11				20			11	

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

03149500 SALT CREEK AT CHANDLERSVILLE, OHIO

LOCATION.—Latitude 39°54'31", longitude 81°51'37", Muskingum County, Hydrologic Unit 05040004, on left bank downstream of State Highway 146, 1 mi upstream from Buffalo Fork, 2 mi northwest of Chandlerville and 11 mi southeast of Zanesville.

DRAINAGE AREA.—75.7 mi².

PERIOD OF RECORD.—January 1935 to September 1947. November 1, 2000 to current year.

GAGE.—Water-stage recorder and crest gage. Datum of gage is 695.14 ft, NAVD 1988. Prior to 1947 at site 300 ft upstream at different datum.

REMARKS.—Records fair except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.47	15	18	527	e8.8	122	83	47	137	36	9.4	103
2	0.33	11	16	445	e16	281	73	33	57	21	11	341
3	0.37	9.4	14	234	37	239	61	23	125	17	132	406
4	0.82	9.2	e13	155	387	212	55	20	146	21	60	392
5	1.6	10	e12	114	165	794	166	180	89	23	26	171
6	1.0	38	e11	97	e80	568	125	130	62	78	18	125
7	1.8	31	e10	74	e60	284	241	110	52	51	14	79
8	3.4	18	e9.6	77	e46	353	314	113	68	127	14	48
9	6.0	14	e9.4	100	e33	739	199	590	150	340	16	32
10	6.0	13	e9.2	83	e26	324	151	439	63	192	39	25
11	12	126	e13	59	e21	207	121	272	44	158	28	24
12	11	56	42	70	e18	184	99	158	40	85	15	22
13	9.5	29	52	59	e14	231	76	112	40	57	9.1	20
14	8.7	21	201	44	e13	230	63	76	60	42	7.9	19
15	8.2	17	118	36	e12	174	56	77	45	33	7.4	24
16	59	38	71	27	e11	161	48	571	334	72	6.6	23
17	39	36	46	e23	e10	147	44	242	826	39	44	17
18	17	28	41	e21	e9.6	127	41	156	460	31	15	15
19	14	25	41	e20	e9.2	104	36	111	239	41	8.8	824
20	13	25	390	e19	e15	142	32	116	153	26	7.0	269
21	10	23	186	e19	e26	129	67	417	107	27	5.8	118
22	8.7	67	109	e18	165	102	48	177	77	20	402	287
23	7.2	63	76	e16	1090	84	35	124	59	18	68	408
24	6.8	40	57	e15	406	73	30	100	47	31	29	154
25	8.2	31	75	e14	232	65	27	75	41	23	19	101
26	80	25	69	e13	189	122	25	73	38	22	15	74
27	33	23	49	e12	139	92	22	54	30	23	18	294
28	17	21	41	e11	99	76	20	52	24	34	23	241
29	16	19	41	e10	---	112	22	41	21	29	20	135
30	26	19	40	e9.6	---	122	22	40	18	11	177	95
31	21	---	64	e9.2	---	92	---	79	---	9.4	83	---
TOTAL	447.09	900.6	1944.2	2430.8	3337.6	6692	2402	4808	3652	1737.4	1348.0	4886
MEAN	14.4	30.0	62.7	78.4	119	216	80.1	155	122	56.0	43.5	163
MAX	80	126	390	527	1090	794	314	590	826	340	402	824
MIN	0.33	9.2	9.2	9.2	8.8	65	20	20	18	9.4	5.8	15
CFSM	0.19	0.40	0.83	1.04	1.57	2.85	1.06	2.05	1.61	0.74	0.57	2.15
IN.	0.22	0.44	0.96	1.19	1.64	3.29	1.18	2.36	1.79	0.85	0.66	2.40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1936 - 2003, BY WATER YEAR (WY)

	MEAN	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
MEAN	17.1	46.6	69.6	111	147	187	161	115	98.4	41.7	29.8	24.6
MAX	82.1	199	187	536	371	510	339	322	234	146	107	163
(WY)	1937	1937	1943	1937	1936	1945	1940	1947	1946	1937	1941	2003
MIN	2.18	4.74	8.29	13.4	35.5	43.5	20.3	10.9	2.87	3.39	1.32	1.80
(WY)	1944	1945	1940	1944	1944	1941	1941	1941	1936	1944	2002	2002

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1936 - 2003

ANNUAL TOTAL	26580.14	34585.69	
ANNUAL MEAN	72.8	94.8	88.7
HIGHEST ANNUAL MEAN			133
LOWEST ANNUAL MEAN			54.4
HIGHEST DAILY MEAN	2120	Jun 6	3400
LOWEST DAILY MEAN	0.01	Sep 8	0.00
ANNUAL SEVEN-DAY MINIMUM	0.03	Sep 7	0.01
MAXIMUM PEAK FLOW			1710
MAXIMUM PEAK STAGE			11.63
INSTANTANEOUS LOW FLOW			0.28
ANNUAL RUNOFF (CFSM)	0.96		1.25
ANNUAL RUNOFF (INCHES)	13.06		17.00
10 PERCENT EXCEEDS	173		239
50 PERCENT EXCEEDS	28		41
90 PERCENT EXCEEDS	0.71		9.8

e Estimated.

SURFACE-WATER RECORDS
Muskingum River Basin

03150000 MUSKINGUM RIVER AT MCCONNELSVILLE, OHIO

LOCATION.—Latitude 39°38'42", longitude 81°51'00", in SE ¼ sec.11, T.10.N., R.12 W., Morgan County, Hydrologic Unit 05040004, on left bank just upstream from Dam 7 at McConnelville, and 3.5 mi downstream from Oilspring Run.

DRAINAGE AREA.—7,422 mi².

PERIOD OF RECORD.—October 1921 to September 1992. October 2001 to September 2002.

REVISED RECORDS.—WSP 783: 1913(M). WSP 853: 1933(M). WSP 1173: 1922-24, 1928(M). WSP 1907: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 650.31 ft, National Geodetic Vertical Datum of 1912. Prior to July 27, 1922 nonrecording gage at site 0.5 mi upstream at same datum; July 27, 1922-Aug. 10, 1926, nonrecording gage; Aug. 11, 1926-Sept. 8, 1959, water-stage recorder at present site and datum; Sept. 9, 1959-July 18, 1960, nonrecording gage at site 0.5 mi upstream at same datum.

REMARKS.—Records excellent except for periods of estimated record, which are fair. Flow regulated by 17 flood-control reservoirs 36.6 mi to 148 mi upstream from station. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Mar. 1913 reached a stage of 33.5 ft, discharge, 270,000 ft³/s computed by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2210	1450	3390	8990	e1950	9330	9950	4400	7990	3100	7870	13200
2	1660	1450	3160	17000	e1900	8610	8860	4480	8450	3060	7890	16300
3	1390	1400	2980	19800	e2400	8570	7800	4160	9890	3110	8100	22800
4	1300	1310	2810	16800	4240	9580	7430	5040	11300	3440	9340	26100
5	1330	1180	e2500	13900	6500	14300	9380	6170	11100	3440	10000	24700
6	1340	1470	e2300	11600	8460	22700	13900	7970	9010	3970	10800	20000
7	1320	1550	e2100	9280	7580	23000	18600	9660	8550	3830	9860	14300
8	1360	1700	e1900	8420	5950	20900	21800	10100	7860	3830	9580	11300
9	1220	1630	e1800	e7200	e4500	24100	22800	14000	8210	6750	9150	9410
10	928	1800	e1700	e6400	e4000	26200	22300	22400	8630	10800	9650	8280
11	871	2750	e1900	e5400	e3800	25700	17600	24500	9210	13200	8890	6930
12	844	5370	e2300	e4600	e3400	23200	15200	24400	9050	12900	8090	5960
13	788	6840	2670	e4200	e3100	21300	12800	23100	10200	12200	7400	5510
14	705	5770	3950	e3700	e2800	22600	10600	20800	13500	10600	6440	5180
15	690	4030	3960	e3400	e2500	24100	9040	20200	16000	9360	5250	4860
16	1150	3440	4670	e3200	e2300	24200	7810	23100	15700	8310	4630	4520
17	1220	3190	5590	e3100	e2100	22700	6900	25800	16500	7100	4780	4300
18	993	3170	4580	e2900	e2000	21700	6460	23500	13700	6080	6320	4180
19	1080	3440	4630	e2800	e2300	19000	6110	20400	10400	5320	6860	7740
20	1280	3290	7860	e2700	e2800	16400	5740	19000	9080	4640	6430	11400
21	1250	3350	9530	e2600	3280	14600	5870	20200	8050	4160	5520	14100
22	1160	3630	9920	e2500	3830	13800	5930	20700	7040	3950	5580	14700
23	1070	3770	9030	e2400	10800	11400	6150	18400	6420	4360	4950	20300
24	947	4390	7930	e2350	17000	9310	5880	15800	5560	7170	4410	22600
25	909	4930	6460	e2300	17700	9160	5480	12900	4600	8480	4180	18700
26	1550	4960	5840	e2250	15000	9190	5170	11300	4170	8130	3690	15700
27	1760	4420	5310	e2200	12500	10300	4820	9610	3940	7710	3430	14800
28	1840	4160	4810	e2150	9870	10800	4430	8620	3660	6800	4390	23700
29	2130	3720	4180	e2100	---	10100	3980	8050	3440	7390	4160	24500
30	2400	3650	3740	e2050	---	9570	3810	7590	3240	8380	4910	22000
31	1570	---	4000	e2000	---	10200	---	6950	---	7940	12700	---
TOTAL	40265	97210	137500	180290	164560	506620	292600	453300	264450	209510	215250	418070
MEAN	1299	3240	4435	5816	5877	16340	9753	14620	8815	6758	6944	13940
MAX	2400	6840	9920	19800	17700	26200	22800	25800	16500	13200	12700	26100
MIN	690	1180	1700	2000	1900	8570	3810	4160	3240	3060	3430	4180

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2003, BY WATER YEAR (WY)

	1922	1923	1924	1925	1926	1927	1928	1929	1930	1931	1932	1933
MEAN	2440	4425	7665	10040	12020	15080	13550	9325	6660	4518	3439	2751
MAX	11780	19260	26010	51270	29380	36270	26180	23550	22650	18920	26280	16260
(WY)	1927	1986	1928	1937	1959	1945	1940	1983	1981	1969	1935	1979
MIN	643	731	833	1111	1173	2316	3337	1564	1361	711	494	590
(WY)	1931	1954	1964	1931	1934	1931	1941	1934	1930	1930	1930	1932

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1922 - 2003
ANNUAL TOTAL	2295794	2979625	
ANNUAL MEAN	6290	8163	7635
HIGHEST ANNUAL MEAN			12640
LOWEST ANNUAL MEAN			2658
HIGHEST DAILY MEAN	30400	26200	124000
LOWEST DAILY MEAN	535	690	325
ANNUAL SEVEN-DAY MINIMUM	625	854	448
MAXIMUM PEAK FLOW		26500	126000
MAXIMUM PEAK STAGE		8.50	21.14
INSTANTANEOUS LOW FLOW		662	325
10 PERCENT EXCEEDS	16000	20100	19700
50 PERCENT EXCEEDS	3950	6170	4360
90 PERCENT EXCEEDS	983	1740	1150

e Estimated.

SURFACE-WATER RECORDS
Hocking River Basin

03157000 CLEAR CREEK NEAR ROCKBRIDGE, OHIO

LOCATION.—Latitude 39°35'18", longitude 82°34'43", in NE ¼ 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 mi upstream from mouth, and 3 mi west of Rockbridge, Ohio.

DRAINAGE AREA.—89 mi².

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 and crest gage. Datum of gage is 760.13 ft, National Geodetic Vertical Datum of 1912. Prior to May 2, 1940, nonrecording gage at same site and datum.

REMARKS.—Records fair except for periods of estimated record, which are poor. Water-quality data formerly collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16	32	38	322	e30	100	80	50	81	43	57	68
2	15	26	36	213	e31	188	73	48	63	65	86	303
3	15	25	e33	144	e46	186	68	47	81	48	93	205
4	16	24	e32	109	e200	157	67	45	103	41	88	145
5	19	25	e31	92	e90	570	88	122	79	38	91	87
6	17	51	e30	84	e72	486	75	115	66	136	71	68
7	15	40	e29	76	e66	280	108	83	68	233	61	59
8	14	33	e28	78	e62	349	150	81	102	488	91	54
9	15	29	e27	125	e58	513	110	273	130	718	64	50
10	15	28	e27	101	e54	231	94	576	76	340	252	47
11	29	153	44	e76	e52	164	85	469	66	229	166	44
12	28	75	75	e66	e48	150	77	210	63	132	88	41
13	21	57	67	e54	e46	205	67	142	71	96	68	39
14	17	50	289	e48	e44	220	63	110	164	75	59	38
15	17	47	136	e44	e43	159	61	100	335	68	58	39
16	40	79	93	e40	e42	138	59	87	240	819	62	36
17	33	67	71	e38	e41	124	58	82	398	236	53	34
18	24	55	68	e36	e40	110	58	86	217	134	48	32
19	24	51	68	e35	e39	97	54	76	137	97	46	45
20	29	47	484	e34	e38	130	53	80	104	76	43	36
21	23	46	166	e33	e39	148	91	231	85	70	42	33
22	24	55	111	e32	e150	115	70	127	74	71	45	60
23	21	54	85	e31	e56	100	61	99	65	61	43	91
24	19	49	73	e30	246	91	56	85	59	53	38	54
25	20	47	75	e30	152	85	56	75	54	48	37	47
26	61	44	63	e29	126	92	57	76	50	45	36	43
27	40	43	58	e29	109	84	51	66	48	42	42	233
28	30	40	57	e31	98	77	49	65	45	166	60	165
29	35	40	57	e33	---	102	50	64	42	98	41	98
30	60	42	56	e31	---	105	48	57	39	62	47	74
31	40	---	69	e30	---	87	---	87	---	54	39	---
TOTAL	792	1454	2576	2154	2618	5643	2137	3914	3205	4882	2115	2368
MEAN	25.5	48.5	83.1	69.5	93.5	182	71.2	126	107	157	68.2	78.9
MAX	61	153	484	322	556	570	150	576	398	819	252	303
MIN	14	24	27	29	30	77	48	45	39	38	36	32
CFSM	0.29	0.54	0.93	0.78	1.05	2.05	0.80	1.42	1.20	1.77	0.77	0.89
IN.	0.33	0.61	1.08	0.90	1.09	2.36	0.89	1.64	1.34	2.04	0.88	0.99

	STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1940 - 2003, BY WATER YEAR (WY)											
MEAN	28.8	51.9	87.2	115	143	169	155	123	75.1	54.6	43.4	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	11.5	9.37
(WY)	1964	1965	1964	1977	1954	1941	1941	1988	1988	1999	1999	1999

	SUMMARY STATISTICS		FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1940 - 2003	
	ANNUAL TOTAL	ANNUAL MEAN	27324.1	74.9	33858	92.8		
HIGHEST ANNUAL MEAN							164	1979
LOWEST ANNUAL MEAN							28.8	1954
HIGHEST DAILY MEAN			1140	Jun 6	819	Jul 16	4690	May 24 1968
LOWEST DAILY MEAN			9.7	Sep 11	14	Oct 8	3.5	Aug 27 1942
ANNUAL SEVEN-DAY MINIMUM			9.9	Sep 8	16	Oct 2	6.3	Aug 25 1942
MAXIMUM PEAK FLOW					2010	Jul 8	16000	Jul 22 1948
MAXIMUM PEAK STAGE					6.93	Jul 8a	17.68	Jul 22 1948
INSTANTANEOUS LOW FLOW					14	Oct 8	3.0	Jul 31 1991
ANNUAL RUNOFF (CFSM)		0.84			1.04		1.00	
ANNUAL RUNOFF (INCHES)		11.42			14.15		13.65	
10 PERCENT EXCEEDS			149		187		181	
50 PERCENT EXCEEDS			49		62		44	
90 PERCENT EXCEEDS			14		30		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

03157500 HOCKING RIVER AT ENTERPRISE, OHIO

LOCATION.—Latitude 39°33'54", longitude 82°28'29", in NW ¼ sec. 5, T.14 N., R.17 W., Hocking County, Hydrologic Unit 05030204, on right bank at upstream side of bridge at Enterprise, Ohio, 4.0 mi downstream from Buck Run, and 4.3 mi upstream from Scott Creek.

DRAINAGE AREA.—459 mi².

PERIOD OF RECORD.—October 1930 to current year. Prior to May 1931 monthly discharge only, published in WSP 1305.

REVISED RECORDS.—WSP 873: 1938. WRD-OH-70-1: 1969. WSP 1907: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 723.58 ft above sea level. Prior to Oct. 24, 1933, nonrecording gage at same site and datum.

REMARKS.—Records good except for periods of estimated record, which are poor. Flood flow affected by temporary retention in eight retarding basins, combined capacity, 8,710 acre-ft, constructed between 1955 and 1961 upstream from station. Water-quality data formerly collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood in Mar. 1907 reached a stage of 22.0 ft from flood mark; discharge, 36,000 ft³/s from reports of U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	65	128	129	1010	e115	493	365	230	521	108	137	196
2	61	106	118	1480	e110	860	340	185	361	143	209	1590
3	59	97	111	876	e170	1000	308	153	408	117	339	1080
4	80	93	93	620	e780	795	284	132	677	99	384	736
5	97	96	e88	496	e550	2350	378	445	529	96	284	451
6	79	197	e86	439	e350	3170	375	642	414	125	227	318
7	67	204	e84	372	e280	1760	499	462	381	462	217	259
8	61	156	e92	368	e230	1480	955	465	468	639	219	221
9	58	135	e86	475	e200	2710	679	723	1390	1670	305	196
10	59	129	e88	450	e190	1550	544	1490	786	1080	598	174
11	107	486	141	e350	e180	993	471	1790	553	839	525	157
12	119	362	262	e240	e170	795	416	977	455	478	284	143
13	91	243	258	e230	e160	864	359	665	423	356	205	131
14	74	196	789	e215	e150	1120	322	509	550	266	160	124
15	69	188	631	e210	e145	830	297	459	1310	213	133	120
16	155	270	439	e200	e140	701	281	415	772	2190	145	115
17	170	276	333	e197	e135	614	273	369	1330	1060	136	107
18	111	222	296	e190	e135	538	269	428	1410	565	133	100
19	111	197	286	e180	e130	473	256	369	851	390	102	398
20	127	182	1510	e165	e130	521	224	375	614	287	94	561
21	104	163	905	e160	e125	568	383	1680	485	232	89	295
22	90	193	550	e150	e500	497	344	1030	401	215	95	324
23	81	214	418	e145	2660	435	270	676	326	202	180	999
24	75	197	346	e140	1600	395	236	524	259	213	103	525
25	75	176	335	e135	950	357	215	427	219	194	85	348
26	238	161	306	e125	673	387	210	428	191	147	79	274
27	181	154	253	e120	570	364	179	361	173	123	100	947
28	126	143	231	e130	489	332	158	361	152	347	198	1340
29	128	135	219	e130	---	389	158	336	132	299	112	707
30	224	134	209	e120	---	466	156	292	117	185	106	476
31	174	---	250	e115	---	397	---	412	---	145	94	---
TOTAL	3316	5633	9942	10233	12017	28204	10204	17810	16658	13485	6077	13412
MEAN	107	188	321	330	429	910	340	575	555	435	196	447
MAX	238	486	1510	1480	2660	3170	955	1790	1410	2190	598	1590
MIN	58	93	84	115	110	332	156	132	117	96	79	100
CFSM	0.23	0.41	0.70	0.72	0.94	1.98	0.74	1.25	1.21	0.95	0.43	0.97
IN.	0.27	0.46	0.81	0.83	0.97	2.29	0.83	1.44	1.35	1.09	0.49	1.09

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1932 - 2003, BY WATER YEAR (WY)

	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	1999	2000	2001	2002	2003
MEAN	124	244	420	633	772	936	848	619	376	273	221	154																																																												
MAX	670	1864	1844	3605	1899	2875	2228	2499	1446	1437	1686	1087																																																												
(WY)	1976	1986	1991	1937	1979	1945	1940	1968	1981	1958	1980	1979																																																												
MIN	33.4	41.1	40.5	100	58.0	181	184	95.3	68.1	60.4	39.9	30.4																																																												
(WY)	1954	1954	1964	1977	1954	1941	1941	1934	1936	1999	1932	1953																																																												

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1932 - 2003	
	141025	386	146991	403	467	
ANNUAL TOTAL	141025	386	146991	403	467	
ANNUAL MEAN						
HIGHEST ANNUAL MEAN					860	1979
LOWEST ANNUAL MEAN					110	1954
HIGHEST DAILY MEAN	5710	Jun 7	3170	Mar 6	21600	Apr 20 1940
LOWEST DAILY MEAN	35	Sep 12	58	Oct 9	23	Aug 12 1944
ANNUAL SEVEN-DAY MINIMUM	36	Sep 9	72	Oct 3	27	Aug 7 1944
MAXIMUM PEAK FLOW			4200	Mar 6	26000	Mar 10 1964
MAXIMUM PEAK STAGE			9.78	Mar 6a	21.31	Mar 10 1964
INSTANTANEOUS LOW FLOW			58	Oct 9	23	Aug 12 1944
ANNUAL RUNOFF (CFSM)	0.84		0.88		1.02	
ANNUAL RUNOFF (INCHES)	11.43		11.91		13.81	
10 PERCENT EXCEEDS	911		869		1060	
50 PERCENT EXCEEDS	214		259		211	
90 PERCENT EXCEEDS	53		100		59	

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

03158200 MONDAY CREEK AT DOANVILLE, OHIO

LOCATION.—Latitude 39°26'07", longitude 82°11'30", Athens County, Hydrologic Unit 05030204, on right bank 75 ft upstream from Lang Street bridge in Doanville, Ohio, 1.75 mi above mouth, and 2.5 mi south of Nelsonville, Ohio.

DRAINAGE AREA.—114 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—May 1997 to current year. Low-flow site 1961-71.

REVISED RECORDS.—WDR OH-00-1: 1999(P).

GAGE.—Water stage recorder. Elevation 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. Satellite transmitter at site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24	25	25	274	e30	169	85	53	194	39	54	64
2	6.8	18	24	550	34	346	82	51	114	37	51	e900
3	7.3	14	e22	225	44	357	73	48	179	35	63	e400
4	7.2	13	e21	149	244	273	71	44	331	34	79	e210
5	7.7	14	e20	116	228	535	176	132	193	35	65	e160
6	6.3	28	e19	102	e100	1050	181	247	131	34	57	123
7	7.6	48	e19	86	e84	477	195	136	135	35	54	101
8	7.4	27	e18	79	e70	319	356	115	139	51	48	85
9	6.7	20	e18	94	e60	681	228	275	321	246	117	75
10	6.7	21	18	100	e52	431	171	784	182	108	126	65
11	9.2	98	21	80	e47	253	144	793	124	256	148	60
12	9.1	95	31	e54	e40	209	128	382	107	103	90	54
13	12	47	54	e48	e36	233	110	212	101	121	65	48
14	9.1	36	278	e40	e33	348	98	150	120	77	52	44
15	8.1	31	224	e35	e30	244	91	125	377	55	50	43
16	35	35	118	e30	e29	203	82	113	363	60	57	38
17	35	43	79	e27	e27	176	78	105	1200	68	74	37
18	21	38	61	e24	e26	155	74	118	420	45	71	34
19	15	33	56	e22	e25	137	70	105	217	48	47	508
20	13	31	407	e20	e24	147	63	95	144	41	40	352
21	11	30	280	e19	e24	153	120	568	114	36	36	118
22	10	36	132	e18	260	135	134	319	98	36	254	197
23	8.9	48	95	e17	1270	119	98	175	81	43	411	595
24	8.1	45	70	e16	802	110	80	135	67	149	106	202
25	8.6	37	72	e15	332	102	73	111	59	66	67	122
26	12	33	76	e15	219	96	70	104	53	47	52	98
27	20	31	58	e14	189	90	61	94	49	39	44	161
28	17	28	51	e25	153	82	56	96	47	279	48	365
29	23	27	48	e32	---	88	53	92	43	283	45	155
30	73	26	45	e30	---	105	53	75	40	98	110	114
31	44	---	47	e28	---	93	---	105	---	64	77	---
TOTAL	489.8	1056	2507	2384	4512	7916	3354	5957	5743	2668	2658	5528
MEAN	15.8	35.2	80.9	76.9	161	255	112	192	191	86.1	85.7	184
MAX	73	98	407	550	1270	1050	356	793	1200	283	411	900
MIN	6.3	13	18	14	24	82	53	44	40	34	36	34
MED	9.2	31	51	32	50	176	84	115	128	51	63	116
CFSM	0.14	0.31	0.71	0.67	1.41	2.24	0.98	1.69	1.68	0.75	0.75	1.62
IN.	0.16	0.34	0.82	0.78	1.47	2.58	1.09	1.94	1.87	0.87	0.87	1.80

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

	1997	1998	1999	2000	2001	2002	2003	1997	1998	1999	2000	2001	2002	2003
MEAN	13.7	27.1	64.0	155	162	198	224	173	117	37.4	73.2	38.6		
MAX	16.3	42.2	85.9	342	224	255	335	279	191	86.1	347	184		
(WY)	1998	1998	2001	1998	2000	2003	2000	1998	2003	2003	1997	2003		
MIN	8.15	14.1	29.4	60.4	59.5	178	112	52.3	15.8	9.03	7.79	5.43		
(WY)	2000	1999	1999	2001	2002	2000	2003	1999	1999	1999	2002	1998		

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1997 - 2003

ANNUAL TOTAL	35064.9	44772.8		
ANNUAL MEAN	96.1	123	102	
HIGHEST ANNUAL MEAN			136	1998
LOWEST ANNUAL MEAN			81.8	1999
HIGHEST DAILY MEAN	1360	Jun 7	4200	Aug 18 1997
LOWEST DAILY MEAN	3.2	Sep 13	3.2	Sep 13 2002
ANNUAL SEVEN-DAY MINIMUM	3.6	Sep 8	3.6	Sep 8 2002
MAXIMUM PEAK FLOW			5300	Aug 18 1997
MAXIMUM PEAK STAGE			19.60	Aug 18 1997
INSTANTANEOUS LOW FLOW			3.0	Sep 13 2002
ANNUAL RUNOFF (CFSM)	0.84	1.08	0.90	
ANNUAL RUNOFF (INCHES)	11.44	14.61	12.21	
10 PERCENT EXCEEDS	254	278	249	
50 PERCENT EXCEEDS	38	70	40	
90 PERCENT EXCEEDS	6.2	19	7.6	

a Peaks above base shown in table of peak discharges and stages at continuous-record surface-water-discharge stations.
c Affected by backwater.
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 TEMPERATURE: June 1997 to current year.

DISSOLVED OXYGEN: June 1997 to current year.

INSTRUMENTATION.—Water-quality monitor. Electronic data logger. Set for 1-hour interval. Satellite telemeter at station.

REMARKS.—Interruptions in the water-quality record are due to malfunction of the instrument. Water temperature and specific conductance records are good. Dissolved oxygen records are fair except Dec. 24-May 27 and Sept. 13-30, which are poor. pH records are good except Oct. 1-Mar. 17, which are fair.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum, 1,110 microsiemens, Sept. 20, 1998; minimum, 172 microsiemens, June 8, 1998.

pH: Maximum, 7.5 units Mar. 23, 2001; minimum, 3.0 units May 30, 1998.

WATER TEMPERATURE: Maximum, 28°C, July 5, 6, 23, 24, and 31, 1999; minimum, 0.0°C, on many days during winter.

DISSOLVED OXYGEN: Maximum, 15.3 mg/L, Dec. 25, 1999; minimum, 4.7 mg/L, June 18, 2000.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum, 958 microsiemens, Oct. 13; minimum, 185 microsiemens, June 17.

pH: Maximum, 7.2 units, June 15 and Aug. 9; minimum, 4.4 units, Oct. 3-7.

WATER TEMPERATURE: Maximum, 24.0°C, July 6 and Aug. 16; minimum, 0.0°C, on many days.

DISSOLVED OXYGEN: Maximum, 13.6 mg/L, Feb. 26 and 27; minimum, 5.7 mg/L, Aug. 23.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER		MAX	NOVEMBER		MAX	DECEMBER		MAX	JANUARY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	891	841	867	842	813	827	774	764	770	644	430	563
2	927	891	912	857	842	853	779	774	777	454	351	383
3	938	858	915	852	837	845	789	777	784	439	384	412
4	921	865	897	837	822	829	808	789	799	477	439	458
5	914	879	901	822	793	810	809	799	805	505	477	492
6	926	891	916	793	748	771	824	807	816	538	505	522
7	933	905	926	800	777	787	845	824	838	558	538	549
8	905	895	896	799	781	791	845	833	840	572	558	565
9	929	899	913	825	799	814	851	837	844	584	567	580
10	953	929	941	831	777	822	859	851	854	584	569	574
11	957	939	951	781	707	736	851	818	837	576	569	572
12	957	912	938	718	663	683	836	816	824	604	575	590
13	958	919	940	742	718	733	833	754	815	611	599	607
14	919	911	915	731	712	724	754	564	635	633	610	624
15	916	867	910	714	705	711	577	528	543	662	633	644
16	874	710	780	709	696	702	558	531	543	684	662	672
17	854	774	807	727	709	719	589	558	576	690	674	679
18	857	808	831	739	727	734	614	589	602	710	690	701
19	887	828	869	755	739	747	625	608	620	706	700	703
20	903	886	893	771	755	765	608	411	509	709	705	707
21	919	903	912	772	755	768	446	400	418	705	698	700
22	927	919	924	758	740	747	499	446	473	732	698	711
23	937	925	932	740	737	738	543	499	522	753	731	744
24	943	936	940	737	730	734	572	543	561	760	753	757
25	944	913	936	753	735	745	607	572	581	762	757	760
26	923	872	900	754	748	751	606	591	599	---	---	---
27	915	894	904	751	744	748	619	606	616	---	---	---
28	896	873	880	761	750	755	631	619	625	---	---	---
29	877	714	845	761	754	758	640	631	637	---	---	---
30	852	714	803	764	759	761	646	638	643	---	---	---
31	861	809	835	---	---	---	648	642	645	756	748	752
MONTH	958	710	894	857	663	764	859	400	676	762	351	616

SURFACE-WATER RECORDS
Hocking River Basin

03158200 MONDAY CREEK AT DOANVILLE, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER		MAX	NOVEMBER		MAX	DECEMBER		MAX	JANUARY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	4.8	4.7	4.8	6.5	6.3	6.3	6.5	6.4	6.4	6.9	6.7	6.7
2	4.7	4.6	4.6	6.4	6.3	6.4	6.5	6.4	6.4	7.0	6.7	6.9
3	4.7	4.4	4.5	6.3	6.1	6.2	6.5	6.4	6.4	6.9	6.8	6.9
4	4.5	4.4	4.4	6.2	6.0	6.1	6.5	6.3	6.4	6.9	6.8	6.9
5	4.5	4.4	4.5	6.1	5.9	6.0	6.3	6.1	6.2	6.8	6.6	6.7
6	4.5	4.4	4.5	6.0	5.7	5.9	6.2	6.1	6.1	6.8	6.6	6.7
7	4.5	4.4	4.4	6.5	5.7	6.2	6.4	6.0	6.2	6.8	6.7	6.8
8	4.8	4.5	4.7	6.3	5.9	6.2	6.0	6.0	6.0	6.8	6.7	6.7
9	4.8	4.8	4.8	6.2	5.9	6.1	6.1	5.9	6.0	6.9	6.7	6.8
10	4.8	4.7	4.8	6.3	6.1	6.2	5.9	5.8	5.9	6.9	6.7	6.8
11	4.7	4.6	4.7	6.4	5.6	6.2	6.0	5.7	5.8	6.8	6.7	6.8
12	4.7	4.5	4.6	6.5	6.3	6.4	6.1	6.0	6.0	6.7	6.5	6.6
13	4.8	4.4	4.6	6.6	6.5	6.5	6.4	6.1	6.2	6.6	6.5	6.6
14	4.9	4.8	4.8	6.6	6.5	6.6	6.5	6.3	6.4	6.5	6.4	6.4
15	5.0	4.9	4.9	6.6	6.2	6.5	6.6	6.5	6.5	6.5	6.3	6.4
16	5.2	4.9	5.0	6.5	6.2	6.3	6.6	6.6	6.6	6.5	6.2	6.4
17	5.7	5.0	5.3	6.5	6.3	6.4	6.6	6.4	6.5	6.3	6.2	6.3
18	5.4	5.2	5.3	6.6	6.5	6.5	6.7	6.4	6.6	6.4	6.1	6.3
19	5.6	5.4	5.5	6.6	6.4	6.5	6.7	6.6	6.7	6.2	6.1	6.1
20	5.4	5.1	5.3	6.7	6.5	6.6	7.0	6.6	6.8	6.2	6.0	6.1
21	5.1	5.0	5.0	6.6	6.5	6.6	7.0	6.9	6.9	6.2	6.1	6.1
22	5.1	5.0	5.1	6.7	6.4	6.5	7.0	6.8	6.9	6.3	5.9	6.1
23	5.1	5.1	5.1	6.6	6.5	6.5	7.0	6.8	6.9	6.0	5.9	6.0
24	5.1	5.0	5.1	6.7	6.6	6.7	6.9	6.7	6.8	6.0	5.9	6.0
25	5.1	5.0	5.1	6.7	6.6	6.6	6.8	6.7	6.8	6.0	5.9	6.0
26	5.1	5.1	5.1	6.7	6.5	6.6	6.8	6.8	6.8	---	---	---
27	5.7	5.0	5.2	6.6	6.5	6.5	6.8	6.8	6.8	---	---	---
28	5.7	5.4	5.6	6.6	6.5	6.6	6.8	6.7	6.8	---	---	---
29	5.7	5.4	5.4	6.5	6.5	6.5	6.7	6.7	6.7	---	---	---
30	6.4	5.4	5.9	6.5	6.4	6.5	6.7	6.6	6.7	---	---	---
31	6.5	6.4	6.5	---	---	---	6.7	6.6	6.6	6.0	6.0	6.0
MONTH	6.5	4.4	5.0	6.7	5.6	6.4	7.0	5.7	6.5	7.0	5.9	6.5

DAY	MAX	FEBRUARY		MAX	MARCH		MAX	APRIL		MAX	MAY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	6.1	5.9	6.0	6.6	6.5	6.6	5.3	5.1	5.2	4.9	4.9	4.9
2	6.1	6.0	6.1	6.9	6.6	6.8	5.1	5.0	5.1	5.0	4.9	4.9
3	6.3	6.1	6.2	6.9	6.8	6.9	5.0	4.9	5.0	4.9	4.9	4.9
4	6.7	6.3	6.5	6.8	6.7	6.8	4.9	4.9	4.9	4.9	4.9	4.9
5	6.7	6.6	6.7	6.8	6.6	6.7	6.0	4.9	5.3	5.7	4.9	5.0
6	6.6	6.4	6.5	6.9	6.7	6.8	6.3	6.0	6.3	6.6	5.7	6.4
7	6.6	6.4	6.5	6.7	6.6	6.6	6.2	6.0	6.1	6.6	6.3	6.5
8	6.5	6.4	6.5	6.6	6.4	6.5	6.6	6.2	6.5	6.3	6.3	6.3
9	6.5	6.4	6.5	6.7	6.3	6.5	6.5	6.3	6.4	6.4	6.0	6.2
10	6.5	6.2	6.4	6.6	6.3	6.4	6.3	6.1	6.2	6.6	6.4	6.6
11	6.5	6.3	6.4	6.3	6.0	6.1	6.1	5.9	6.0	6.8	6.6	6.7
12	6.5	6.4	6.5	6.0	5.8	6.0	5.9	5.6	5.7	6.7	6.6	6.6
13	6.5	6.3	6.4	5.9	5.7	5.8	5.6	5.3	5.5	6.6	6.4	6.5
14	6.5	6.1	6.3	6.4	5.8	6.2	5.3	5.2	5.3	6.4	6.1	6.3
15	6.3	6.1	6.2	6.2	5.9	6.0	5.2	5.1	5.1	6.1	5.9	6.0
16	6.4	6.3	6.4	6.0	5.6	5.8	5.1	5.0	5.0	5.9	5.6	5.8
17	6.4	6.0	6.3	5.7	5.5	5.6	5.0	5.0	5.0	5.6	5.2	5.5
18	6.4	6.0	6.2	5.5	5.3	5.4	5.0	4.9	5.0	5.8	5.3	5.6
19	6.4	6.2	6.3	5.4	5.2	5.3	5.0	4.9	5.0	5.8	5.7	5.8
20	6.4	6.2	6.3	5.4	5.1	5.2	4.9	4.9	4.9	5.7	5.3	5.5
21	6.4	6.2	6.3	5.4	5.3	5.3	5.8	4.9	5.1	6.8	5.3	6.2
22	6.5	6.2	6.3	5.4	5.3	5.3	6.3	5.8	6.2	6.7	6.5	6.6
23	6.5	6.2	6.4	5.3	5.1	5.2	6.2	5.7	6.0	6.5	6.3	6.4
24	6.5	6.3	6.5	5.1	5.1	5.1	5.7	5.3	5.5	6.3	6.2	6.2
25	6.5	6.5	6.5	5.1	5.0	5.1	5.3	5.1	5.2	6.2	5.9	6.1
26	6.5	6.4	6.5	5.0	5.0	5.0	5.1	5.1	5.1	5.9	5.8	5.8
27	6.6	6.5	6.5	5.0	5.0	5.0	5.1	5.0	5.1	5.8	5.6	5.7
28	6.6	6.6	6.6	5.0	4.9	5.0	5.0	4.9	5.0	5.7	5.3	5.5
29	---	---	---	5.0	4.9	4.9	5.0	4.9	5.0	5.8	5.6	5.7
30	---	---	---	5.3	5.0	5.1	5.0	4.9	4.9	5.6	5.4	5.5
31	---	---	---	5.3	5.2	5.3	---	---	---	5.9	5.2	5.4
MONTH	6.7	5.9	6.4	6.9	4.9	5.8	6.6	4.9	5.4	6.8	4.9	5.9

SURFACE-WATER RECORDS
Hocking River Basin

03158200 MONDAY CREEK AT DOANVILLE, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003—Continued

DAY	OCTOBER 2002			NOVEMBER 2002			DECEMBER 2002			JANUARY 2003		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	6.7	5.9	6.5	4.8	4.7	4.8	6.4	6.2	6.3	6.9	6.8	6.9
2	6.7	6.3	6.5	4.8	4.7	4.8	6.2	6.1	6.2	---	---	---
3	6.4	6.1	6.2	4.7	4.7	4.7	6.3	6.1	6.2	---	---	---
4	6.8	6.4	6.6	4.7	4.6	4.7	6.6	6.2	6.5	---	---	---
5	6.7	6.6	6.7	4.7	4.6	4.6	6.6	6.5	6.5	---	---	---
6	6.6	6.3	6.5	4.6	4.5	4.6	6.5	6.4	6.5	6.7	6.6	6.7
7	6.4	6.2	6.3	4.6	4.5	4.6	6.4	6.4	6.4	6.7	6.5	6.6
8	6.5	6.4	6.4	4.7	4.6	4.6	6.4	6.3	6.4	6.6	6.5	6.6
9	7.0	6.4	6.7	6.6	4.7	5.7	7.2	6.3	6.8	6.5	6.4	6.5
10	6.8	6.6	6.7	6.7	6.5	6.6	6.9	6.6	6.8	6.4	6.4	6.4
11	6.6	6.4	6.5	6.8	6.5	6.7	7.0	6.8	6.9	6.4	6.3	6.4
12	6.4	6.2	6.3	6.8	6.5	6.7	6.9	6.8	6.8	6.3	6.3	6.3
13	6.2	6.2	6.2	6.7	6.1	6.5	6.8	6.7	6.7	6.3	6.2	6.3
14	6.5	6.2	6.3	6.6	6.5	6.6	6.7	6.6	6.7	6.2	6.1	6.1
15	7.2	6.3	6.8	6.5	6.2	6.4	6.6	6.4	6.5	6.1	6.0	6.0
16	6.9	6.5	6.8	6.2	6.0	6.1	6.6	6.4	6.5	6.0	5.9	6.0
17	6.6	6.5	6.6	6.4	6.1	6.4	6.7	6.0	6.4	5.9	5.9	5.9
18	6.6	6.5	6.6	6.4	6.2	6.3	6.9	6.7	6.8	5.9	5.7	5.8
19	6.6	6.5	6.6	6.2	5.9	6.1	6.8	6.7	6.8	6.9	5.7	6.2
20	6.5	6.4	6.5	6.1	5.8	5.9	6.7	6.5	6.6	6.9	6.7	6.7
21	6.4	6.3	6.4	5.8	5.3	5.5	6.5	6.3	6.4	6.7	6.7	6.7
22	6.3	6.1	6.2	5.4	5.1	5.3	6.5	5.9	6.3	6.7	6.5	6.6
23	6.1	5.8	6.0	5.7	5.2	5.3	6.7	6.5	6.6	6.9	6.6	6.8
24	5.8	5.4	5.7	6.6	5.5	6.2	6.8	6.7	6.7	6.8	6.7	6.7
25	5.4	5.1	5.3	6.5	6.4	6.5	6.8	6.7	6.8	6.7	6.7	6.7
26	5.1	4.9	5.0	6.4	6.2	6.3	6.7	6.7	6.7	6.7	6.6	6.7
27	4.9	4.8	4.9	6.2	6.0	6.0	6.7	6.6	6.6	6.7	6.5	6.5
28	4.9	4.8	4.9	6.5	5.7	6.2	6.6	6.5	6.6	7.0	6.7	6.9
29	4.9	4.8	4.8	6.7	6.4	6.6	6.7	6.5	6.6	6.8	6.8	6.8
30	4.8	4.8	4.8	6.7	6.6	6.7	6.9	5.4	6.5	6.8	6.7	6.8
31	---	---	---	6.6	6.4	6.5	6.9	6.8	6.9	---	---	---
MONTH	7.2	4.8	6.1	6.8	4.5	5.8	7.2	5.4	6.6	7.0	5.7	6.5
YEAR	7.2	4.4	6.1									

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	19.5	17.0	18.0	8.5	7.5	8.5	3.0	1.5	2.0	5.5	4.5	5.0
2	20.0	18.0	19.0	7.5	6.0	6.5	2.5	1.0	2.0	5.0	4.5	5.0
3	20.5	19.0	19.5	7.0	5.0	6.0	2.5	0.5	1.5	4.5	3.5	4.5
4	21.5	19.5	20.5	7.5	7.0	7.0	0.5	0.0	0.5	3.5	3.0	3.0
5	20.5	18.0	19.5	7.5	7.0	7.0	0.5	0.5	0.5	3.0	2.5	2.5
6	18.0	15.5	17.0	8.0	7.5	8.0	0.5	0.0	0.5	2.5	2.0	2.5
7	17.5	16.0	17.0	8.0	7.0	7.5	0.5	0.0	0.5	2.0	0.5	1.5
8	16.0	13.5	14.5	8.0	6.5	7.5	0.5	0.5	0.5	2.5	1.5	2.0
9	14.0	12.5	13.0	8.5	7.0	8.0	0.5	0.0	0.5	4.0	2.5	3.0
10	14.0	13.0	13.5	11.5	8.5	10.0	0.5	0.5	0.5	3.5	3.0	3.5
11	15.0	14.0	14.5	12.0	11.5	11.5	0.5	0.5	0.5	3.0	1.0	1.5
12	16.0	15.0	15.5	11.5	11.0	11.0	1.5	0.5	1.0	1.0	0.0	0.5
13	16.5	15.5	16.0	11.0	9.5	10.5	1.5	1.0	1.0	0.5	0.0	0.5
14	15.5	12.5	14.0	9.5	8.5	9.5	2.0	1.5	2.0	0.5	0.0	0.5
15	12.5	11.0	12.0	9.0	8.5	8.5	3.5	2.0	3.0	0.5	0.0	0.0
16	12.5	12.0	12.5	8.5	8.0	8.5	4.0	3.5	3.5	0.5	0.0	0.5
17	12.5	11.5	11.5	8.0	6.5	7.5	3.5	2.5	3.0	0.5	0.0	0.5
18	12.0	10.5	11.0	6.5	5.5	6.0	4.0	3.0	3.5	0.5	0.0	0.5
19	12.0	11.0	11.5	6.5	5.5	6.0	6.0	4.0	5.0	0.5	0.0	0.5
20	12.0	11.0	11.5	6.0	4.5	5.5	6.5	6.0	6.5	0.5	0.5	0.5
21	11.5	10.0	11.0	6.5	5.5	6.0	6.5	5.0	5.5	0.5	0.0	0.5
22	11.0	9.0	10.0	6.5	5.5	6.0	5.5	4.5	5.0	0.5	0.0	0.5
23	11.0	9.0	10.0	5.5	4.5	5.0	4.5	4.0	4.0	0.5	0.0	0.5
24	10.5	9.5	10.0	5.0	4.0	4.5	4.0	3.5	3.5	0.5	0.0	0.5
25	11.0	9.5	10.0	5.0	4.5	4.5	3.5	2.5	3.0	0.5	0.5	0.5
26	11.5	11.0	11.5	4.5	3.5	4.0	2.5	2.0	2.5	---	---	---
27	12.0	11.0	11.5	3.5	3.0	3.5	2.5	1.5	2.0	---	---	---
28	12.0	10.5	11.0	3.0	1.5	2.0	2.0	1.0	1.5	---	---	---
29	10.5	9.0	10.0	3.0	1.5	2.0	2.5	1.5	2.0	---	---	---
30	9.0	8.5	9.0	4.0	3.0	3.5	3.0	1.5	2.0	---	---	---
31	8.5	8.0	8.5	---	---	---	4.5	3.0	3.5	0.5	0.5	0.5
MONTH	21.5	8.0	13.5	12.0	1.5	6.5	6.5	0.0	2.5	5.5	0.0	1.5

**SURFACE-WATER RECORDS
Hocking River Basin**

03158200 MONDAY CREEK AT DOANVILLE, OHIO—Continued

WATER-QUALITY RECORDS—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER		MAX	NOVEMBER		MAX	DECEMBER		MAX	JANUARY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	8.3	7.9	8.2	9.6	9.5	9.6	12.7	12.0	12.4	11.7	10.9	11.3
2	7.9	7.6	7.8	9.9	9.6	9.8	12.8	12.4	12.7	11.0	10.8	10.9
3	7.7	7.0	7.5	10.0	9.8	9.9	13.2	12.4	12.8	11.5	10.9	11.2
4	7.0	6.6	6.9	9.9	9.6	9.7	13.6	13.0	13.3	11.9	11.4	11.7
5	7.2	6.5	6.8	9.7	9.5	9.6	13.2	12.9	13.1	12.0	11.9	11.9
6	7.8	7.2	7.6	9.5	9.2	9.4	13.2	13.0	13.1	12.2	11.9	11.9
7	8.1	7.6	7.9	9.8	9.4	9.7	13.3	12.7	13.0	12.7	12.2	12.5
8	9.0	8.1	8.6	10.1	9.7	9.9	13.0	12.7	12.8	12.3	11.8	12.2
9	9.3	8.9	9.1	10.0	9.7	9.9	13.0	12.7	12.9	11.8	11.4	11.7
10	9.2	8.9	9.0	9.7	8.7	9.3	13.0	12.9	13.0	11.6	11.4	11.5
11	8.9	8.4	8.7	8.7	8.2	8.4	13.0	12.8	12.9	12.7	11.6	12.2
12	8.5	8.3	8.4	8.9	8.3	8.6	12.9	12.8	12.9	13.0	12.6	12.9
13	8.3	8.0	8.2	9.3	8.9	9.1	12.9	12.6	12.8	13.0	12.8	12.9
14	9.0	8.3	8.6	9.7	9.2	9.5	12.6	12.1	12.3	12.9	12.8	12.9
15	9.3	9.0	9.2	9.9	9.7	9.8	12.3	11.8	12.1	13.0	12.8	12.9
16	9.2	9.0	9.1	10.0	9.8	9.9	11.9	11.7	11.7	12.9	12.6	12.8
17	9.4	9.0	9.2	10.6	9.9	10.3	12.3	11.9	12.2	12.6	12.5	12.6
18	9.5	9.3	9.4	11.3	10.6	11.0	12.2	11.9	12.1	12.6	12.3	12.4
19	9.5	8.9	9.2	11.4	11.1	11.2	11.9	11.0	11.6	12.3	12.1	12.2
20	9.1	8.8	9.0	11.6	11.1	11.4	11.0	10.1	10.5	12.1	12.0	12.1
21	9.1	9.0	9.0	11.4	10.9	11.3	11.1	10.2	10.7	12.2	12.1	12.1
22	9.4	9.0	9.2	11.2	10.8	11.0	11.4	11.1	11.2	12.2	12.0	12.1
23	9.5	9.1	9.3	11.5	11.2	11.4	12.0	11.4	11.7	12.2	12.1	12.1
24	9.4	9.3	9.4	11.7	11.4	11.6	12.0	11.9	12.0	12.1	11.9	12.0
25	9.3	8.9	9.2	11.7	11.5	11.6	12.3	11.9	12.0	12.0	11.9	12.0
26	8.9	8.1	8.4	11.9	11.7	11.8	12.8	12.3	12.5	---	---	---
27	8.5	8.0	8.2	12.1	11.9	12.0	13.0	12.8	12.9	---	---	---
28	8.7	8.5	8.6	12.8	12.1	12.6	13.1	12.7	12.9	---	---	---
29	9.1	8.5	8.7	12.8	12.1	12.6	13.0	12.7	12.9	---	---	---
30	9.2	9.0	9.1	12.1	11.8	11.9	12.9	12.4	12.8	---	---	---
31	9.6	9.2	9.5	---	---	---	12.4	11.7	12.1	11.9	11.8	11.8
MONTH	9.6	6.5	8.6	12.8	8.2	10.5	13.6	10.1	12.4	13.0	10.8	12.1

DAY	MAX	FEBRUARY		MAX	MARCH		MAX	APRIL		MAX	MAY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	12.2	11.9	12.0	---	---	---	11.8	10.6	11.4	9.6	9.1	9.4
2	12.2	12.1	12.2	---	---	---	10.7	9.5	10.3	9.4	9.0	9.2
3	12.2	11.9	12.1	---	---	---	9.9	9.1	9.6	9.7	9.1	9.4
4	12.2	11.5	11.9	---	---	---	9.3	9.0	9.2	10.2	9.6	9.9
5	12.7	12.2	12.6	---	---	---	10.0	9.0	9.4	9.9	9.6	9.7
6	13.0	12.7	12.9	---	---	---	10.9	10.0	10.7	9.8	9.6	9.7
7	12.8	12.7	12.8	---	---	---	11.1	10.9	11.1	9.7	9.6	9.6
8	13.0	12.7	12.8	---	---	---	11.2	10.9	11.1	9.8	9.4	9.6
9	12.8	12.5	12.7	---	---	---	11.2	10.9	11.0	9.5	8.8	9.3
10	12.6	12.3	12.4	---	---	---	11.3	11.0	11.2	9.2	8.7	9.0
11	12.6	12.4	12.5	---	---	---	11.0	10.7	10.9	9.3	8.7	9.0
12	12.7	12.4	12.5	---	---	---	11.0	10.3	10.7	9.4	8.8	9.1
13	12.8	12.4	12.6	---	---	---	10.8	10.2	10.5	9.8	9.3	9.6
14	12.7	10.2	12.1	---	---	---	10.8	9.8	10.4	9.8	9.6	9.7
15	10.6	10.1	10.2	---	---	---	10.3	9.4	9.9	9.6	9.2	9.5
16	11.5	10.6	11.1	---	---	---	9.8	9.2	9.5	9.8	9.1	9.4
17	12.2	11.5	11.9	---	---	---	9.5	9.2	9.3	10.3	9.5	9.9
18	12.7	12.2	12.4	10.8	10.5	10.6	9.5	9.2	9.4	10.5	10.3	10.4
19	13.0	12.7	12.8	10.5	10.2	10.3	9.8	9.3	9.6	10.5	9.8	10.3
20	13.2	12.9	13.1	10.4	10.1	10.2	9.5	9.0	9.3	10.0	9.7	9.8
21	13.4	13.1	13.2	10.3	10.0	10.2	9.0	8.8	8.9	9.9	9.1	9.6
22	13.2	12.9	13.1	10.9	10.2	10.6	9.9	8.8	9.3	10.3	9.5	10.0
23	12.9	12.7	12.8	11.1	10.8	10.9	10.4	9.9	10.2	10.3	10.0	10.1
24	12.7	12.5	12.7	11.3	10.5	10.9	10.8	10.1	10.6	10.4	10.0	10.2
25	13.2	12.7	13.1	10.8	9.9	10.4	10.5	10.1	10.4	10.3	9.9	10.1
26	13.6	13.2	13.5	10.1	9.7	9.9	10.3	10.0	10.2	10.1	9.6	9.9
27	13.6	13.5	13.5	10.4	9.7	10.1	10.6	10.1	10.3	9.9	9.5	9.7
28	---	---	---	10.1	9.2	9.8	10.5	9.8	10.2	9.7	9.4	9.5
29	---	---	---	10.1	9.1	9.5	9.8	9.6	9.7	9.6	9.2	9.4
30	---	---	---	11.3	10.0	10.6	9.9	9.4	9.7	9.5	9.2	9.3
31	---	---	---	12.0	11.3	11.7	---	---	---	9.4	9.1	9.2
MONTH	13.6	10.1	12.5	12.0	9.1	10.4	11.8	8.8	10.1	10.5	8.7	9.6

SURFACE-WATER RECORDS
Hocking River Basin

03159246 SUNDAY CREEK BELOW MILLFIELD, OHIO

LOCATION.—Latitude 39°25'47", longitude 82°06'04", Athens County, Hydrologic Unit 05030204, on left bank at downstream side of bridge on County Road 28, 3 mi downstream of Greene's Run at Millfield, Ohio.
DRAINAGE AREA.—126 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 2002 to September 2003.

GAGE.—Water-stage recorder and crest gage. Elevation of gage is 670 ft above sea level (from topographic map).

REMARKS.—Records fair except for periods of estimated record and Dec. 11-July3, which are poor. Flow partially regulated by Burr Oak Reservoir 13 mi upstream. Water-quality monitor at site. Satellite telemeter at site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.9	37	34	420	e27	165	59	63	153	20	22	66
2	8.0	27	33	712	e26	351	63	61	99	26	22	232
3	8.3	21	29	549	e25	358	57	46	232	18	26	211
4	8.6	21	e24	383	298	367	59	49	343	14	30	211
5	12	23	e23	164	308	661	190	135	322	16	e30	203
6	12	52	e21	154	286	866	171	241	278	17	82	113
7	10	62	e20	204	169	596	242	140	189	17	114	73
8	8.6	e47	e18	123	113	350	527	179	184	24	90	61
9	7.7	e25	e17	134	121	522	374	347	341	101	125	53
10	8.1	e27	e17	123	120	420	146	771	360	58	107	38
11	11	e96	e17	103	106	307	110	797	152	65	129	33
12	12	e92	42	e76	79	141	96	480	121	51	212	30
13	14	46	69	e70	e56	144	76	345	115	68	59	26
14	10	31	371	e65	e50	255	69	284	140	41	41	24
15	9.3	24	278	e60	e46	213	67	247	146	28	112	22
16	43	34	159	e56	e42	184	65	95	143	23	202	21
17	47	48	203	e52	e38	167	69	79	342	30	102	18
18	26	40	196	e49	e36	146	57	104	281	21	55	16
19	16	34	199	e46	e33	121	56	100	217	19	40	161
20	14	31	453	e43	e32	97	56	85	143	15	34	167
21	13	28	316	e41	e30	120	110	652	82	13	31	76
22	11	46	174	e38	354	106	94	527	70	17	168	115
23	9.5	76	176	e36	1650	92	71	488	58	26	167	204
24	8.7	64	297	e35	745	109	61	309	47	56	64	199
25	9.3	50	126	e33	568	156	65	172	39	111	44	176
26	16	43	111	e32	567	73	75	123	35	21	31	71
27	24	41	98	e31	501	67	69	93	32	16	27	94
28	21	36	95	e30	278	66	69	75	21	138	53	193
29	34	35	90	e29	---	58	69	68	20	90	40	136
30	78	35	85	e28	---	61	62	64	21	39	141	142
31	55	---	91	e27	---	54	---	106	---	26	79	---
TOTAL	574.0	1272	3882	3946	6704	7393	3354	7325	4726	1225	2479	3185
MEAN	18.5	42.4	125	127	239	238	112	236	158	39.5	80.0	106
MAX	78	96	453	712	1650	866	527	797	360	138	212	232
MIN	7.7	21	17	27	25	54	56	46	20	13	22	16

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2003 - 2003, BY WATER YEAR (WY)

	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MEAN	18.5	42.4	125	127	239	238	112	236	158	39.5	80.0	106
MAX	18.5	42.4	125	127	239	238	112	236	158	39.5	80.0	106
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003
MIN	18.5	42.4	125	127	239	238	112	236	158	39.5	80.0	106
(WY)	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003	2003

SUMMARY STATISTICS

FOR 2003 WATER YEAR

ANNUAL TOTAL	46065.0
ANNUAL MEAN	126
HIGHEST DAILY MEAN	1650 Feb 23
LOWEST DAILY MEAN	7.7 Oct 9
ANNUAL SEVEN-DAY MINIMUM	9.6 Oct 4
MAXIMUM PEAK FLOW	1880 Feb 23
MAXIMUM PEAK STAGE	19.10 Feb 23
10 PERCENT EXCEEDS	318
50 PERCENT EXCEEDS	67
90 PERCENT EXCEEDS	18

e Estimated.

SURFACE-WATER RECORDS
Hocking River Basin

03159246 SUNDAY CREEK BELOW MILLFIELD, OHIO—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—November 2002 to September 2003.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: November 2002 to September 2003.

pH: November 2002 to September 2003.

WATER TEMPERATURE: November 2002 to September 2003.

DISSOLVED OXYGEN: November 2002 to September 2003.

INSTRUMENTATION.—Water-quality monitor. Electronic data logger. Set for 1-hour interval. Satellite telemeter at station.

REMARKS.—Interruptions in the water-quality record are due to malfunction of the instrument. Water temperature records are good. Specific conductance records are good except Mar. 18-31, May 16-June 10, and Aug. 27-Sept. 12, which are poor. pH records are fair except June 10-July 11, which are poor. Dissolved oxygen records are poor.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum, 1,210 microsiemens, July 7, 2003; minimum, 172 microsiemens, Feb. 23, 2003.

pH: Maximum, 7.2 units on many days in water year 2003; minimum, 5.6 units July 8, Sept. 18, and 19, 2003.

WATER TEMPERATURE: Maximum, 24.0°C, July 6 and 7, 2003; minimum, 0.0°C, on many days during winter.

DISSOLVED OXYGEN: Maximum, 14.8 mg/L, Mar. 1, 2003; minimum, 4.3 mg/L, June 3, 2003.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum, 1,210 microsiemens, July 7; minimum, 172 microsiemens, Feb. 23.

pH: Maximum, 7.2 units on many days in water year; minimum, 5.6 units July 8, Sept. 18, and 19.

WATER TEMPERATURE: Maximum, 24.0°C, July 6 and 7; minimum, 0.0°C, on many days during winter.

DISSOLVED OXYGEN: Maximum, 14.8 mg/L, Mar. 1; minimum, 4.3 mg/L, June 3.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	---	---	---	---	---	---	846	803	812	529	261	407	
2	---	---	---	---	---	---	864	811	840	271	237	253	
3	---	---	---	---	---	---	880	854	866	245	236	238	
4	---	---	---	---	---	---	939	854	885	268	242	255	
5	---	---	---	---	---	---	983	922	950	385	268	340	
6	---	---	---	---	---	---	944	933	937	418	385	406	
7	---	---	---	---	---	---	974	944	962	406	315	330	
8	---	---	---	---	---	---	992	957	975	452	328	380	
9	---	---	---	---	---	---	973	947	959	458	445	451	
10	---	---	---	---	---	---	1070	948	1020	459	441	450	
11	---	---	---	---	---	---	1070	1000	1050	445	433	438	
12	---	---	---	634	610	626	1000	877	933	492	445	463	
13	---	---	---	629	588	600	877	679	826	519	462	492	
14	---	---	---	688	629	654	679	367	464	542	486	511	
15	---	---	---	752	688	722	376	340	354	555	525	536	
16	---	---	---	775	724	752	432	374	398	589	530	564	
17	---	---	---	724	686	703	410	308	330	566	543	553	
18	---	---	---	756	717	736	311	306	308	649	550	599	
19	---	---	---	764	743	757	321	309	315	642	583	610	
20	---	---	---	761	743	747	367	273	312	627	600	614	
21	---	---	---	823	761	794	349	299	316	618	605	612	
22	---	---	---	823	698	766	393	349	376	655	605	625	
23	---	---	---	717	663	686	443	290	411	676	631	642	
24	---	---	---	717	681	696	306	251	262	651	627	635	
25	---	---	---	690	677	684	442	306	394	656	641	646	
26	---	---	---	721	676	701	472	442	458	678	656	668	
27	---	---	---	732	704	712	498	472	489	696	644	653	
28	---	---	---	799	732	766	509	486	496	696	670	685	
29	---	---	---	857	799	820	511	503	507	670	642	649	
30	---	---	---	860	846	852	539	509	526	691	638	663	
31	---	---	---	---	---	---	537	519	525	702	659	685	
MONTH	---	---	---	860	588	725	1070	251	621	702	236	518	

SURFACE-WATER RECORDS
Hocking River Basin

03159246 SUNDAY CREEK BELOW MILLFIELD, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER		MAX	NOVEMBER		MAX	DECEMBER		MAX	JANUARY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	---	---	---	---	---	---	6.6	6.4	6.5	7.2	6.8	7.0
2	---	---	---	---	---	---	6.6	6.4	6.5	7.2	7.0	7.1
3	---	---	---	---	---	---	6.5	6.4	6.4	7.1	7.0	7.1
4	---	---	---	---	---	---	6.7	6.5	6.6	7.1	7.0	7.0
5	---	---	---	---	---	---	6.7	6.6	6.6	7.0	6.9	7.0
6	---	---	---	---	---	---	6.6	6.6	6.6	6.9	6.8	6.9
7	---	---	---	---	---	---	6.6	6.5	6.6	6.9	6.9	6.9
8	---	---	---	---	---	---	6.6	6.5	6.5	6.9	6.8	6.8
9	---	---	---	---	---	---	6.6	6.5	6.5	6.9	6.8	6.9
10	---	---	---	---	---	---	6.6	6.4	6.5	7.0	6.9	6.9
11	---	---	---	---	---	---	6.6	6.5	6.6	7.0	6.9	6.9
12	---	---	---	6.9	6.8	6.9	6.6	6.5	6.6	6.9	6.8	6.9
13	---	---	---	6.8	6.7	6.8	6.8	6.6	6.7	6.9	6.8	6.9
14	---	---	---	6.7	6.6	6.7	7.1	6.8	7.0	6.9	6.8	6.8
15	---	---	---	6.6	6.6	6.6	7.1	7.0	7.1	6.8	6.7	6.8
16	---	---	---	6.7	6.6	6.6	7.0	7.0	7.0	6.8	6.7	6.7
17	---	---	---	6.8	6.7	6.7	7.2	7.0	7.1	6.8	6.7	6.8
18	---	---	---	6.8	6.7	6.8	7.2	7.1	7.1	6.8	6.7	6.7
19	---	---	---	6.7	6.6	6.6	7.1	7.0	7.1	6.7	6.7	6.7
20	---	---	---	6.7	6.6	6.6	7.1	7.0	7.1	6.7	6.6	6.7
21	---	---	---	6.7	6.6	6.6	7.1	7.0	7.0	6.7	6.7	6.7
22	---	---	---	6.8	6.6	6.7	7.0	6.9	6.9	6.7	6.6	6.6
23	---	---	---	6.9	6.8	6.9	7.1	6.8	6.9	---	---	---
24	---	---	---	6.9	6.8	6.9	7.2	7.0	7.2	---	---	---
25	---	---	---	6.8	6.8	6.8	7.0	6.8	6.9	---	---	---
26	---	---	---	6.8	6.7	6.8	7.0	6.9	6.9	---	---	---
27	---	---	---	6.7	6.7	6.7	6.9	6.8	6.9	---	---	---
28	---	---	---	6.7	6.6	6.7	6.8	6.8	6.8	---	---	---
29	---	---	---	6.6	6.4	6.6	6.8	6.8	6.8	---	---	---
30	---	---	---	6.4	6.4	6.4	6.8	6.8	6.8	---	---	---
31	---	---	---	---	---	---	6.8	6.8	6.8	---	---	---
MONTH	---	---	---	6.9	6.4	6.7	7.2	6.4	6.8	7.2	6.6	6.9

DAY	MAX	FEBRUARY		MAX	MARCH		MAX	APRIL		MAX	MAY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	---	---	---	---	---	---	6.6	6.4	6.5	6.4	6.3	6.4
2	---	---	---	---	---	---	6.5	6.4	6.5	6.4	6.3	6.3
3	---	---	---	---	---	---	6.5	6.4	6.4	6.3	6.2	6.2
4	---	---	---	7.1	6.9	7.0	6.4	6.4	6.4	6.2	6.1	6.2
5	---	---	---	7.2	7.1	7.1	7.2	6.4	6.8	6.8	6.1	6.4
6	---	---	---	7.2	7.0	7.1	7.1	6.7	6.9	6.9	6.8	6.9
7	---	---	---	7.1	7.0	7.1	7.0	6.7	6.8	6.8	6.7	6.7
8	---	---	---	7.0	6.9	6.9	7.0	6.9	6.9	7.0	6.7	6.8
9	---	---	---	7.0	6.9	6.9	6.9	6.8	6.9	7.1	6.6	6.8
10	---	---	---	6.9	6.8	6.8	6.8	6.7	6.7	7.2	6.9	7.0
11	---	---	---	6.8	6.7	6.7	6.7	6.6	6.7	7.2	7.0	7.1
12	---	---	---	6.7	6.6	6.7	6.7	6.6	6.7	7.0	7.0	7.0
13	---	---	---	6.6	6.6	6.6	6.7	6.5	6.6	7.0	6.8	6.9
14	---	---	---	6.7	6.6	6.7	6.6	6.5	6.5	6.8	6.7	6.8
15	---	---	---	6.7	6.7	6.7	6.6	6.4	6.5	6.8	6.7	6.8
16	---	---	---	6.7	6.6	6.7	6.5	6.5	6.5	6.7	6.6	6.6
17	---	---	---	6.7	6.6	6.6	6.5	6.5	6.5	6.6	6.6	6.6
18	---	---	---	6.8	6.6	6.7	6.5	6.5	6.5	6.8	6.6	6.7
19	---	---	---	6.8	6.6	6.7	6.5	6.4	6.4	6.8	6.7	6.7
20	---	---	---	6.7	6.6	6.6	6.4	6.3	6.3	6.7	6.6	6.6
21	---	---	---	6.8	6.7	6.7	6.7	6.3	6.5	6.9	6.7	6.8
22	---	---	---	6.7	6.7	6.7	6.7	6.6	6.7	6.8	6.7	6.7
23	---	---	---	6.7	6.6	6.7	6.6	6.5	6.6	6.8	6.7	6.7
24	---	---	---	6.8	6.6	6.6	6.6	6.4	6.5	6.7	6.6	6.7
25	---	---	---	6.8	6.6	6.8	6.4	6.3	6.4	6.6	6.6	6.6
26	---	---	---	6.6	6.5	6.6	6.5	6.4	6.4	6.6	6.6	6.6
27	---	---	---	6.5	6.4	6.5	6.5	6.4	6.4	6.6	6.5	6.5
28	---	---	---	6.4	6.4	6.4	6.4	6.3	6.4	6.6	6.5	6.5
29	---	---	---	6.6	6.4	6.5	6.4	6.3	6.3	6.6	6.5	6.5
30	---	---	---	6.6	6.6	6.6	6.5	6.4	6.4	6.5	6.5	6.5
31	---	---	---	6.7	6.5	6.5	---	---	---	6.7	6.5	6.5
MONTH	---	---	---	7.2	6.4	6.7	7.2	6.3	6.6	7.2	6.1	6.6

SURFACE-WATER RECORDS
Hocking River Basin

03159246 SUNDAY CREEK BELOW MILLFIELD, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003—Continued

DAY	JUNE			JULY			AUGUST			SEPTEMBER		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	6.7	6.6	6.7	6.7	6.1	6.2	6.3	6.1	6.2	7.0	6.7	6.8
2	6.7	6.6	6.6	6.3	6.0	6.1	6.2	6.1	6.2	7.1	6.9	7.0
3	6.7	6.6	6.7	6.2	6.0	6.1	6.3	6.1	6.2	---	---	---
4	6.7	6.6	6.7	6.0	5.8	5.9	6.4	6.3	6.3	---	---	---
5	6.7	6.7	6.7	6.0	5.8	5.9	6.4	6.3	6.3	---	---	---
6	6.7	6.6	6.7	5.9	5.7	5.7	6.7	6.2	6.3	---	---	---
7	6.7	6.6	6.6	5.8	5.7	5.7	6.8	6.6	6.7	---	---	---
8	6.7	6.6	6.6	6.2	5.6	5.8	6.8	6.7	6.7	6.7	6.7	6.7
9	6.7	6.6	6.6	6.5	5.8	6.2	6.8	6.7	6.8	6.8	6.7	6.8
10	7.1	6.6	6.8	6.4	6.1	6.2	6.9	6.7	6.8	6.8	6.7	6.7
11	7.1	7.0	7.1	6.4	6.1	6.2	6.9	6.7	6.8	6.7	6.6	6.6
12	7.1	7.0	7.1	6.5	6.0	6.2	7.0	6.9	7.0	6.6	5.8	6.3
13	7.1	7.0	7.1	6.4	6.0	6.2	7.1	6.8	6.9	6.0	5.7	5.9
14	7.1	7.0	7.1	6.4	6.0	6.2	6.9	6.7	6.8	5.9	5.7	5.8
15	7.1	7.0	7.1	6.2	5.9	6.0	7.2	6.6	6.8	5.9	5.7	5.8
16	7.1	7.0	7.1	5.9	5.8	5.8	7.2	6.8	6.9	5.8	5.7	5.7
17	7.2	7.0	7.1	6.2	5.8	6.0	6.9	6.8	6.9	5.7	5.7	5.7
18	7.1	7.0	7.0	6.0	5.7	5.9	6.9	6.8	6.9	5.7	5.6	5.6
19	7.1	7.0	7.0	5.8	5.7	5.8	6.9	6.8	6.8	6.3	5.6	6.0
20	7.2	6.9	7.1	5.9	5.7	5.8	6.8	6.7	6.8	6.3	6.2	6.3
21	7.1	6.9	7.0	5.8	5.7	5.7	6.8	6.7	6.8	6.2	6.0	6.1
22	7.0	6.8	6.9	5.8	5.6	5.7	7.0	6.7	6.8	6.4	6.0	6.1
23	7.0	6.7	6.8	6.3	5.8	5.9	7.1	7.0	7.0	6.5	6.3	6.4
24	6.8	6.7	6.7	6.5	6.0	6.1	7.1	7.0	7.0	6.5	6.3	6.4
25	6.8	6.6	6.7	6.8	6.5	6.6	7.1	7.0	7.0	6.5	6.3	6.4
26	6.8	6.6	6.6	6.5	6.0	6.2	7.0	6.5	6.8	6.4	6.0	6.3
27	6.7	6.5	6.6	6.0	5.8	5.9	6.7	6.2	6.4	6.4	6.0	6.2
28	6.6	6.3	6.5	6.7	5.7	6.3	6.8	6.4	6.6	6.6	6.4	6.6
29	6.5	6.2	6.4	6.8	6.6	6.7	6.7	6.6	6.6	6.6	6.5	6.5
30	6.4	6.1	6.2	6.6	6.3	6.5	7.1	6.6	6.9	6.7	6.1	6.5
31	---	---	---	6.4	6.2	6.3	7.0	6.8	6.9	---	---	---
MONTH	7.2	6.1	6.8	6.8	5.6	6.1	7.2	6.1	6.7	7.1	5.6	6.3
YEAR	7.2	5.6	6.6									

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	---	---	---	3.0	2.0	2.5	5.5	5.0	5.5
2	---	---	---	---	---	---	3.0	2.0	2.5	5.5	4.5	5.0
3	---	---	---	---	---	---	3.0	1.0	2.0	4.5	3.5	4.0
4	---	---	---	---	---	---	1.0	0.5	0.5	3.5	3.5	3.5
5	---	---	---	---	---	---	1.0	0.0	0.5	3.5	3.0	3.0
6	---	---	---	---	---	---	1.0	0.5	0.5	3.0	2.5	3.0
7	---	---	---	---	---	---	1.0	0.0	0.5	2.5	1.5	2.0
8	---	---	---	---	---	---	1.5	1.0	1.0	3.5	2.4	2.9
9	---	---	---	---	---	---	1.5	0.0	0.5	4.5	3.0	3.5
10	---	---	---	---	---	---	1.3	0.4	0.9	4.0	3.0	4.0
11	---	---	---	---	---	---	2.0	1.5	1.5	3.0	1.0	2.0
12	---	---	---	11.5	11.0	11.5	2.0	1.5	1.5	1.0	0.0	0.5
13	---	---	---	11.0	10.0	10.5	2.5	1.5	1.5	1.0	0.0	0.5
14	---	---	---	10.0	8.5	9.5	3.5	2.5	3.0	0.5	0.5	0.5
15	---	---	---	9.5	8.5	9.0	4.0	3.5	3.5	1.5	0.0	0.5
16	---	---	---	9.0	8.0	8.5	4.5	4.0	4.0	1.0	0.0	0.5
17	---	---	---	8.0	7.0	7.5	4.0	3.0	3.5	0.5	0.0	0.0
18	---	---	---	7.0	5.5	6.0	4.5	3.5	4.0	0.5	0.0	0.0
19	---	---	---	7.0	5.5	6.0	5.5	4.5	5.0	0.5	0.0	0.5
20	---	---	---	6.5	5.0	6.0	6.5	5.5	6.5	0.5	0.5	0.5
21	---	---	---	7.2	5.5	6.4	6.0	5.0	5.5	0.5	0.0	0.5
22	---	---	---	7.5	5.5	6.5	5.0	5.0	5.0	0.5	0.0	0.0
23	---	---	---	5.5	5.0	5.5	5.0	4.0	4.5	0.5	0.0	0.0
24	---	---	---	5.5	4.5	5.0	4.0	4.0	4.0	0.5	0.0	0.0
25	---	---	---	5.5	4.5	5.0	4.0	3.0	3.5	0.5	0.0	0.5
26	---	---	---	5.0	4.0	4.5	3.0	2.5	2.5	0.5	0.0	0.5
27	---	---	---	4.0	3.5	3.5	2.5	2.0	2.5	0.5	0.0	0.0
28	---	---	---	3.5	2.0	2.5	2.5	1.5	2.0	0.5	0.0	0.5
29	---	---	---	3.5	1.5	2.5	3.0	2.0	2.5	0.5	0.5	0.5
30	---	---	---	4.0	3.0	3.5	3.5	2.0	2.5	1.0	0.5	0.5
31	---	---	---	---	---	---	5.0	3.5	4.0	1.5	0.5	1.0
MONTH	---	---	---	11.5	1.5	6.5	6.5	0.0	2.5	5.5	0.0	1.5

**SURFACE-WATER RECORDS
Hocking River Basin**

03159246 SUNDAY CREEK BELOW MILLFIELD, OHIO—Continued

WATER-QUALITY RECORDS—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER		MAX	NOVEMBER		MAX	DECEMBER		MAX	JANUARY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	---	---	---	---	---	---	11.6	11.1	11.4	---	---	---
2	---	---	---	---	---	---	11.7	11.3	11.5	---	---	---
3	---	---	---	---	---	---	12.3	11.3	11.8	---	---	---
4	---	---	---	---	---	---	12.6	12.2	12.4	---	---	---
5	---	---	---	---	---	---	12.4	12.0	12.2	---	---	---
6	---	---	---	---	---	---	12.1	11.9	12.0	---	---	---
7	---	---	---	---	---	---	12.3	11.9	12.1	---	---	---
8	---	---	---	---	---	---	12.0	11.8	11.9	---	---	---
9	---	---	---	---	---	---	12.2	11.8	12.0	11.1	10.8	11.0
10	---	---	---	---	---	---	12.0	11.8	11.9	11.3	10.9	11.0
11	---	---	---	---	---	---	11.9	11.7	11.8	12.4	11.3	11.8
12	---	---	---	8.6	8.4	8.5	11.9	11.7	11.8	13.0	12.4	12.7
13	---	---	---	8.9	8.6	8.7	11.9	11.5	11.9	13.1	12.6	12.9
14	---	---	---	9.1	8.7	8.9	11.5	9.8	10.5	12.8	12.6	12.7
15	---	---	---	9.1	8.9	9.0	11.1	10.6	11.0	12.8	12.1	12.6
16	---	---	---	9.2	9.0	9.1	11.0	10.8	10.8	12.9	12.5	12.7
17	---	---	---	9.9	9.1	9.4	11.6	11.0	11.4	12.8	12.4	12.6
18	---	---	---	10.4	9.9	10.3	11.4	11.1	11.3	12.7	12.1	12.4
19	---	---	---	10.6	10.1	10.3	11.1	10.6	10.8	12.3	12.0	12.1
20	---	---	---	10.4	9.9	10.1	10.6	9.7	9.9	12.0	11.7	11.8
21	---	---	---	10.0	9.7	9.8	10.7	9.9	10.4	12.1	11.8	11.9
22	---	---	---	10.1	9.6	9.8	10.9	10.7	10.8	12.2	11.7	11.9
23	---	---	---	10.7	10.1	10.4	11.5	10.9	11.1	12.4	10.2	11.6
24	---	---	---	11.0	10.7	10.9	11.5	11.1	11.4	13.4	11.4	12.5
25	---	---	---	11.0	10.9	10.9	11.2	10.8	11.0	13.5	12.3	13.0
26	---	---	---	11.3	11.0	11.1	11.6	11.2	11.4	13.6	12.6	13.2
27	---	---	---	11.6	11.3	11.4	11.6	11.4	11.5	13.8	13.2	13.4
28	---	---	---	11.9	11.6	11.8	11.5	11.2	11.4	13.9	13.3	13.5
29	---	---	---	12.0	11.3	11.8	11.2	10.9	11.1	13.8	13.5	13.6
30	---	---	---	11.3	11.0	11.1	10.9	10.5	10.8	13.8	13.5	13.7
31	---	---	---	---	---	---	10.5	9.8	10.2	13.8	13.1	13.5
MONTH	---	---	---	12.0	8.4	10.2	12.6	9.7	11.3	13.9	10.2	12.5

DAY	MAX	FEBRUARY		MAX	MARCH		MAX	APRIL		MAX	MAY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	13.3	12.9	13.1	14.8	12.5	13.5	11.2	10.5	10.9	10.3	9.9	10.2
2	13.0	12.3	12.6	14.0	12.9	13.2	10.5	9.4	9.8	10.2	9.7	10
3	12.5	11.5	12.1	---	---	---	9.4	8.8	9.0	10.1	9.8	10
4	11.8	11.3	11.6	---	---	---	8.9	8.3	8.5	10.0	9.2	9.6
5	11.8	10.9	11.5	---	---	---	9.8	8.2	9.0	9.2	8.3	8.7
6	---	---	---	---	---	---	10.6	9.6	10.2	8.8	8.0	8.5
7	---	---	---	---	---	---	10.8	10.4	10.5	---	---	---
8	---	---	---	---	---	---	10.8	10.6	10.7	---	---	---
9	---	---	---	---	---	---	11.0	10.7	10.8	---	---	---
10	---	---	---	---	---	---	11.0	10.7	10.8	---	---	---
11	---	---	---	---	---	---	10.8	10.5	10.6	---	---	---
12	---	---	---	---	---	---	10.6	10.5	10.6	---	---	---
13	---	---	---	---	---	---	10.5	10.4	10.4	---	---	---
14	14.1	12.2	13.9	---	---	---	10.5	10.2	10.3	---	---	---
15	14.1	13.8	14.0	---	---	---	10.8	10.0	10.2	---	---	---
16	14.2	13.9	14.0	---	---	---	10.8	9.7	10.3	---	---	---
17	13.9	13.5	13.7	---	---	---	10.2	9.3	9.7	8.0	7.8	7.9
18	14.0	13.8	13.8	---	---	---	10.1	9.2	9.5	8.2	8.0	8.2
19	14.1	13.9	14.0	11.3	10.9	11.1	10.1	9.3	9.7	8.2	7.9	8.1
20	14.1	13.8	14.0	10.9	10.1	10.4	10.0	8.9	9.3	7.9	7.7	7.7
21	14.2	13.8	13.9	11.3	10.0	10.4	9.6	8.6	9.0	---	---	---
22	14.1	13.6	13.8	12.1	10.5	11.3	10.7	9.3	9.8	---	---	---
23	13.8	12.4	13.4	10.7	10.5	10.6	11.8	10.7	11.2	---	---	---
24	---	---	---	10.8	10.5	10.6	12.3	11.3	11.7	---	---	---
25	---	---	---	11.3	10.4	10.9	12.1	11.0	11.6	---	---	---
26	---	---	---	10.4	9.5	9.8	11.8	10.4	10.9	---	---	---
27	14.6	12.4	14.1	9.8	9.4	9.6	11.2	10.7	10.9	---	---	---
28	14.4	12.5	14.0	9.8	9.4	9.6	11.1	10.3	10.7	---	---	---
29	---	---	---	9.5	8.9	9.1	10.7	9.6	10.0	8.1	7.5	7.8
30	---	---	---	11.0	9.5	10.3	10.4	9.9	10.0	7.7	7.4	7.5
31	---	---	---	11.3	10.8	11.1	---	---	---	7.5	5.5	6.9
MONTH	14.6	10.9	13.4	14.8	8.9	10.8	12.3	8.2	10.2	10.3	5.5	8.5

SURFACE-WATER RECORDS
Hocking River Basin

03159500 HOCKING RIVER AT ATHENS, OHIO

LOCATION.—Latitude 39°19'44", longitude 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, Ohio, 1.4 mi downstream from Coats Run, and 3 mi downstream from Margaret Creek.

DRAINAGE AREA.—943 mi².

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-June 19, 1970, at present site at datum 3.55 ft. higher; June 19, 1970-Sept. 30, 1971, and Oct. 1, 1976-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, which are poor. Water-quality data formerly 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; 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.

EXTREMES OUTSIDE PERIOD RECORD.—Flood in Mar. 1907 reached a stage of about 27 ft from flood marks, site and datum then in use; discharge 50,000 ft³/s, estimated by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	116	287	251	1510	e230	1260	722	397	1070	356	438	332
2	98	216	243	4140	e225	2280	687	443	861	359	402	4470
3	92	181	234	2710	e220	2860	643	387	1230	344	489	6890
4	103	164	218	1760	e1000	2260	607	339	2420	316	652	2990
5	103	167	250	1180	e1700	3450	931	573	1710	296	695	1910
6	113	244	e210	956	e1000	6890	1240	1570	1200	286	555	1040
7	108	316	e200	908	e750	5430	1170	1100	1160	366	656	705
8	98	303	e195	778	e580	3310	2380	917	1110	602	692	578
9	89	246	e190	767	e520	4240	2070	1020	2320	2130	727	495
10	89	266	e185	858	e460	4410	1450	5360	2240	2270	863	431
11	110	640	e190	765	e430	2670	1250	6300	1300	2920	1190	371
12	118	831	288	e580	e390	1780	1100	3840	960	1580	1180	329
13	152	546	477	e520	e370	1600	904	2020	994	1140	672	302
14	132	393	1680	e450	e350	2240	772	1440	1130	825	495	278
15	117	325	1900	e420	e330	2010	692	1170	2540	616	426	258
16	236	324	1120	e400	e310	1610	641	1000	2090	777	786	244
17	273	414	870	e390	e300	1410	604	817	4410	2310	516	226
18	236	421	746	e380	e290	1260	571	922	3450	1120	443	210
19	175	361	695	e370	e280	1120	540	883	2240	817	374	1330
20	147	329	2130	e350	e275	1010	500	766	1560	637	312	1700
21	158	310	2860	e330	e270	1130	918	2870	1160	534	280	866
22	142	334	1380	e310	e1300	1100	1030	3280	963	519	322	826
23	128	393	958	e300	7550	969	763	2040	818	1040	1150	2980
24	120	405	938	e280	6390	878	626	1370	695	1240	551	1940
25	116	358	774	e265	3320	889	560	995	600	728	364	1060
26	121	324	731	e250	2260	766	546	814	540	516	290	693
27	206	310	632	e230	1850	749	511	770	495	409	252	615
28	231	288	568	e250	1410	698	458	698	455	654	260	2320
29	285	267	535	e250	---	683	426	686	410	1550	379	1590
30	459	257	506	e240	---	808	409	619	374	762	463	1070
31	403	---	497	e235	---	801	---	647	---	526	452	---
TOTAL	5074	10220	22651	23132	34360	62571	25721	46053	42505	28545	17326	39049
MEAN	164	341	731	746	1227	2018	857	1486	1417	921	559	1302
MAX	459	831	2860	4140	7550	6890	2380	6300	4410	2920	1190	6890
MIN	89	164	185	230	220	683	409	339	374	286	252	210
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 2003, BY WATER YEAR (WY)												
MEAN	239	525	986	1425	1725	2111	1820	1368	784	498	410	300
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												
ANNUAL TOTAL				FOR 2002 CALENDAR YEAR				FOR 2003 WATER YEAR				WATER YEARS 1916 - 2003
ANNUAL MEAN				311678				357207				
HIGHEST ANNUAL MEAN				854				979				1012
LOWEST ANNUAL MEAN												1794
HIGHEST DAILY MEAN				8410				Jun 8				7550
LOWEST DAILY MEAN				52				Sep 14				89
ANNUAL SEVEN-DAY MINIMUM				58				Sep 10				100
MAXIMUM PEAK FLOW												8130
MAXIMUM PEAK STAGE												15.14
10 PERCENT EXCEEDS				2390				2250				2430
50 PERCENT EXCEEDS				380				619				426
90 PERCENT EXCEEDS				95				219				89

e Estimated.

SURFACE-WATER RECORDS
Shade River Basin

03159540 SHADE RIVER NEAR CHESTER, OHIO

LOCATION.—Latitude 39°03'49", longitude 81°52'55", in NE ¼ 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, Ohio, and 8.5 mi northeast of Pomeroy, Ohio.

DRAINAGE AREA.—155 mi².

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

GAGE.—Water-stage recorder and crest-stage gage. 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 formerly collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.4	53	36	767	e62	410	54	46	246	21	184	20
2	1.8	31	33	1140	e80	941	51	41	156	19	61	95
3	1.6	21	30	385	e100	814	47	39	825	18	65	416
4	1.7	17	25	254	e650	465	46	37	3360	16	377	131
5	2.4	53	26	172	e400	921	67	198	932	16	579	75
6	2.6	207	28	151	e160	1600	93	477	291	19	165	48
7	2.3	108	26	137	e120	670	153	179	885	17	99	34
8	2.1	59	28	123	e100	416	368	246	729	e24	188	28
9	1.7	41	e26	115	e92	441	270	145	460	e650	647	24
10	1.6	122	e25	100	e84	290	269	1220	276	e250	255	21
11	29	375	e29	81	e80	195	262	2970	184	e700	195	18
12	42	184	e41	e53	e76	165	585	812	154	223	469	15
13	27	82	e74	e49	e72	178	251	e250	147	300	180	13
14	13	57	1420	e45	e68	254	e160	e180	e170	127	101	11
15	7.0	44	534	e43	e64	197	e140	138	e600	73	77	11
16	79	47	201	e40	e62	160	113	189	e580	63	90	11
17	118	63	121	e39	e60	143	101	143	e2000	44	93	9.0
18	46	62	94	e37	e58	128	92	371	e840	35	71	8.3
19	20	58	88	e36	e56	114	81	352	e420	68	56	242
20	12	58	429	e35	e54	103	69	209	282	50	40	364
21	8.5	54	338	e34	e200	104	170	2260	145	34	33	93
22	6.5	55	155	e32	e1500	97	315	706	107	26	29	71
23	5.1	60	111	e31	3640	86	e140	283	84	66	48	328
24	3.9	58	85	e31	1760	79	e90	249	66	637	31	147
25	3.4	50	125	e30	454	73	e84	180	52	152	21	79
26	3.1	43	149	e29	284	69	e82	150	43	82	16	56
27	3.6	42	101	e29	235	65	e64	127	40	52	13	53
28	4.0	42	83	e28	213	58	e52	168	38	49	12	116
29	117	39	75	e31	---	59	e47	690	32	71	12	88
30	329	38	69	e40	---	68	46	557	25	43	10	57
31	102	---	65	e50	---	62	---	263	---	265	16	---
TOTAL	999.3	2223	4670	4167	10784	9425	4362	13875	14169	4210	4233	2682.3
MEAN	32.2	74.1	151	134	385	304	145	448	472	136	137	89.4
MAX	329	375	1420	1140	3640	1600	585	2970	3360	700	647	416
MIN	1.6	17	25	28	54	58	46	37	25	16	10	8.3
CFSM	0.21	0.47	0.97	0.86	2.47	1.95	0.93	2.87	3.03	0.87	0.88	0.57
IN.	0.24	0.53	1.11	0.99	2.57	2.25	1.04	3.31	3.38	1.00	1.01	0.64

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, BY WATER YEAR (WY)

MEAN	49.3	99.2	196	234	301	357	271	250	108	66.4	61.4	35.5
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	0.42	0.99	20.2	24.0	40.7	53.4	48.6	33.2	2.37	2.40	0.72	0.38
(WY)	1988	1988	1988	1977	1978	1969	1995	1986	1988	1987	1988	1987

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1965 - 2003

ANNUAL TOTAL	57981.73	75799.6										
ANNUAL MEAN	159	208								170		
HIGHEST ANNUAL MEAN										272		1994
LOWEST ANNUAL MEAN										45.4		1988
HIGHEST DAILY MEAN				4130	Mar 21		3640	Feb 23		10300	Mar 2	1997
LOWEST DAILY MEAN				0.55	Sep 13		1.6	Oct 3		0.18	Sep 29	1987
ANNUAL SEVEN-DAY MINIMUM				0.72	Sep 8		2.1	Oct 3		0.21	Sep 23	1987
MAXIMUM PEAK FLOW							3770	Feb 23a		15600	Mar 1	1997
MAXIMUM PEAK STAGE							19.36	Feb 23		31.44	Mar 1	1997
INSTANTANEOUS LOW FLOW							1.6	Oct 3		0.17	Sep 28	1987
ANNUAL RUNOFF (CFSM)				1.02			1.33			1.09		
ANNUAL RUNOFF (INCHES)				13.83			18.08			14.76		
10 PERCENT EXCEEDS				268			472			380		
50 PERCENT EXCEEDS				45			79			56		
90 PERCENT EXCEEDS				1.6			17			4.1		

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

03201902 RACCOON CREEK AT BOWLINS MILLS, OHIO

LOCATION.—Latitude 39°13'50", longitude 82°17'09", in Vinton County, Hydrologic Unit 05090101, on left bank at State Highway 50 and 356 intersection at Bowlins Mills, Ohio, 12 mi downstream of Lake Hope.

DRAINAGE AREA.—205 mi².

PERIOD OF RECORD.—October 1983 to September 1985, December 2002 to September 2003.

GAGE.—Water stage recorder. Elevation of gage 680 ft (from topographic map).

REMARKS.—Records fair except for periods of estimated record, which are poor.

EXTREMES FOR PERIOD DECEMBER 2002 TO SEPTEMBER 2003.—Maximum discharge, 2,530 ft³/s, Feb. 24, gage height, 14.91 ft (from crest-stage gage); minimum daily, 19 ft³/s (estimated) Dec. 10. Peaks above base shown in table of peak discharges and stages at continuous surface-water discharge stations.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	e43	339	e30	314	116	72	164	31	37	82
2	---	---	e41	831	e40	680	108	65	139	41	37	528
3	---	---	e38	612	e60	812	99	70	195	40	39	1310
4	---	---	e35	399	e200	590	93	75	768	35	49	1300
5	---	---	e32	293	608	737	148	167	531	31	139	634
6	---	---	e28	243	311	1220	394	701	293	27	139	225
7	---	---	e25	206	217	1190	350	443	281	23	88	163
8	---	---	e23	177	156	743	600	274	379	26	273	128
9	---	---	e21	189	e130	652	491	223	529	349	148	100
10	---	---	e19	210	e110	632	390	509	429	544	173	84
11	---	---	e30	176	e96	389	316	1520	245	804	160	70
12	---	---	e100	117	e86	294	274	1800	182	561	90	55
13	---	---	e400	e90	e80	265	222	1540	201	439	68	43
14	---	---	1330	e80	e72	378	181	581	434	263	52	47
15	---	---	1590	e74	e68	349	158	256	588	125	44	50
16	---	---	583	e64	e62	266	141	625	1040	93	43	38
17	---	---	264	e58	e58	229	124	358	1660	104	38	33
18	---	---	204	e50	e64	197	112	391	1110	69	36	36
19	---	---	197	e44	e70	173	102	372	507	55	35	181
20	---	---	608	e40	e60	160	93	267	323	46	29	275
21	---	---	857	e37	e56	222	253	739	228	40	28	122
22	---	---	475	e33	e200	248	382	887	168	46	32	128
23	---	---	285	e30	2070	200	232	458	127	109	172	537
24	---	---	207	e27	2430	173	170	297	95	197	89	357
25	---	---	197	e25	2010	150	142	220	72	140	52	167
26	---	---	221	e24	1060	131	137	171	62	86	45	109
27	---	---	169	e23	353	112	118	150	51	62	42	97
28	---	---	136	e22	273	103	94	132	45	53	39	183
29	---	---	121	e21	---	110	81	124	38	48	42	186
30	---	---	106	e20	---	138	78	126	33	57	282	118
31	---	---	106	e20	---	138	---	122	---	47	170	---
TOTAL	---	---	8491	4574	11030	11995	6199	13735	10917	4591	2710	7386
MEAN	---	---	274	148	394	387	207	443	364	148	87.4	246
MAX	---	---	1590	831	2430	1220	600	1800	1660	804	282	1310
MIN	---	---	19	20	30	103	78	65	33	23	28	33
CFSM	---	---	1.34	0.72	1.92	1.89	1.01	2.16	1.78	0.72	0.43	1.20
IN.	---	---	1.54	0.83	2.00	2.18	1.12	2.49	1.98	0.83	0.49	1.34

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1984 - 2003, BY WATER YEAR (WY)

	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
MEAN	3.47	63.0	254	119	492	383	310	444	197	148	47.9	124									
MAX	3.47	63.0	274	148	590	387	413	444	364	148	87.4	246									
(WY)	1985	1985	2003	2003	1985	2003	1985	1985	2003	2003	2003	2003									
MIN	3.47	63.0	235	89.5	394	380	207	443	30.3	148	8.37	1.12									
(WY)	1985	1985	1985	1985	2003	1985	2003	2003	1985	2003	1984	1984									

SUMMARY STATISTICS

WATER YEARS 1984 - 2003

HIGHEST DAILY MEAN	3030	Feb 25 1985
LOWEST DAILY MEAN	0.00	Oct 6 1984
ANNUAL SEVEN-DAY MINIMUM	0.12	Oct 4 1984
MAXIMUM PEAK FLOW	3130	Feb 25 1985
MAXIMUM PEAK STAGE	14.91	Feb 24 2003
INSTANTANEOUS LOW FLOW	0.00	Oct 6 1984

SURFACE-WATER RECORDS
Raccoon Creek Basin

03201980 LITTLE RACCOON CREEK NEAR EWINGTON, OHIO

LOCATION.—Latitude 39°00'38", longitude 82°27'08", in SW ¼ sec. 12, T.8N., R.17W., Jackson County, Hydrologic Unit 05090101, on left bank downstream side of Old Keystone Road, 5 mi west of Ewington, Ohio, 3.6 mi downstream from Tarcamp Creek, 0.15 mi upstream of Kuger Run.
DRAINAGE AREA.—99.7 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—July 1984 to June 1985 and November 1998 to current year.

GAGE.—Water-stage recorder and crest gage. Elevation of gage is 630 ft above sea level (from topographic map).

REMARKS.—Records fair except for periods of estimated record, which are poor. Water-quality data collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.9	11	41	177	e11	200	74	47	112	30	26	34
2	3.0	8.0	36	413	e20	379	66	46	95	56	26	169
3	3.9	6.8	34	282	e30	443	60	58	158	38	28	391
4	4.8	6.3	31	177	e80	371	57	51	461	31	58	222
5	7.5	6.0	e30	131	e170	398	85	163	357	27	110	100
6	8.0	30	e29	117	114	504	110	407	168	25	56	65
7	6.7	24	e28	107	94	507	142	264	276	23	48	48
8	5.3	12	e27	98	78	353	293	155	323	24	102	38
9	4.3	8.2	e26	91	e66	233	283	114	293	32	56	31
10	4.8	24	e26	80	e60	187	250	525	218	66	166	27
11	19	164	e25	71	e54	148	279	1010	128	359	66	26
12	21	141	e35	58	e48	126	245	588	102	909	51	24
13	8.1	77	102	e50	e44	124	150	280	91	416	43	22
14	6.5	58	404	e46	e40	149	117	131	83	98	35	21
15	5.0	49	538	e40	e38	130	98	101	102	65	31	20
16	38	53	316	e36	e36	116	87	110	103	50	30	19
17	44	63	133	e32	e34	106	85	111	116	43	28	19
18	9.8	52	125	e28	e42	99	81	164	136	38	25	18
19	5.3	46	115	e25	e39	88	70	206	127	63	22	29
20	4.7	46	272	e23	e36	86	61	147	247	34	21	34
21	5.6	43	329	e21	e54	130	159	348	109	30	23	24
22	3.2	55	179	e19	e100	153	200	389	73	28	49	26
23	3.0	65	123	e18	e600	125	126	227	57	40	284	82
24	4.3	55	94	e16	1800	108	97	136	49	72	292	54
25	6.7	48	93	e15	771	96	84	100	42	44	92	37
26	8.8	44	93	e14	314	86	81	81	37	35	52	30
27	12	43	78	e14	186	79	67	74	35	30	40	32
28	10	42	70	e13	161	74	59	76	32	31	35	54
29	19	40	65	e13	---	73	53	96	29	34	33	38
30	95	41	60	e12	---	85	48	152	27	29	33	30
31	25	---	61	e12	---	78	---	119	---	25	36	---
TOTAL	405.2	1361.3	3618	2249	5120	5834	3667	6476	4186	2825	1997	1764
MEAN	13.1	45.4	117	72.5	183	188	122	209	140	91.1	64.4	58.8
MAX	95	164	538	413	1800	507	293	1010	461	909	292	391
MIN	2.9	6.0	25	12	11	73	48	46	27	23	21	18
CFSM	0.13	0.46	1.17	0.73	1.83	1.89	1.23	2.10	1.40	0.91	0.65	0.59
IN.	0.15	0.51	1.35	0.84	1.91	2.18	1.37	2.42	1.56	1.05	0.75	0.66

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

	1999	2000	2001	1999	2000	2001	2002	2001	2000	2001	2003	2003
MEAN	11.4	25.8	60.7	97.4	215	212	131	180	77.1	33.3	20.5	20.2
MAX	15.2	45.4	117	252	588	323	239	375	145	91.1	64.4	58.8
(WY)	2002	2003	2003	1999	2000	2002	2002	2001	2001	2003	2003	2003
MIN	8.22	13.0	20.4	29.4	44.0	129	70.1	29.5	10.5	6.82	6.98	5.52
(WY)	2001	2001	1999	2001	2002	2001	2001	1999	1999	1999	2000	1999

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1999 - 2003	
	VALUE	DATE	VALUE	DATE	VALUE	DATE
ANNUAL TOTAL	36584.9		39502.5			
ANNUAL MEAN	100		108		94.6	
HIGHEST ANNUAL MEAN					108	2003
LOWEST ANNUAL MEAN					82.7	2001
HIGHEST DAILY MEAN	2150	Mar 21	1800	Feb 24	7460	Feb 19 2000
LOWEST DAILY MEAN	2.9	Oct 1	2.9	Oct 1	2.1	Sep 29 1999
ANNUAL SEVEN-DAY MINIMUM	4.7	Oct 19	4.7	Oct 19	3.1	Aug 2 1999
MAXIMUM PEAK FLOW			2310	Feb 24a	8450	Feb 19 2000
MAXIMUM PEAK STAGE			13.40	Feb 24	15.83	Feb 19 2000
INSTANTANEOUS LOW FLOW			2.9	Oct 1	2.1	Sep 29 1999
ANNUAL RUNOFF (CFSM)	1.01		1.09		0.95	
ANNUAL RUNOFF (INCHES)	13.65		14.74		12.89	
10 PERCENT EXCEEDS	266		279		196	
50 PERCENT EXCEEDS	32		57		30	
90 PERCENT EXCEEDS	7.0		14		7.0	

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

03201980 LITTLE RACCOON CREEK NEAR EWINGTON, OHIO—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—July 1984 to June 1985, December 21, 1998 to current year.

PERIOD OF DAILY RECORD.—

SUSPENDED SEDIMENT DISCHARGE: August 1984 to June 1985 (discontinued).

SPECIFIC CONDUCTANCE: December 1998 to current year.

pH: December 1998 to current year.

WATER TEMPERATURE: December 1998 to current year.

DISSOLVED OXYGEN: December 1998 to current year.

INSTRUMENTATION.—Water-quality monitor. Electronic data logger. Set for 1-hour interval. Satellite telemeter at station.

REMARKS.—Interruptions in the water-quality record are due to malfunctions of the instrument. Water temperature and specific conductance records are good. Dissolved oxygen records are fair except Oct. 1-Dec. 1 and July 26-Sept. 30, which are poor. pH records are good except Oct. 1-Dec. 28, which are fair.

EXTREMES FOR PERIOD OF RECORD.—

SPECIFIC CONDUCTANCE: Maximum, 1,310 microsiemens, Sept. 19, 1999; minimum, 164 microsiemens, Feb. 20, 2000.

pH: Maximum, 8.1 units, July 25, 2002; minimum, 4.8 units, Nov. 2, 1999.

WATER TEMPERATURE: Maximum, 29.5°C, Aug. 3 and 5, 2002; minimum 0.0°C, on several days during winter.

DISSOLVED OXYGEN: Maximum, 14.9 mg/L, Jan. 1, 1999; minimum, 3.5 mg/L, Oct. 15, 2001.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum, 1,290 microsiemens, Oct. 12; minimum, 228 microsiemens, July 12.

pH: Maximum, 7.4 units, on many days; minimum, 5.6 units, Oct. 12.

WATER TEMPERATURE: Maximum, 26.0°C, July 8 and 9; minimum 0.0°C, on several days.

DISSOLVED OXYGEN: Maximum, 14.0 mg/L, Jan. 13; minimum 3.7 mg/L, May 13.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	754	746	751	723	671	692	---	---	---	591	514	531
2	746	731	737	763	723	750	---	---	---	593	360	455
3	801	731	768	773	763	768	---	---	---	379	356	368
4	801	748	778	776	766	772	---	---	---	390	378	383
5	748	721	730	775	748	766	---	---	---	397	381	388
6	790	727	751	853	727	769	---	---	---	434	397	413
7	867	790	852	1070	790	896	---	---	---	469	434	458
8	868	825	854	790	758	771	---	---	---	500	469	485
9	825	810	819	785	740	761	---	---	---	506	488	494
10	824	815	819	740	691	721	---	---	---	504	492	497
11	872	725	803	929	666	744	---	---	---	492	484	488
12	1290	833	1010	666	567	608	---	---	---	527	484	496
13	1020	840	912	568	565	566	---	---	---	538	495	523
14	840	815	822	569	567	568	---	---	---	574	526	546
15	849	830	843	576	569	574	---	---	---	556	536	548
16	878	763	822	598	571	578	---	---	---	584	548	573
17	1100	792	864	672	598	637	---	---	---	607	554	577
18	815	719	741	655	588	606	---	---	---	606	563	593
19	759	731	750	690	592	629	---	---	---	600	575	593
20	766	759	763	619	597	607	---	---	---	610	574	590
21	803	763	782	641	619	627	---	---	---	623	610	614
22	822	803	814	633	593	607	---	---	---	644	623	637
23	822	810	815	764	633	682	---	---	---	653	635	644
24	852	810	830	669	646	658	---	---	---	657	622	640
25	869	852	863	646	639	642	---	---	---	662	649	656
26	858	826	839	639	632	636	---	---	---	673	658	661
27	874	826	851	640	630	633	463	461	462	701	673	688
28	978	874	933	662	640	649	492	461	479	717	694	699
29	981	837	948	676	662	671	514	491	501	755	717	736
30	1140	774	900	---	---	---	523	509	517	732	703	715
31	805	658	692	---	---	---	524	508	512	737	686	723
MONTH	1290	658	821	1070	565	675	524	461	494	755	356	562

SURFACE-WATER RECORDS
Raccoon Creek Basin

03201980 LITTLE RACCOON CREEK NEAR EWINGTON, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER		MAX	NOVEMBER		MAX	DECEMBER		MAX	JANUARY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	6.6	6.4	6.5	7.2	7.1	7.1	---	---	---	6.9	6.7	6.8
2	6.7	6.6	6.7	7.2	7.0	7.1	---	---	---	7.1	6.9	7.0
3	6.7	6.3	6.6	7.1	6.9	7.0	---	---	---	7.0	6.9	6.9
4	6.5	6.3	6.4	7.1	7.0	7.1	---	---	---	6.9	6.8	6.8
5	6.7	6.5	6.6	7.0	6.6	6.8	---	---	---	6.9	6.9	6.9
6	6.8	6.6	6.8	7.1	6.6	6.9	---	---	---	6.9	6.9	6.9
7	6.9	6.8	6.8	7.1	6.2	6.8	---	---	---	7.0	6.7	6.9
8	7.0	6.8	6.9	7.2	6.8	7.1	---	---	---	7.0	6.7	6.8
9	7.0	6.9	6.9	7.2	7.0	7.1	---	---	---	6.8	6.7	6.7
10	6.9	6.8	6.9	7.2	6.7	7.0	---	---	---	6.8	6.8	6.8
11	7.0	6.7	6.8	7.1	6.4	6.9	---	---	---	6.8	6.8	6.8
12	6.9	5.6	6.5	7.1	7.0	7.1	---	---	---	6.9	6.8	6.8
13	7.0	6.8	6.9	7.2	6.9	7.1	---	---	---	6.9	6.7	6.8
14	7.2	7.0	7.1	7.3	6.9	7.1	---	---	---	6.8	6.7	6.8
15	7.1	6.7	7.0	7.3	6.9	7.1	---	---	---	6.8	6.6	6.7
16	6.8	6.1	6.7	7.3	7.1	7.2	---	---	---	6.7	6.6	6.6
17	7.0	6.1	6.8	7.2	7.1	7.1	---	---	---	6.6	6.6	6.6
18	7.0	6.8	6.9	7.4	6.9	7.2	---	---	---	6.6	6.5	6.5
19	6.9	6.8	6.9	7.4	7.0	7.2	---	---	---	6.5	6.5	6.5
20	6.9	6.9	6.9	7.2	7.0	7.1	---	---	---	6.5	6.5	6.5
21	6.9	6.8	6.9	7.2	6.7	7.0	---	---	---	6.5	6.5	6.5
22	6.9	6.8	6.9	7.1	7.0	7.1	---	---	---	6.5	6.5	6.5
23	7.0	6.9	6.9	7.1	7.0	7.0	---	---	---	6.5	6.5	6.5
24	7.1	6.9	7.0	7.2	7.0	7.1	---	---	---	6.5	6.5	6.5
25	7.0	6.9	7.0	7.2	7.1	7.2	---	---	---	6.5	6.5	6.5
26	7.1	6.9	7.0	7.2	7.1	7.2	---	---	---	6.5	6.4	6.4
27	7.0	6.9	6.9	7.2	7.1	7.2	7.2	6.9	7.0	6.4	6.4	6.4
28	7.1	6.9	7.0	---	---	---	6.9	6.3	6.6	6.4	6.4	6.4
29	7.1	7.0	7.1	---	---	---	6.9	6.7	6.8	6.5	6.4	6.5
30	7.3	6.5	7.1	---	---	---	7.0	6.9	7.0	6.5	6.4	6.5
31	7.3	7.1	7.2	---	---	---	7.0	6.7	6.9	6.6	6.4	6.5
MONTH	7.3	5.6	6.9	7.4	6.2	7.1	7.2	6.3	6.9	7.1	6.4	6.7

DAY	MAX	FEBRUARY		MAX	MARCH		MAX	APRIL		MAX	MAY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	6.6	6.5	6.6	6.6	6.5	6.5	6.9	6.8	6.8	6.9	6.9	6.9
2	6.7	6.5	6.6	6.7	6.4	6.6	6.9	6.8	6.8	7.0	6.7	6.9
3	6.7	6.6	6.7	6.7	6.6	6.6	6.9	6.8	6.9	6.9	6.7	6.9
4	6.9	6.3	6.6	6.6	6.5	6.6	6.9	6.9	6.9	7.0	6.5	6.9
5	6.9	6.6	6.7	6.6	6.4	6.5	6.9	6.6	6.8	7.0	6.0	6.8
6	6.8	6.7	6.8	6.6	6.4	6.5	7.0	6.1	6.9	6.8	6.1	6.6
7	6.8	6.7	6.8	6.6	6.6	6.6	6.9	6.4	6.8	6.5	6.4	6.4
8	6.9	6.8	6.8	6.6	6.4	6.5	6.9	6.2	6.6	6.8	6.4	6.6
9	6.9	6.8	6.8	6.5	6.4	6.4	6.6	6.4	6.5	6.8	6.8	6.8
10	6.8	6.8	6.8	6.5	6.5	6.5	6.6	6.5	6.5	6.8	5.7	6.2
11	6.8	6.8	6.8	6.5	6.5	6.5	6.6	6.4	6.6	6.6	6.2	6.5
12	6.9	6.8	6.8	6.5	6.5	6.5	6.5	6.4	6.5	6.6	6.4	6.5
13	6.9	6.8	6.9	6.5	6.4	6.5	6.6	6.5	6.6	6.5	6.2	6.3
14	6.9	6.7	6.8	6.6	6.2	6.4	6.7	6.6	6.7	6.8	6.4	6.7
15	6.8	6.6	6.7	6.6	6.6	6.6	6.7	6.6	6.7	6.8	6.8	6.8
16	6.7	6.6	6.6	6.6	6.5	6.6	6.7	6.7	6.7	7.0	6.8	6.8
17	6.9	6.5	6.7	6.6	6.5	6.6	6.8	6.7	6.7	7.0	6.9	6.9
18	6.5	6.5	6.5	6.6	6.6	6.6	6.8	6.7	6.8	6.9	6.7	6.8
19	6.6	6.5	6.6	6.7	6.6	6.7	6.9	6.8	6.8	6.8	6.6	6.7
20	6.6	6.6	6.6	6.7	6.6	6.7	6.9	6.8	6.9	6.9	6.6	6.8
21	6.6	6.6	6.6	6.8	6.5	6.6	7.0	5.9	6.6	7.2	6.4	6.8
22	6.6	6.3	6.5	6.9	6.7	6.8	7.0	6.7	6.8	6.9	6.5	6.7
23	6.6	6.4	6.5	6.8	6.8	6.8	6.8	6.8	6.8	6.5	6.4	6.4
24	6.7	6.6	6.6	6.8	6.7	6.8	6.9	6.8	6.9	6.9	6.5	6.8
25	6.7	6.6	6.7	6.8	6.7	6.8	6.9	6.9	6.9	6.9	6.9	6.9
26	6.6	6.5	6.5	6.9	6.8	6.8	6.9	6.8	6.9	7.0	6.9	6.9
27	6.5	6.5	6.5	6.9	6.8	6.8	7.0	6.9	6.9	7.0	6.9	7.0
28	6.5	6.5	6.5	6.9	6.8	6.8	7.0	6.9	7.0	7.0	6.8	6.9
29	---	---	---	6.9	6.8	6.9	7.0	6.9	6.9	7.0	6.9	7.0
30	---	---	---	7.0	6.8	6.9	6.9	6.9	6.9	7.1	6.9	7.0
31	---	---	---	7.0	6.8	6.9	---	---	---	7.1	6.9	7.0
MONTH	6.9	6.3	6.7	7.0	6.2	6.6	7.0	5.9	6.8	7.2	5.7	6.7

SURFACE-WATER RECORDS
Raccoon Creek Basin

03201980 LITTLE RACCOON CREEK NEAR EWINGTON, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003—Continued

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	7.1	6.9	7.0	7.3	7.3	7.3	7.4	7.2	7.3	7.4	7.4	7.4
2	7.1	6.9	7.1	7.3	6.6	7.1	7.4	7.3	7.4	7.4	6.5	7.1
3	7.0	6.5	6.9	7.2	7.1	7.1	7.4	7.3	7.4	6.9	6.7	6.9
4	7.0	6.3	6.7	7.3	7.2	7.2	7.4	7.0	7.3	6.8	6.5	6.6
5	6.7	6.4	6.6	7.3	7.2	7.3	7.2	5.8	6.8	7.0	6.6	6.9
6	6.9	6.4	6.6	7.3	7.2	7.2	7.2	7.2	7.2	7.1	7.0	7.1
7	6.9	6.2	6.7	7.3	7.3	7.3	7.2	7.1	7.2	7.1	7.1	7.1
8	6.8	6.5	6.6	7.3	7.2	7.3	7.2	5.7	6.7	7.1	7.1	7.1
9	6.9	6.5	6.7	7.3	7.2	7.3	7.0	6.7	6.9	7.1	7.1	7.1
10	6.6	6.4	6.5	7.4	7.0	7.2	7.0	6.7	6.9	7.1	7.1	7.1
11	6.9	6.6	6.9	7.2	6.3	6.8	7.0	6.8	6.9	7.1	7.1	7.1
12	6.9	6.9	6.9	6.7	6.5	6.6	7.0	7.0	7.0	7.3	7.1	7.2
13	6.9	6.9	6.9	6.8	6.3	6.6	7.1	7.0	7.1	7.3	7.2	7.3
14	7.0	6.9	6.9	6.9	6.8	6.9	7.1	7.1	7.1	7.3	7.2	7.3
15	7.1	7.0	7.0	7.0	6.9	7.0	7.1	7.1	7.1	7.3	7.3	7.3
16	7.1	7.0	7.0	7.0	7.0	7.0	7.2	7.1	7.2	7.3	7.3	7.3
17	7.0	6.9	6.9	7.1	7.0	7.1	7.3	7.2	7.2	7.4	7.3	7.4
18	7.0	6.7	6.9	7.2	7.0	7.1	7.3	7.3	7.3	7.4	7.4	7.4
19	7.1	6.9	7.0	7.1	6.8	6.9	7.3	7.3	7.3	7.4	7.3	7.4
20	6.9	6.5	6.7	7.1	7.0	7.1	7.4	7.3	7.3	7.4	7.1	7.2
21	7.0	6.5	6.9	7.2	7.1	7.1	7.3	7.3	7.3	7.4	7.3	7.3
22	7.0	7.0	7.0	7.2	7.2	7.2	7.3	7.2	7.3	7.4	7.4	7.4
23	7.1	7.0	7.0	7.2	7.0	7.1	7.2	6.3	7.0	7.4	6.8	7.2
24	7.1	7.0	7.1	7.2	6.7	7.0	7.0	6.6	6.9	7.4	7.3	7.3
25	7.1	7.0	7.1	7.4	7.2	7.3	7.0	6.6	6.9	7.4	7.3	7.4
26	7.1	7.1	7.1	7.3	7.3	7.3	7.2	7.0	7.1	7.4	7.4	7.4
27	7.2	7.1	7.2	7.3	7.3	7.3	7.2	7.2	7.2	7.4	7.3	7.3
28	7.2	7.2	7.2	7.3	7.3	7.3	7.2	7.2	7.2	7.3	6.8	7.1
29	7.2	7.2	7.2	7.4	7.3	7.3	7.3	7.2	7.2	7.4	7.1	7.3
30	7.3	7.2	7.3	7.3	7.3	7.3	7.3	7.3	7.3	7.4	7.3	7.4
31	---	---	---	7.3	7.2	7.3	7.4	7.3	7.4	---	---	---
MONTH	7.3	6.2	6.9	7.4	6.3	7.1	7.4	5.7	7.1	7.4	6.5	7.2
YEAR	7.4	5.6	6.9									

TEMPERATURE, WATER, DEGREES CELSIUS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	20.5	18.5	19.0	10.0	9.0	9.5	---	---	---	6.0	4.5	5.5
2	20.5	19.0	20.0	9.0	7.0	8.0	---	---	---	6.0	5.5	5.5
3	21.0	20.0	20.0	8.0	6.5	7.5	---	---	---	5.5	4.5	5.0
4	21.5	20.0	20.5	8.0	8.0	8.0	---	---	---	4.5	3.5	4.0
5	21.0	19.5	20.5	8.5	7.5	8.0	---	---	---	3.5	3.0	3.0
6	19.5	17.5	18.0	8.5	8.5	8.5	---	---	---	3.0	3.0	3.0
7	19.0	17.5	18.0	9.0	8.0	8.5	---	---	---	3.0	2.0	2.5
8	17.5	15.5	16.0	9.0	7.0	8.0	---	---	---	3.0	2.5	2.5
9	15.5	14.0	15.0	9.5	8.0	9.0	---	---	---	4.0	3.0	3.5
10	15.5	14.5	15.0	12.0	9.5	10.5	---	---	---	4.0	3.5	4.0
11	16.0	15.5	15.5	13.5	12.0	13.0	---	---	---	3.5	1.5	2.5
12	17.0	15.5	16.5	13.0	12.0	12.5	---	---	---	1.5	0.5	0.5
13	17.0	16.0	16.5	12.0	10.5	11.5	---	---	---	0.5	0.5	0.5
14	16.0	14.0	14.5	10.5	9.5	10.0	---	---	---	0.5	0.5	0.5
15	14.0	13.0	13.5	10.0	9.0	9.5	---	---	---	0.5	0.0	0.5
16	13.5	13.0	13.5	10.0	9.0	9.5	---	---	---	0.5	0.0	0.5
17	13.0	12.5	12.5	9.0	8.0	8.5	---	---	---	0.5	0.5	0.5
18	12.5	11.5	12.0	8.0	7.0	7.5	---	---	---	0.5	0.0	0.5
19	12.5	12.0	12.5	8.0	6.5	7.5	---	---	---	0.5	0.5	0.5
20	13.0	12.5	12.5	7.5	6.0	7.0	---	---	---	0.5	0.5	0.5
21	12.5	11.0	11.5	8.0	6.5	7.0	---	---	---	0.5	0.5	0.5
22	12.0	10.5	11.0	8.0	7.0	7.5	---	---	---	0.5	0.0	0.5
23	11.5	10.0	11.0	7.0	6.0	6.5	---	---	---	0.5	0.0	0.5
24	11.5	10.5	10.5	6.5	5.5	6.0	---	---	---	0.5	0.5	0.5
25	11.5	11.0	11.0	6.0	5.0	5.5	---	---	---	0.5	0.5	0.5
26	12.0	11.5	12.0	6.0	5.0	5.5	---	---	---	0.5	0.5	0.5
27	12.0	12.0	12.0	5.0	4.5	4.5	2.5	2.0	2.5	0.5	0.0	0.5
28	12.5	11.5	12.0	4.5	3.0	3.5	2.5	1.5	2.0	0.5	0.5	0.5
29	12.0	10.5	11.5	3.5	2.5	3.0	3.0	2.0	2.5	0.5	0.5	0.5
30	10.5	9.5	10.0	---	---	---	3.5	2.0	2.5	0.5	0.5	0.5
31	10.0	9.5	9.5	---	---	---	4.5	3.5	4.0	0.5	0.5	0.5
MONTH	21.5	9.5	14.5	13.5	2.5	8.0	4.5	1.5	2.5	6.0	0.0	1.5

SURFACE-WATER RECORDS
Raccoon Creek Basin

03201980 LITTLE RACCOON CREEK NEAR EWINGTON, OHIO—Continued

WATER-QUALITY RECORDS—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	---	---	---	9.1	9.0	9.0	---	---	---	11.7	10.7	11.3	
2	---	---	---	9.5	9.0	9.3	---	---	---	10.8	10.5	10.7	
3	---	---	---	9.6	9.2	9.4	---	---	---	10.6	10.1	10.3	
4	---	---	---	9.5	9.3	9.4	---	---	---	11.3	10.6	10.9	
5	---	---	---	9.4	9.3	9.3	---	---	---	12.0	11.2	11.7	
6	---	---	---	10.6	9.3	9.7	---	---	---	12.0	11.8	11.9	
7	---	---	---	9.8	9.5	9.6	---	---	---	12.3	12.0	12.2	
8	---	---	---	10.0	9.4	9.7	---	---	---	12.2	11.9	12.1	
9	---	---	---	9.5	9.1	9.4	---	---	---	11.9	11.6	11.8	
10	---	---	---	9.3	8.3	8.9	---	---	---	12.0	11.6	11.7	
11	---	---	---	8.5	7.3	7.8	---	---	---	13.0	12.0	12.5	
12	---	---	---	8.4	6.9	7.6	---	---	---	13.8	13.0	13.5	
13	---	---	---	9.2	8.4	8.8	---	---	---	14.0	13.6	13.8	
14	---	---	---	9.7	9.0	9.3	---	---	---	13.8	13.7	13.8	
15	---	---	---	9.8	9.2	9.5	---	---	---	13.9	13.5	13.8	
16	---	---	---	9.7	9.4	9.5	---	---	---	13.8	13.0	13.5	
17	---	---	---	10.0	9.6	9.8	---	---	---	13.0	12.7	12.9	
18	---	---	---	11.0	10.0	10.4	---	---	---	12.7	12.4	12.6	
19	---	---	---	10.9	10.1	10.4	---	---	---	12.4	12.1	12.3	
20	---	---	---	10.8	10.1	10.4	---	---	---	12.1	11.9	12.0	
21	---	---	---	10.4	9.9	10.2	---	---	---	12.0	11.9	11.9	
22	9.1	8.5	8.8	10.3	9.9	10.1	---	---	---	12.1	11.5	11.8	
23	9.2	8.7	9.0	10.6	10.3	10.5	---	---	---	11.5	11.0	11.3	
24	8.8	8.3	8.6	10.9	10.6	10.8	---	---	---	---	---	---	
25	8.3	7.8	8.1	11.1	10.8	11.0	---	---	---	---	---	---	
26	7.9	7.1	7.4	11.5	11.1	11.2	---	---	---	---	---	---	
27	7.7	7.1	7.5	11.8	11.5	11.7	12.9	12.9	12.9	---	---	---	
28	7.7	7.3	7.5	12.5	11.8	12.3	13.1	12.9	13.0	---	---	---	
29	8.2	7.1	7.5	12.7	12.4	12.6	13.1	12.8	12.9	---	---	---	
30	8.6	8.0	8.3	---	---	---	13.0	12.4	12.7	---	---	---	
31	9.0	8.5	8.8	---	---	---	12.4	11.7	12.2	---	---	---	
MONTH	9.2	7.1	8.2	12.7	6.9	9.9	13.1	11.7	12.7	14.0	10.1	12.2	

DAY	MAX	FEBRUARY			MARCH			APRIL			MAY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	---	---	---	12.6	12.5	12.6	11.3	10.8	11.1	9.0	8.6	8.9	
2	---	---	---	12.7	12.4	12.5	10.9	10.1	10.6	8.9	8.6	8.7	
3	---	---	---	12.9	12.5	12.7	10.2	9.5	10	8.9	8.6	8.8	
4	---	---	---	12.8	12.3	12.6	9.8	9.3	9.6	9.4	8.9	9.2	
5	---	---	---	12.6	12.0	12.3	9.8	9.3	9.6	9.3	8.9	9.1	
6	---	---	---	12.3	12.0	12.1	10.7	9.7	10.3	8.9	7.6	8.3	
7	---	---	---	12.5	12.2	12.4	11.1	10.6	10.9	7.6	6.9	7.2	
8	---	---	---	12.2	11.4	11.8	11.0	10.3	10.7	8.7	7.5	8.1	
9	---	---	---	11.5	11.3	11.4	10.9	10.3	10.7	8.7	8.4	8.5	
10	---	---	---	12.2	11.4	11.9	10.8	10.2	10.3	8.6	7.8	8.3	
11	---	---	---	12.9	12.1	12.5	11.0	10.1	10.7	7.9	6.7	7.1	
12	---	---	---	12.5	12.1	12.2	10.6	9.4	9.7	6.9	5.7	6.1	
13	---	---	---	12.1	11.7	11.9	10.5	9.5	10	7.3	3.7	5.7	
14	13.0	12.7	12.8	11.8	11.6	11.8	10.5	9.8	10.1	9.0	7.3	8.6	
15	12.9	12.7	12.8	11.8	11.2	11.5	10.0	9.5	9.7	8.9	8.7	8.8	
16	13.0	12.8	12.9	11.3	10.6	11.0	9.8	9.6	9.7	9.1	8.6	8.9	
17	13.9	12.8	13.1	10.6	10.1	10.4	9.6	8.9	9.3	9.1	8.9	9.0	
18	13.0	12.8	12.8	10.2	9.7	10	8.9	7.7	8.4	9.2	9.0	9.1	
19	13.2	13.0	13.2	9.7	9.5	9.6	---	---	---	9.0	8.2	8.7	
20	13.3	12.9	13.1	9.5	9.2	9.4	---	---	---	8.8	8.0	8.5	
21	13.0	12.8	12.9	9.3	9.1	9.1	---	---	---	8.8	8.4	8.7	
22	12.8	12.3	12.6	9.4	9.0	9.2	---	---	---	8.4	6.8	7.7	
23	12.5	12.3	12.4	9.4	9.2	9.3	---	---	---	7.7	5.9	6.8	
24	12.7	12.3	12.4	---	---	---	---	---	---	8.8	7.7	8.6	
25	12.9	12.6	12.8	---	---	---	---	---	---	9.0	8.8	8.9	
26	12.6	12.0	12.3	---	---	---	---	---	---	9.0	8.8	8.9	
27	12.7	12.4	12.6	---	---	---	---	---	---	9.0	8.8	8.9	
28	12.6	12.5	12.5	---	---	---	---	---	---	9.0	8.8	8.9	
29	---	---	---	---	---	---	9.4	9.0	9.2	8.8	8.6	8.7	
30	---	---	---	---	---	---	9.2	8.9	9.1	8.6	8.4	8.5	
31	---	---	---	11.1	10.8	10.9	---	---	---	8.5	8.3	8.4	
MONTH	13.9	12.0	12.7	12.9	9.0	11.3	11.3	7.7	10.0	9.4	3.7	8.3	

SURFACE-WATER RECORDS
Raccoon Creek Basin

03201980 LITTLE RACCOON CREEK NEAR EWINGTON, OHIO—Continued

WATER-QUALITY RECORDS—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

[(00061), USGS National Water Information System parameter code; cfs, cubic feet per second; mg/L, milligrams per liter; uS/cm, microsiemens per centimeter; deg C, degrees Celsius; ug/L, micrograms per liter; --, no data; E, estimated]

Date	Time	Instantaneous discharge, cfs (00061)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd field, std units (00400)	Specific conductance, wat unfltrd uS/cm 25 degC (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Acidity, water, unfltrd heated, mg/L as CaCO3 (70508)	Alkalinity, water, unfltrd field, mg/L as CaCO3 (39086)
OCT 2002									
09...	1130	4.4	8.4	7.0	825	17.0	14.5	--	45
DEC									
09...	1130	13	12.0	7.0	727	2.0	.5	--	36
FEB 2003									
26...	1030	255	12.0	6.6	348	-2.0	1.5	--	14
APR									
15...	1025	109	9.8	6.9	436	20.5	14.0	--	18
JUN									
19...	1045	103	7.7	7.0	439	26.0	21.0	--	33
AUG									
04...	1045	43	7.6	7.3	733	21.5	22.0	--	41

Date	Bicarbonate, water, unfltrd, field, mg/L (00453)	Sulfate, water, unfltrd, field, mg/L (00945)	Aluminum, water, unfltrd, field, ug/L (01106)	Aluminum, water, unfltrd recoverable, ug/L (01105)	Iron, water, unfltrd, field, ug/L (01046)	Iron, water, unfltrd recoverable, ug/L (01045)	Manganese, water, unfltrd, field, ug/L (01056)	Manganese, water, unfltrd recoverable, ug/L (01055)
OCT 2002								
09...	55	327	E10	60	16	250	624	628
DEC								
09...	43	295	E10	290	739	1040	2440	2440
FEB 2003								
26...	17	95.9	50	1020	519	1930	703	701
APR								
15...	22	158	20	1030	257	1840	1150	1070
JUN								
19...	41	150	60	580	31	1330	1050	1010
AUG								
04...	50	290	22	240	11	770	1390	1390

SURFACE-WATER RECORDS
Raccoon Creek Basin

119

03202000 RACCOON CREEK AT ADAMSVILLE, OHIO

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

DRAINAGE AREA.—585 mi².

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-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 formerly collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66	446	184	848	e170	1270	389	287	581	134	123	353
2	51	276	177	1660	e200	1720	354	251	499	140	118	881
3	43	191	168	1970	e300	2270	320	370	847	163	111	1630
4	39	157	156	1630	674	2370	300	287	2940	153	125	2200
5	36	206	e152	1140	1210	2200	343	830	2630	128	274	1820
6	30	376	e135	906	1260	2520	452	1660	1700	112	381	1270
7	31	294	e120	794	903	2820	803	1720	2100	95	320	540
8	24	283	e110	704	636	2770	1310	1270	1970	82	379	332
9	16	248	e110	634	e470	2250	1850	820	1630	84	457	255
10	14	379	e100	584	e410	1600	1660	2020	1510	245	452	208
11	66	781	e140	546	e280	1400	1410	4560	1170	1380	482	178
12	106	908	293	483	e250	1070	1640	4110	793	2480	519	158
13	72	735	510	e360	e220	901	1110	3450	630	2400	288	139
14	42	484	1830	e310	e200	970	820	2570	573	1350	219	120
15	34	318	2370	e290	e180	966	650	1730	839	652	183	106
16	50	271	2140	e280	e350	925	538	880	1040	371	157	92
17	48	263	e1200	e260	e470	793	471	974	1870	262	140	83
18	55	273	e900	e250	e390	696	439	1390	2800	336	125	79
19	109	259	e600	e230	e340	613	396	1310	2560	439	110	158
20	72	236	e1100	e220	e330	546	350	1100	2860	248	99	198
21	39	217	e1700	e210	e320	544	443	2200	1200	179	90	351
22	e27	215	e1400	e200	e1000	682	1060	2250	709	156	209	268
23	e26	248	e1200	e190	e2000	733	999	1990	501	195	589	346
24	e29	284	828	e185	5000	630	717	1290	384	303	914	734
25	31	281	741	e180	5470	539	530	832	308	453	541	659
26	48	253	677	e170	5000	481	456	625	254	304	248	362
27	46	228	623	e165	4010	429	408	509	219	219	177	266
28	50	211	542	e160	2360	387	354	473	194	174	149	286
29	172	204	472	e155	---	366	307	493	172	162	138	320
30	403	193	426	e150	---	379	274	907	153	148	115	330
31	585	---	401	e145	---	389	---	741	---	128	233	---
TOTAL	2460	9718	21505	16009	34403	36229	21153	43899	35636	13675	8465	14722
MEAN	79.4	324	694	516	1229	1169	705	1416	1188	441	273	491
MAX	585	908	2370	1970	5470	2820	1850	4560	2940	2480	914	2200
MIN	14	157	100	145	170	366	274	251	153	82	90	79
CFSM	0.14	0.55	1.19	0.88	2.10	2.00	1.21	2.42	2.03	0.75	0.47	0.84
IN.	0.16	0.62	1.37	1.02	2.19	2.30	1.35	2.79	2.27	0.87	0.54	0.94

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 2003, BY WATER YEAR (WY)

MEAN	118	301	645	930	1184	1478	1181	905	430	239	197	129
MAX	986	1812	2562	2739	2989	4165	3231	4200	2244	1752	1548	1252
(WY)	1976	1920	1979	1950	1939	1963	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 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1916 - 2003

ANNUAL TOTAL	218488.8											
ANNUAL MEAN	599											
HIGHEST ANNUAL MEAN										1095		1916
LOWEST ANNUAL MEAN										186		1954
HIGHEST DAILY MEAN				5730	Mar 22		5470	Feb 25		19600	May 28	1968
LOWEST DAILY MEAN				9.0	Sep 13		14	Oct 10		1.1	Oct 17	1964
ANNUAL SEVEN-DAY MINIMUM				11	Sep 9		27	Oct 4		1.3	Oct 14	1964
MAXIMUM PEAK FLOW							5530	Feb 25a		19600	May 28	1968
MAXIMUM PEAK STAGE							17.94	Feb 25		29.11	May 3	1997
INSTANTANEOUS LOW FLOW										1.1	Oct 17	1964
ANNUAL RUNOFF (CFSM)				1.02			1.21			1.10		
ANNUAL RUNOFF (INCHES)				13.89			16.40			14.98		
10 PERCENT EXCEEDS				2010			1840			1720		
50 PERCENT EXCEEDS				195			376			240		
90 PERCENT EXCEEDS				29			106			25		

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

SURFACE-WATER RECORDS
Symmes Creek Basin

03205470 SYMMES CREEK AT AID, OHIO

LOCATION.—Latitude 38°35'46", longitude 82°29'43", Lawrence County, Hydrologic Unit 05090101, on right bank, at State Route 141 at Aid, 0.1 mi west of intersection with state route 378, 1.2 mi downstream of Sharps Creek.

DRAINAGE AREA.—302 mi².

PERIOD OF RECORD.—November 1, 2000 to current year.

GAGE.—Water-stage recorder. Datum of gage is 560.00 ft above sea level.

REMARKS.—Records fair except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	308	106	830	e50	867	138	89	201	64	91	44
2	11	209	95	1650	e100	657	126	87	182	56	71	785
3	7.2	146	84	1130	e200	579	116	92	279	47	73	1760
4	5.5	113	80	950	504	559	107	83	1010	58	138	1540
5	4.7	168	76	672	617	598	106	632	894	63	359	954
6	5.3	1130	e70	476	447	636	111	1590	747	66	251	545
7	3.3	715	e68	411	346	660	291	963	1680	59	190	233
8	2.4	390	e66	382	e220	600	521	868	2260	44	181	140
9	3.6	250	e64	349	e190	565	889	856	1650	47	353	102
10	7.9	376	e62	304	e170	497	1140	1100	1370	175	588	77
11	119	1850	e110	259	e160	381	862	2230	1120	288	387	60
12	235	1460	500	216	e150	290	901	2000	875	290	1110	49
13	166	732	640	158	e140	254	903	2800	679	361	720	40
14	104	465	1830	195	e130	312	815	3120	485	210	e450	35
15	62	304	1810	150	e600	339	737	2230	519	133	e300	31
16	265	336	1250	120	e1800	357	582	1560	649	86	e200	28
17	375	349	979	e110	3020	339	359	1210	1700	56	e140	26
18	226	284	813	e100	2230	301	267	1930	2950	43	e100	24
19	139	237	621	e90	1610	259	232	2360	2130	73	41	23
20	108	209	1250	e82	1500	227	209	1730	1280	58	32	24
21	99	185	1140	e76	1540	239	201	2140	1060	58	27	26
22	83	169	842	e70	2040	244	214	2410	818	42	24	30
23	59	163	659	e64	3210	239	219	1850	752	439	23	43
24	43	161	427	e56	3190	224	216	1430	682	309	20	47
25	33	151	399	e52	3210	212	188	1130	432	175	23	49
26	30	135	434	e50	2620	195	174	826	226	104	19	37
27	31	126	365	e47	1840	177	161	495	152	64	17	35
28	30	116	306	e43	1230	159	135	293	119	59	103	45
29	165	110	272	e40	---	147	117	239	101	62	66	45
30	776	106	243	e38	---	143	102	211	81	51	63	55
31	494	---	223	e37	---	139	---	206	---	73	45	---
TOTAL	3709.9	11453	15884	9207	33064	11395	11139	38760	27083	3713	6205	6932
MEAN	120	382	512	297	1181	368	371	1250	903	120	200	231
MAX	776	1850	1830	1650	3210	867	1140	3120	2950	439	1110	1760
MIN	2.4	106	62	37	50	139	102	83	81	42	17	23
CFSM	0.40	1.26	1.70	0.98	3.91	1.22	1.23	4.14	2.99	0.40	0.66	0.77
IN.	0.46	1.41	1.96	1.13	4.07	1.40	1.37	4.77	3.34	0.46	0.76	0.85

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2001 - 2003, BY WATER YEAR (WY)

	2001	2002	2003	2001	2002	2003	2001	2002	2003	2001	2002	2003
MEAN	60.5	146	330	219	590	751	535	1151	480	51.0	71.8	84.2
MAX	120	382	512	303	1181	1050	1029	1469	903	120	200	231
(WY)	2003	2003	2003	2002	2003	2002	2002	2001	2003	2003	2003	2003
MIN	1.28	3.07	36.7	56.2	118	368	204	733	244	14.2	6.77	8.18
(WY)	2002	2002	2002	2001	2002	2003	2001	2002	2002	2001	2001	2001

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 2001 - 2003	
ANNUAL TOTAL	138488.1		178544.9			
ANNUAL MEAN	379		489		393	
HIGHEST ANNUAL MEAN					489	
LOWEST ANNUAL MEAN					298	
HIGHEST DAILY MEAN	5210	Mar 21	3210	Feb 23	6580	May 19 2001
LOWEST DAILY MEAN	2.1	Sep 12	2.4	Oct 8	0.43	Oct 11 2001
ANNUAL SEVEN-DAY MINIMUM	2.6	Sep 9	4.6	Oct 3	0.68	Oct 8 2001
MAXIMUM PEAK FLOW			3510		7100	
MAXIMUM PEAK STAGE			18.45		23.56	
INSTANTANEOUS LOW FLOW			2.1		1.0	
ANNUAL RUNOFF (CFSM)	1.26		1.62		1.30	
ANNUAL RUNOFF (INCHES)	17.06		21.99		17.70	
10 PERCENT EXCEEDS	1130		1520		1150	
50 PERCENT EXCEEDS	87		211		103	
90 PERCENT EXCEEDS	4.9		40		3.6	

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

121

03219500 SCIOTO RIVER NEAR PROSPECT, OHIO

LOCATION.—Latitude 40°25'10", longitude 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 mi south of Prospect, Ohio, and 2.5 mi downstream from Patton Run.
DRAINAGE AREA.—567 mi².

WATER-DISCHARGE RECORDS

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, National Geodetic Vertical Datum of 1912 (levels by U.S. Army Corps of Engineers). July 24, 1925-Oct. 31, 1932, nonrecording gage at site 2.5 mi upstream at datum 4.8 ft higher; Oct. 16-Dec. 5, 1939, nonrecording gage at present site and datum.

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

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Mar. 25, 1913, reached a stage of 21.1 ft, discharge; 27,000 ft³/s, computed by Franklin County Conservancy District, at site and datum used 1925-32.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	181	39	309	3120	e88	e220	797	143	341	130	177	1250
2	102	36	305	4150	e87	e190	636	271	334	177	198	3060
3	61	32	228	3940	e86	e160	531	533	441	318	844	3660
4	43	29	167	2760	e160	e200	444	673	833	223	1450	4360
5	44	28	137	1370	e520	e400	1390	1120	966	233	1850	3840
6	36	33	123	773	e700	e900	2240	1760	689	372	1970	2330
7	29	41	150	605	e330	e1600	3050	2330	482	993	1480	865
8	26	38	97	527	e240	e1000	2930	1910	541	1640	724	485
9	23	34	110	703	e190	e1800	3120	2250	966	2810	511	320
10	20	45	80	1130	e170	2840	2540	3220	902	3230	346	244
11	19	904	70	1060	e160	3410	1410	4970	782	4270	237	194
12	18	1310	69	623	e140	2910	874	5240	613	4550	184	155
13	18	1130	67	e400	e120	3360	666	4640	658	3830	165	124
14	17	724	73	e330	e100	3830	537	3200	1660	2420	155	105
15	16	409	83	e280	e90	4560	442	1750	1770	1030	130	95
16	16	251	96	e220	e86	4340	386	1410	1980	583	117	90
17	16	190	113	e200	e80	3400	346	1310	1450	412	199	84
18	16	161	117	e170	e74	2620	319	936	746	299	134	78
19	16	138	375	e150	e70	1990	290	703	601	230	115	76
20	18	117	1740	e140	e64	1470	276	587	489	189	92	77
21	16	104	2150	e135	e62	1300	295	773	370	188	69	67
22	16	115	2370	e130	e60	1390	292	1010	301	451	61	87
23	17	188	1660	e120	e300	1430	296	729	252	930	56	250
24	17	367	801	e110	e1000	1050	263	528	212	799	50	324
25	17	553	533	e105	e840	741	231	419	181	486	46	290
26	33	618	361	e100	e500	793	209	345	157	297	45	247
27	37	515	269	e98	e350	1150	196	294	143	219	61	1570
28	36	377	247	e96	e160	996	183	262	132	487	80	2270
29	37	297	224	e94	---	958	166	242	136	502	185	2230
30	46	290	341	e92	---	1240	150	228	137	403	377	1780
31	45	---	1820	e90	---	1110	---	269	---	257	590	---
TOTAL	1052	9113	15285	23821	6827	53358	25505	44055	19265	32958	12698	30607
MEAN	33.9	304	493	768	244	1721	850	1421	642	1063	410	1020
MAX	181	1310	2370	4150	1000	4560	3120	5240	1980	4550	1970	4360
MIN	16	28	67	90	60	160	150	143	132	130	45	67
CFSM	0.06	0.54	0.87	1.36	0.43	3.04	1.50	2.51	1.13	1.88	0.72	1.80
IN.	0.07	0.60	1.00	1.56	0.45	3.50	1.67	2.89	1.26	2.16	0.83	2.01

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 2003, BY WATER YEAR (WY)

	MEAN	118	253	487	698	775	1004	893	508	409	271	123	106
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 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR
ANNUAL TOTAL	162921	274544												
ANNUAL MEAN	446	752												
HIGHEST ANNUAL MEAN											469			
LOWEST ANNUAL MEAN											833			1927
HIGHEST DAILY MEAN				4110	Feb 3		5240	May 12		10000	Mar 22	1927		
LOWEST DAILY MEAN				12	Sep 13		16	Oct 15		4.5	Sep 14	1953		
ANNUAL SEVEN-DAY MINIMUM				13	Sep 9		16	Oct 15		5.9	Sep 25	1941		
MAXIMUM PEAK FLOW							5300	May 12a		10100	Mar 22	1927		
MAXIMUM PEAK STAGE							11.01	May 12		15.00	Mar 22	1927		
INSTANTANEOUS LOW FLOW										3.5	Sep 13	1953		
ANNUAL RUNOFF (CFSM)				0.79			1.33			0.83				
ANNUAL RUNOFF (INCHES)				10.69			18.01			11.23				
10 PERCENT EXCEEDS				1170			2260			1300				
50 PERCENT EXCEEDS				187			296			130				
90 PERCENT EXCEEDS				16			45			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

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 TEMPERATURE: June 1998 to current year.

DISSOLVED OXYGEN: June 1998 to current year.

INSTRUMENTATION.—Water-quality monitor. Electronic data logger. Set for 1-hour interval. Satellite telemeter at station.

REMARKS.—Interruptions in the water-quality record are due to malfunction of the instrument except for Dec. 1-Apr. 8, when monitor was turned off for the winter. Water temperature records are good except Oct. 1, Nov. 13, and Nov. 26-Jan.22, which are fair. Specific conductance records are good except Oct. 1 and Oct. 17-Nov. 4, which are fair. pH records are good except Oct.1-Apr. 17, and Aug. 8-25, which are poor. Dissolved oxygen records are fair except Oct. 1-11, Oct. 17, Nov. 4, Nov. 13-Dec. 10, May 30-June 27, July 10-24, and Sept. 16-30, which are poor

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum, 1,830 microsiemens, Jan. 16, 1999; minimum, 245 microsiemens, Sept. 3, 2003.

pH: Maximum, 9.4 units, Nov. 28, 1999; minimum, 6.9 units, Apr. 10, 29, May 3 and 16, 2000.

WATER TEMPERATURE: Maximum, 32.5°C, July 31, 1999; minimum, 0.0°C, on many days during winter.

DISSOLVED OXYGEN: Maximum, 18.7 mg/L, Nov. 28, 1999; minimum, 0.9 mg/L, July 23, 1999.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum, 1,240 microsiemens, Dec. 17; minimum, 245 microsiemens, Sept. 3.

pH: Maximum, 8.2 units, many days; minimum, 7.0 units, Sept. 2 and 3.

WATER TEMPERATURE: Maximum, 26.5°C, Aug. 16, 21, and 26; minimum, 2.5°C, Nov. 30.

DISSOLVED OXYGEN: Maximum, 16.7 mg/L, Oct. 24; minimum, 2.8 mg/L, May 23.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	569	529	544	900	850	872	---	---	---	---	---	---
2	627	569	602	928	900	914	---	---	---	---	---	---
3	663	627	647	968	925	943	---	---	---	---	---	---
4	675	638	661	1020	966	982	---	---	---	---	---	---
5	673	648	664	973	911	944	---	---	---	---	---	---
6	706	669	690	953	919	940	---	---	---	---	---	---
7	753	618	717	964	914	933	---	---	---	---	---	---
8	802	747	773	938	918	928	---	---	---	---	---	---
9	810	721	788	949	938	943	---	---	---	---	---	---
10	839	810	826	945	621	879	---	---	---	---	---	---
11	826	800	815	785	468	630	---	---	---	---	---	---
12	804	775	790	527	401	469	---	---	---	---	---	---
13	797	773	782	502	478	492	---	---	---	---	---	---
14	830	797	814	560	501	529	---	---	---	---	---	---
15	869	829	853	607	556	580	---	---	---	---	---	---
16	902	869	884	663	603	636	---	---	---	---	---	---
17	944	896	920	723	663	692	---	---	---	---	---	---
18	960	938	948	743	723	733	---	---	---	---	---	---
19	969	948	956	762	738	748	---	---	---	---	---	---
20	990	967	975	780	762	771	---	---	---	---	---	---
21	1020	987	1000	813	780	798	---	---	---	---	---	---
22	1020	991	1010	818	798	806	---	---	---	---	---	---
23	992	950	970	808	779	790	---	---	---	---	---	---
24	978	952	962	828	767	798	---	---	---	---	---	---
25	995	913	964	767	705	726	---	---	---	---	---	---
26	1000	915	974	705	655	679	---	---	---	---	---	---
27	1020	981	1000	665	651	660	---	---	---	---	---	---
28	981	926	944	699	654	676	---	---	---	---	---	---
29	980	877	933	736	699	726	---	---	---	---	---	---
30	954	883	922	757	728	747	---	---	---	---	---	---
31	912	834	860	---	---	---	---	---	---	---	---	---
MONTH	1020	529	845	1020	401	765	---	---	---	---	---	---

SURFACE-WATER RECORDS
Scioto River Basin

03219500 SCIOTO RIVER NEAR PROSPECT, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER		MAX	NOVEMBER		MAX	DECEMBER		MAX	JANUARY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	7.5	7.3	7.4	7.7	7.5	7.6	---	---	---	---	---	---
2	7.6	7.5	7.5	7.7	7.4	7.5	---	---	---	---	---	---
3	7.7	7.5	7.6	7.6	7.4	7.5	---	---	---	---	---	---
4	7.7	7.5	7.6	7.7	7.4	7.6	---	---	---	---	---	---
5	7.8	7.6	7.6	7.6	7.4	7.5	---	---	---	---	---	---
6	7.9	7.5	7.7	7.6	7.4	7.5	---	---	---	---	---	---
7	7.9	7.6	7.7	7.7	7.3	7.5	---	---	---	---	---	---
8	7.8	7.5	7.7	7.7	7.3	7.4	---	---	---	---	---	---
9	7.8	7.5	7.6	7.7	7.3	7.5	---	---	---	---	---	---
10	7.8	7.5	7.7	7.7	7.4	7.5	---	---	---	---	---	---
11	8.0	7.6	7.8	7.5	7.3	7.4	---	---	---	---	---	---
12	8.0	7.7	7.9	7.4	7.2	7.3	---	---	---	---	---	---
13	8.2	7.8	7.9	7.6	7.1	7.4	---	---	---	---	---	---
14	8.1	7.6	7.9	7.7	7.6	7.6	---	---	---	---	---	---
15	8.2	7.7	8.0	7.7	7.6	7.6	---	---	---	---	---	---
16	8.2	7.9	8.0	7.8	7.7	7.7	---	---	---	---	---	---
17	8.1	7.8	8.0	7.7	7.6	7.7	---	---	---	---	---	---
18	8.2	7.9	8.0	7.7	7.6	7.6	---	---	---	---	---	---
19	8.2	7.9	8.1	8.0	7.6	7.6	---	---	---	---	---	---
20	8.2	7.9	8.0	7.8	7.6	7.6	---	---	---	---	---	---
21	8.2	7.9	8.0	8.1	7.6	7.7	---	---	---	---	---	---
22	8.2	7.8	8.0	8.0	7.6	7.7	---	---	---	---	---	---
23	8.1	7.9	8.0	7.7	7.6	7.7	---	---	---	---	---	---
24	8.1	7.9	8.0	7.7	7.6	7.6	---	---	---	---	---	---
25	8.0	7.8	7.9	7.7	7.6	7.6	---	---	---	---	---	---
26	7.9	7.8	7.8	7.7	7.6	7.6	---	---	---	---	---	---
27	7.9	7.7	7.8	7.7	7.6	7.6	---	---	---	---	---	---
28	7.9	7.7	7.8	7.7	7.6	7.6	---	---	---	---	---	---
29	7.9	7.7	7.8	7.6	7.5	7.6	---	---	---	---	---	---
30	7.8	7.7	7.7	7.7	7.5	7.6	---	---	---	---	---	---
31	7.7	7.6	7.7	---	---	---	---	---	---	---	---	---
MONTH	8.2	7.3	7.8	8.1	7.1	7.6	---	---	---	---	---	---

DAY	MAX	FEBRUARY		MAX	MARCH		MAX	APRIL		MAX	MAY		
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN	
1	---	---	---	---	---	---	---	---	---	---	---	---	
2	---	---	---	---	---	---	---	---	---	---	---	---	
3	---	---	---	---	---	---	---	---	---	---	---	---	
4	---	---	---	---	---	---	---	---	---	---	---	---	
5	---	---	---	---	---	---	---	---	---	---	---	---	
6	---	---	---	---	---	---	---	---	---	---	---	---	
7	---	---	---	---	---	---	---	---	---	7.5	7.4	7.4	
8	---	---	---	---	---	---	---	---	---	7.5	7.4	7.4	
9	---	---	---	---	---	---	---	7.8	7.3	7.5	7.5	7.2	7.4
10	---	---	---	---	---	---	---	7.6	7.2	7.4	7.3	7.2	7.2
11	---	---	---	---	---	---	---	7.8	7.3	7.4	7.3	7.2	7.2
12	---	---	---	---	---	---	---	7.7	7.4	7.6	7.4	7.3	7.3
13	---	---	---	---	---	---	---	7.8	7.5	7.6	7.3	7.2	7.2
14	---	---	---	---	---	---	---	7.7	7.4	7.6	7.3	7.2	7.2
15	---	---	---	---	---	---	---	7.5	7.4	7.4	7.3	7.2	7.3
16	---	---	---	---	---	---	---	7.5	7.4	7.4	7.3	7.2	7.3
17	---	---	---	---	---	---	---	7.8	7.4	7.5	7.3	7.2	7.3
18	---	---	---	---	---	---	---	7.6	7.5	7.5	7.3	7.3	7.3
19	---	---	---	---	---	---	---	7.7	7.5	7.6	7.4	7.3	7.4
20	---	---	---	---	---	---	---	7.7	7.6	7.7	7.5	7.4	7.4
21	---	---	---	---	---	---	---	7.8	7.6	7.7	7.5	7.4	7.5
22	---	---	---	---	---	---	---	7.8	7.7	7.7	7.5	7.4	7.4
23	---	---	---	---	---	---	---	7.8	7.6	7.7	7.4	7.3	7.3
24	---	---	---	---	---	---	---	7.9	7.6	7.8	7.5	7.3	7.4
25	---	---	---	---	---	---	---	7.8	7.7	7.8	7.5	7.4	7.5
26	---	---	---	---	---	---	---	8.0	7.7	7.8	7.5	7.3	7.5
27	---	---	---	---	---	---	---	8.1	7.8	7.9	7.4	7.3	7.4
28	---	---	---	---	---	---	---	---	---	---	7.4	7.1	7.3
29	---	---	---	---	---	---	---	---	---	---	7.2	7.1	7.1
30	---	---	---	---	---	---	---	---	---	---	7.7	7.1	7.5
31	---	---	---	---	---	---	---	---	---	---	7.5	7.5	7.5
MONTH	---	---	---	---	---	---	---	8.1	7.2	7.6	7.7	7.1	7.3

**SURFACE-WATER RECORDS
Scioto River Basin**

03219500 SCIOTO RIVER NEAR PROSPECT, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003—Continued

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	7.6	7.4	7.5	7.8	7.6	7.7	7.5	7.4	7.4	7.3	7.1	7.2
2	7.5	7.4	7.5	7.7	7.6	7.6	7.5	7.4	7.4	7.1	7.0	7.1
3	7.5	7.4	7.4	7.7	7.4	7.5	7.5	7.3	7.4	7.2	7.0	7.1
4	7.4	7.3	7.3	7.5	7.4	7.4	7.3	7.2	7.3	7.3	7.2	7.2
5	7.4	7.3	7.3	7.5	7.4	7.5	7.3	7.3	7.3	7.2	7.1	7.2
6	7.4	7.3	7.3	7.6	7.4	7.5	7.3	7.3	7.3	7.2	7.1	7.2
7	7.4	7.3	7.4	7.7	7.2	7.4	7.4	7.3	7.4	7.2	7.2	7.2
8	7.5	7.2	7.4	7.5	7.2	7.3	7.5	7.4	7.4	7.3	7.2	7.2
9	7.3	7.2	7.2	7.3	7.2	7.2	7.5	7.4	7.5	7.3	7.3	7.3
10	7.4	7.3	7.4	7.3	7.2	7.3	7.7	7.5	7.6	7.4	7.3	7.3
11	7.4	7.2	7.3	7.2	7.2	7.2	7.6	7.6	7.6	7.4	7.3	7.4
12	7.3	7.2	7.3	7.3	7.2	7.2	7.7	7.6	7.6	7.5	7.4	7.4
13	7.4	7.3	7.3	7.3	7.2	7.3	7.8	7.6	7.7	7.5	7.4	7.4
14	7.3	7.2	7.3	7.3	7.2	7.3	7.8	7.7	7.7	7.6	7.4	7.5
15	7.3	7.2	7.2	7.4	7.3	7.3	7.8	7.7	7.7	7.7	7.4	7.5
16	7.4	7.2	7.3	7.5	7.4	7.4	7.9	7.7	7.8	8.2	7.5	7.8
17	7.4	7.3	7.4	7.5	7.4	7.5	7.9	7.8	7.9	8.2	8.0	8.1
18	7.4	7.4	7.4	7.6	7.5	7.5	7.8	7.6	7.7	8.1	7.9	8.0
19	7.5	7.4	7.4	7.6	7.5	7.5	7.8	7.6	7.7	8.2	7.9	8.0
20	7.5	7.5	7.5	7.6	7.5	7.5	8.0	7.7	7.9	8.1	8.0	8.0
21	7.6	7.5	7.5	7.5	7.4	7.5	8.1	7.9	8.0	8.2	8.0	8.0
22	7.6	7.5	7.5	7.5	7.3	7.4	8.0	7.9	7.9	8.0	7.9	8.0
23	7.6	7.5	7.5	7.5	7.4	7.4	8.1	7.8	7.9	8.0	7.8	8.0
24	7.6	7.5	7.6	7.6	7.3	7.4	8.0	7.9	8.0	7.9	7.8	7.8
25	7.7	7.6	7.6	7.5	7.4	7.4	8.1	7.8	8.0	7.9	7.8	7.8
26	7.8	7.6	7.7	7.5	7.4	7.5	7.9	7.6	7.8	7.9	7.8	7.9
27	7.9	7.7	7.7	7.6	7.4	7.5	7.7	7.5	7.6	7.8	7.5	7.7
28	7.8	7.7	7.7	7.5	7.4	7.5	7.6	7.4	7.5	7.5	7.5	7.5
29	7.7	7.6	7.7	7.4	7.3	7.4	7.5	7.3	7.4	7.6	7.5	7.6
30	7.8	7.6	7.7	7.5	7.4	7.5	7.5	7.3	7.4	7.6	7.6	7.6
31	---	---	---	7.5	7.4	7.5	7.3	7.2	7.3	---	---	---
MONTH	7.9	7.2	7.4	7.8	7.2	7.4	8.1	7.2	7.6	8.2	7.0	7.6
YEAR	8.2	7.0	7.6									

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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

SURFACE-WATER RECORDS
Scioto River Basin

03219500 SCIOTO RIVER NEAR PROSPECT, OHIO—Continued

WATER-QUALITY RECORDS—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	---	---	---	15.0	11.6	13.0	---	---	---	---	---	---	
2	5.2	4.4	4.7	14.5	11.5	12.8	---	---	---	---	---	---	
3	5.3	4.1	4.6	14.0	10.3	11.8	---	---	---	---	---	---	
4	6.7	3.9	5.1	10.3	8.0	9.4	---	---	---	---	---	---	
5	7.4	6.0	6.8	10.8	7.5	8.9	---	---	---	---	---	---	
6	7.9	6.6	7.1	11.8	8.1	9.6	---	---	---	---	---	---	
7	8.8	6.8	7.7	14.8	9.2	11.3	---	---	---	---	---	---	
8	9.3	7.2	8.1	15.5	11.1	12.7	---	---	---	---	---	---	
9	9.7	7.3	8.3	13.5	9.9	11.4	---	---	---	---	---	---	
10	10.4	7.4	8.7	11.0	9.4	10.2	---	---	---	---	---	---	
11	13.5	7.5	9.9	---	---	---	---	---	---	---	---	---	
12	---	---	---	---	---	---	---	---	---	---	---	---	
13	---	---	---	---	---	---	---	---	---	---	---	---	
14	---	---	---	7.0	5.8	6.4	---	---	---	---	---	---	
15	---	---	---	8.4	7.0	8.0	---	---	---	---	---	---	
16	---	---	---	8.8	8.3	8.5	---	---	---	---	---	---	
17	---	---	---	9.3	8.7	9.0	---	---	---	---	---	---	
18	12.9	8.8	10.8	9.9	9.2	9.5	---	---	---	---	---	---	
19	13.0	8.1	10.4	10.7	9.7	10.2	---	---	---	---	---	---	
20	14.5	9.0	11.4	10.6	10.1	10.4	---	---	---	---	---	---	
21	14.2	8.9	11.4	10.3	9.3	9.9	---	---	---	---	---	---	
22	15.2	8.9	11.8	11.5	9.4	10.5	---	---	---	---	---	---	
23	16.4	9.3	12.7	10.9	10.4	10.7	---	---	---	---	---	---	
24	16.7	9.5	13.1	11.5	10.1	10.6	---	---	---	---	---	---	
25	13.6	9.9	11.5	11.9	11.1	11.3	---	---	---	---	---	---	
26	11.5	9.0	10	11.5	11.1	11.2	---	---	---	---	---	---	
27	10.8	8.5	9.4	12.9	11.5	12.1	---	---	---	---	---	---	
28	12.0	8.3	9.9	13.2	12.7	13.0	---	---	---	---	---	---	
29	12.7	10.0	11.2	13.2	12.7	13.0	---	---	---	---	---	---	
30	12.9	10.5	11.3	13.3	12.7	12.9	---	---	---	---	---	---	
31	14.8	10.6	12.3	---	---	---	---	---	---	---	---	---	
MONTH	16.7	3.9	9.5	15.5	5.8	10.7	---	---	---	---	---	---	

DAY	MAX	FEBRUARY			MARCH			APRIL			MAY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	---	---	---	---	---	---	---	---	---	---	---	---	
2	---	---	---	---	---	---	---	---	---	---	---	---	
3	---	---	---	---	---	---	---	---	---	---	---	---	
4	---	---	---	---	---	---	---	---	---	---	---	---	
5	---	---	---	---	---	---	---	---	---	---	---	---	
6	---	---	---	---	---	---	---	---	---	---	---	---	
7	---	---	---	---	---	---	---	---	---	7.5	6.4	6.8	
8	---	---	---	---	---	---	---	---	---	7.0	6.4	6.8	
9	---	---	---	---	---	---	11.0	9.5	10.2	8.2	6.0	7.2	
10	---	---	---	---	---	---	11.9	10.8	11.4	6.0	4.7	5.3	
11	---	---	---	---	---	---	11.9	9.8	11.1	4.7	4.0	4.4	
12	---	---	---	---	---	---	11.2	9.1	10.2	5.7	4.2	5.0	
13	---	---	---	---	---	---	12.0	9.9	10.9	6.5	5.7	6.1	
14	---	---	---	---	---	---	12.5	10.9	11.6	6.8	6.4	6.5	
15	---	---	---	---	---	---	11.1	3.6	8.4	6.6	6.4	6.5	
16	---	---	---	---	---	---	---	---	---	6.5	6.1	6.3	
17	---	---	---	---	---	---	---	---	---	7.2	6.5	6.9	
18	---	---	---	---	---	---	10.2	7.7	8.6	7.4	6.6	6.8	
19	---	---	---	---	---	---	10.1	8.3	8.7	7.7	7.2	7.4	
20	---	---	---	---	---	---	9.2	7.8	8.5	8.2	7.7	8.0	
21	---	---	---	---	---	---	9.7	7.8	8.5	8.2	7.3	7.9	
22	---	---	---	---	---	---	9.7	8.0	8.6	8.0	7.1	7.6	
23	---	---	---	---	---	---	11.1	8.9	10	7.1	2.8	4.6	
24	---	---	---	---	---	---	12.2	9.9	10.9	8.5	3.4	5.5	
25	---	---	---	---	---	---	11.1	10.0	10.6	8.9	6.8	7.9	
26	---	---	---	---	---	---	12.5	10.2	11.3	8.6	7.0	8.2	
27	---	---	---	---	---	---	13.1	10.4	11.3	---	---	---	
28	---	---	---	---	---	---	---	---	---	---	---	---	
29	---	---	---	---	---	---	---	---	---	---	---	---	
30	---	---	---	---	---	---	---	---	---	---	---	---	
31	---	---	---	---	---	---	---	---	---	7.9	7.2	7.5	
MONTH	---	---	---	---	---	---	13.1	3.6	10.0	8.9	2.8	6.6	

**SURFACE-WATER RECORDS
Scioto River Basin**

03220000 MILL CREEK NEAR BELLEPOINT, OHIO

LOCATION.—Latitude 40°14'54", longitude 83°10'26", Delaware County, Hydrologic Unit 05060001, on left bank at upstream side of county road bridge, 1.2 mi west of Bellepoint, Ohio, 1.5 mi upstream from mouth, and 2.3 mi downstream from Blues Creek.

DRAINAGE AREA.—178 mi².

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, National Geodetic Vertical Datum of 1912 (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 except for periods of estimated record, which are poor. Water-quality data formerly collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.—A stage of 18 ft occurred in Mar. 1913.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	59	41	72	2360	e18	e40	120	39	114	19	23	1100
2	38	28	69	1060	e18	e38	95	85	61	19	78	3350
3	28	21	57	376	e27	e50	74	85	549	18	163	2840
4	23	16	48	193	e100	e70	74	88	710	16	178	497
5	29	14	e40	134	e200	e400	1210	1300	230	158	113	198
6	29	20	e37	112	e110	1080	664	1550	122	1350	110	118
7	20	32	e33	98	e80	355	775	1310	84	1580	70	80
8	13	28	e30	94	e60	405	1120	1390	182	2250	45	57
9	15	31	e27	352	e45	1790	384	2760	574	3550	107	47
10	12	149	e24	354	e36	954	202	3220	131	2100	66	41
11	9.5	1760	e23	149	e27	529	141	1970	1230	444	45	33
12	11	919	e22	92	e22	783	105	619	1030	194	111	28
13	10	220	e25	e70	e19	1210	81	240	900	115	139	25
14	6.3	125	56	e60	e18	1580	66	152	3480	77	70	23
15	6.7	87	86	e54	e16	876	59	241	2150	60	43	21
16	6.2	84	128	e50	e15	833	53	305	350	62	35	19
17	6.3	83	102	e45	e14	641	50	189	165	51	96	17
18	7.2	71	108	e40	e14	418	54	127	119	41	49	16
19	5.5	61	948	e37	e13	260	52	103	96	34	49	17
20	7.7	53	2380	e34	e12	271	50	214	75	27	33	16
21	7.4	47	1180	e31	e12	450	119	347	60	29	24	16
22	7.8	58	324	e30	e12	482	128	123	49	62	21	23
23	5.3	106	182	e27	e500	205	81	84	40	93	19	84
24	6.8	170	122	e25	e900	129	60	65	38	75	15	95
25	8.7	219	98	e23	e200	95	52	53	34	55	12	48
26	105	179	77	e22	e100	208	49	48	28	39	11	31
27	72	116	64	e21	e70	195	44	44	29	29	12	1530
28	55	90	57	e20	e50	114	39	43	29	24	23	1620
29	31	76	56	e20	---	513	39	41	24	26	40	333
30	28	75	360	e19	---	570	39	45	24	23	1080	155
31	33	---	2050	e19	---	187	---	85	---	21	597	---
TOTAL	702.4	4979	8885	6021	2708	15731	6079	16965	12707	12641	3477	12478
MEAN	22.7	166	287	194	96.7	507	203	547	424	408	112	416
MAX	105	1760	2380	2360	900	1790	1210	3220	3480	3550	1080	3350
MIN	5.3	14	22	19	12	38	39	39	24	16	11	16
CFSM	0.13	0.93	1.61	1.09	0.54	2.85	1.14	3.07	2.38	2.29	0.63	2.34
IN.	0.15	1.04	1.86	1.26	0.57	3.29	1.27	3.55	2.66	2.64	0.73	2.61

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1944 - 2003, BY WATER YEAR (WY)												
	29.1	96.6	173	248	279	326	296	186	149	82.1	39.1	32.0
MEAN	29.1	96.6	173	248	279	326	296	186	149	82.1	39.1	32.0
MAX	449	553	1130	1227	768	963	874	746	734	769	332	416
(WY)	1987	1973	1991	1950	1975	1978	1972	1996	1997	1992	1979	2003
MIN	0.90	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 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1944 - 2003	
ANNUAL TOTAL			66507.5		103373.4			
ANNUAL MEAN			182		283		161	
HIGHEST ANNUAL MEAN							283	2003
LOWEST ANNUAL MEAN							51.4	1954
HIGHEST DAILY MEAN			2560	Apr 15	3550	Jul 9	12600	Jan 22 1959
LOWEST DAILY MEAN			2.3	Sep 5	5.3	Oct 23	0.00	Sep 25 1944
ANNUAL SEVEN-DAY MINIMUM			3.8	Sep 1	6.6	Oct 14	0.13	Sep 21 1944
MAXIMUM PEAK FLOW					4560	May 9a	21800	Jun 2 1997
MAXIMUM PEAK STAGE					8.33	May 9	14.45	Jun 2 1997
INSTANTANEOUS LOW FLOW							0.00	Sep 25 1977
ANNUAL RUNOFF (CFSM)			1.02		1.59		0.90	
ANNUAL RUNOFF (INCHES)			13.90		21.60		12.27	
10 PERCENT EXCEEDS			400		931		361	
50 PERCENT EXCEEDS			56		66		29	
90 PERCENT EXCEEDS			5.9		17		4.2	

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

SURFACE-WATER RECORDS
Scioto River Basin

03220510 SCIOTO RIVER AT O'SHAUGHNESSY DAM, OHIO

LOCATION.—Latitude 40°09'14", longitude 83°07'33", Delaware County, Hydrologic Unit 05060001, 200 ft downstream from dam.
DRAINAGE AREA.—979 mi².

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 TEMPERATURE: June 1998 to current year.

DISSOLVED OXYGEN: June 1998 to current year.

INSTRUMENTATION.—Water-quality monitor. Electronic data logger. Set for 1-hour interval. Satellite telemeter at station.

REMARKS.—Interruptions in the water-quality record are due to malfunction of the instrument. Specific conductance records are good except Dec. 23-Feb. 7 and Aug. 27-Sept. 4, which are fair. pH records are good except Aug. 25-Sept. 5, which are fair. Water temperature records are good except Dec. 4, 5, 23, Jan. 28, 29, Feb. 7, 27, 28, Apr. 1, June 9, July 5, 6, 8, Aug. 25, and 26, which are fair. Dissolved oxygen records are fair except Nov. 4-7, Dec. 17-Feb. 7, June 9-24, and Sept. 5-16, which are poor.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum, 1,400 microsiemens, Dec. 21, 1998; minimum, 229 microsiemens, Apr. 9, 2000.

pH: Maximum, 9.1 units, Apr. 8, 2001; minimum, 5.8 units Mar. 28, 2002

WATER TEMPERATURE: Maximum, 30.5°C, July 30, 1999; minimum, 0.5°C, on many days during winter.

DISSOLVED OXYGEN: Maximum, 17.5 mg/L, May 12, 2001; minimum, 0.2 mg/L, Aug. 13,14, 1999, Aug. 25 and 26, 2000.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum, 939 microsiemens, Nov. 10; minimum, 230 microsiemens, Sept. 4.

pH: Maximum, 8.2 units, June 27, July 7, 8, and July 22; minimum, 7.0 units, Nov. 10, June 15, 18, 20, 23, Aug. 2, and 30.

WATER TEMPERATURE: Maximum, 28.0°C, July 3; minimum, 0.5°C, many days in Feb. and Mar.

DISSOLVED OXYGEN: Maximum, 15.7 mg/L, Jan. 11; minimum, 0.3 mg/L, Aug. 22.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	657	650	653	694	680	684	640	423	523
2	---	---	---	660	652	656	696	676	689	423	362	376
3	---	---	---	710	657	675	702	682	693	381	365	372
4	658	547	617	709	668	684	707	702	705	424	381	397
5	661	547	617	707	669	680	709	705	707	462	424	446
6	656	576	618	709	675	693	---	---	---	505	454	469
7	630	590	618	725	674	691	---	---	---	572	504	533
8	628	621	624	706	688	699	---	---	---	605	569	582
9	622	611	616	714	699	709	---	---	---	600	548	578
10	618	606	613	939	703	731	---	---	---	550	530	538
11	620	606	613	857	650	706	---	---	---	671	540	617
12	622	615	619	680	607	636	---	---	---	689	633	662
13	626	613	620	632	600	615	---	---	---	722	689	705
14	630	621	625	619	567	588	---	---	---	698	689	693
15	630	625	627	579	561	569	---	---	---	706	696	700
16	636	622	628	579	555	564	---	---	---	708	685	698
17	633	626	631	587	577	583	---	---	---	701	690	695
18	637	630	633	590	577	582	---	---	---	704	692	700
19	647	637	642	592	576	587	---	---	---	714	693	708
20	649	642	646	607	585	596	---	---	---	728	708	718
21	645	626	635	623	590	602	---	---	---	734	713	724
22	679	624	639	652	613	629	---	---	---	739	728	734
23	648	636	641	635	610	618	478	448	467	739	729	734
24	640	625	632	616	607	612	499	478	491	737	727	733
25	694	625	639	617	597	605	575	491	532	748	734	741
26	663	646	652	602	589	595	592	565	583	758	745	751
27	681	658	673	625	593	612	636	592	617	762	751	755
28	675	664	670	722	625	671	657	632	642	769	756	764
29	671	648	665	750	714	737	657	649	653	784	772	777
30	711	669	679	714	686	700	700	644	661	790	777	782
31	685	647	666	---	---	---	660	630	642	789	777	783
MONTH	711	547	636	939	555	643	709	448	626	790	362	645

SURFACE-WATER RECORDS
Scioto River Basin

03220510 SCIOTO RIVER AT O'SHAUGHNESSY DAM, OHIO—CONTINUED

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER		MAX	NOVEMBER		MAX	DECEMBER		MAX	JANUARY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	---	---	---	7.7	7.5	7.6	7.7	7.6	7.6	7.9	7.7	7.8
2	---	---	---	7.7	7.5	7.6	7.8	7.6	7.6	7.7	7.6	7.6
3	---	---	---	7.7	7.5	7.6	7.7	7.6	7.6	7.6	7.6	7.6
4	7.5	7.1	7.3	7.8	7.7	7.7	7.7	7.6	7.7	7.7	7.6	7.6
5	7.5	7.1	7.3	7.8	7.6	7.7	7.7	7.6	7.7	7.7	7.6	7.7
6	7.4	7.2	7.3	7.7	7.4	7.6	---	---	---	7.7	7.6	7.7
7	7.5	7.2	7.4	7.8	7.4	7.6	---	---	---	7.6	7.5	7.5
8	7.6	7.4	7.5	8.0	7.2	7.8	---	---	---	7.5	7.4	7.5
9	7.4	7.3	7.4	7.8	7.2	7.7	---	---	---	7.8	7.5	7.7
10	7.4	7.3	7.3	7.9	7.0	7.7	---	---	---	7.8	7.8	7.8
11	7.3	7.2	7.3	8.0	7.2	7.7	---	---	---	8.0	7.8	7.9
12	7.2	7.1	7.2	8.0	7.8	7.9	---	---	---	7.9	7.6	7.8
13	7.3	7.1	7.2	7.8	7.7	7.7	---	---	---	7.7	7.6	7.6
14	7.4	7.2	7.3	7.7	7.4	7.6	---	---	---	7.7	7.6	7.6
15	7.4	7.2	7.3	7.4	7.3	7.3	---	---	---	7.6	7.6	7.6
16	7.4	7.2	7.3	7.3	7.3	7.3	---	---	---	7.7	7.6	7.6
17	7.5	7.2	7.3	7.3	7.2	7.2	---	---	---	7.7	7.6	7.6
18	7.4	7.2	7.3	7.3	7.2	7.3	---	---	---	7.7	7.6	7.7
19	7.3	7.2	7.3	7.3	7.2	7.3	---	---	---	7.7	7.6	7.7
20	7.4	7.3	7.3	7.4	7.2	7.3	---	---	---	7.7	7.6	7.7
21	7.4	7.3	7.3	7.4	7.3	7.3	---	---	---	7.7	7.6	7.7
22	7.4	7.2	7.3	7.3	7.3	7.3	---	---	---	7.7	7.7	7.7
23	7.4	7.2	7.3	7.3	7.3	7.3	7.7	7.4	7.7	7.8	7.7	7.7
24	7.5	7.3	7.4	7.4	7.3	7.4	7.7	7.6	7.7	7.8	7.7	7.7
25	7.5	7.2	7.4	7.6	7.4	7.5	7.6	7.4	7.5	7.8	7.7	7.7
26	7.4	7.3	7.3	7.6	7.6	7.6	7.4	7.4	7.4	7.8	7.7	7.7
27	7.3	7.2	7.2	7.6	7.5	7.5	7.5	7.4	7.4	7.8	7.7	7.8
28	7.4	7.2	7.3	7.6	7.5	7.5	7.5	7.4	7.5	---	---	---
29	7.4	7.3	7.3	7.7	7.6	7.6	7.5	7.5	7.5	7.8	7.7	7.7
30	7.3	7.2	7.3	7.6	7.6	7.6	7.8	7.5	7.6	7.8	7.7	7.7
31	7.6	7.3	7.4	---	---	---	7.9	7.8	7.9	7.8	7.7	7.8
MONTH	7.6	7.1	7.3	8.0	7.0	7.5	7.9	7.4	7.6	8.0	7.4	7.7

DAY	MAX	FEBRUARY		MAX	MARCH		MAX	APRIL		MAX	MAY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	7.8	7.7	7.7	7.4	7.4	7.4	8.0	7.7	7.9	7.8	7.4	7.6
2	7.8	7.7	7.7	7.4	7.4	7.4	7.7	7.5	7.6	8.1	7.6	7.8
3	7.7	7.7	7.7	7.4	7.4	7.4	7.5	7.4	7.5	8.0	7.8	7.8
4	7.8	7.6	7.7	7.5	7.4	7.5	7.5	7.4	7.4	7.9	7.8	7.8
5	8.0	7.8	7.9	7.9	7.5	7.7	7.9	7.4	7.8	8.1	7.8	7.9
6	8.0	7.9	7.9	7.9	7.7	7.8	7.9	7.8	7.9	8.0	7.8	7.9
7	7.9	7.7	7.8	7.7	7.6	7.6	7.8	7.7	7.7	7.9	7.5	7.7
8	7.8	7.7	7.7	7.6	7.5	7.5	7.7	7.6	7.6	7.6	7.5	7.5
9	7.7	7.6	7.7	7.6	7.5	7.6	7.7	7.6	7.7	7.5	7.4	7.4
10	7.7	7.6	7.6	7.5	7.4	7.5	7.7	7.7	7.7	7.5	7.3	7.3
11	7.6	7.6	7.6	7.4	7.4	7.4	7.7	7.7	7.7	7.3	7.3	7.3
12	7.6	7.6	7.6	7.4	7.4	7.4	7.7	7.6	7.7	7.3	7.3	7.3
13	7.7	7.6	7.6	7.5	7.4	7.5	7.6	7.4	7.6	7.3	7.3	7.3
14	7.7	7.6	7.6	7.5	7.4	7.5	7.4	7.3	7.4	7.3	7.3	7.3
15	7.7	7.6	7.6	7.5	7.4	7.5	7.4	7.3	7.3	7.8	7.3	7.4
16	7.7	7.6	7.7	7.5	7.4	7.4	7.4	7.4	7.4	7.5	7.4	7.4
17	7.8	7.6	7.7	7.5	7.4	7.5	7.6	7.4	7.5	7.5	7.3	7.4
18	7.8	7.7	7.7	7.6	7.5	7.5	7.5	7.4	7.4	7.4	7.3	7.4
19	7.8	7.7	7.7	7.6	7.5	7.6	7.5	7.4	7.4	7.4	7.4	7.4
20	7.8	7.7	7.7	7.6	7.6	7.6	7.6	7.3	7.4	7.5	7.4	7.4
21	7.8	7.7	7.7	7.8	7.5	7.7	7.4	7.3	7.4	7.5	7.4	7.5
22	7.7	7.6	7.7	7.9	7.8	7.9	7.6	7.4	7.5	7.5	7.4	7.5
23	7.9	7.7	7.9	7.9	7.9	7.9	7.7	7.5	7.6	7.6	7.5	7.5
24	8.0	7.9	7.9	7.9	7.9	7.9	7.6	7.5	7.5	7.5	7.3	7.4
25	7.9	7.7	7.8	7.9	7.8	7.9	7.7	7.4	7.5	7.5	7.3	7.4
26	7.7	7.6	7.7	8.0	7.8	7.9	7.7	7.5	7.6	7.5	7.3	7.4
27	7.6	7.4	7.5	7.9	7.9	7.9	7.9	7.5	7.6	7.8	7.3	7.5
28	7.4	7.4	7.4	8.0	7.9	8.0	7.8	7.5	7.6	7.7	7.2	7.6
29	---	---	---	8.0	8.0	8.0	8.1	7.5	7.8	7.7	7.3	7.5
30	---	---	---	8.0	8.0	8.0	8.0	7.5	7.8	7.6	7.3	7.5
31	---	---	---	8.1	8.0	8.0	---	---	---	7.5	7.2	7.3
MONTH	8.0	7.4	7.7	8.1	7.4	7.7	8.1	7.3	7.6	8.1	7.2	7.5

**SURFACE-WATER RECORDS
Scioto River Basin**

03220510 SCIOTO RIVER AT O'SHAUGHNESSY DAM, OHIO—CONTINUED

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003—Continued

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	7.6	7.4	7.5	8.0	7.5	7.8	7.3	7.1	7.3	7.7	7.1	7.3
2	7.6	7.5	7.5	7.9	7.5	7.7	7.2	7.0	7.1	7.7	7.6	7.6
3	7.6	7.4	7.4	8.1	7.6	7.8	7.6	7.2	7.4	7.6	7.4	7.5
4	7.6	7.5	7.5	7.8	7.6	7.6	7.9	7.2	7.5	---	---	---
5	7.6	7.4	7.5	7.6	7.4	7.6	7.8	7.4	7.6	---	---	---
6	7.6	7.3	7.5	8.0	7.7	7.9	7.9	7.7	7.8	7.5	7.4	7.5
7	7.7	7.3	7.4	8.2	7.6	7.8	7.8	7.2	7.6	7.5	7.2	7.3
8	7.5	7.3	7.4	8.2	7.6	7.8	7.6	7.2	7.4	7.3	7.2	7.3
9	8.1	7.3	7.7	7.6	7.4	7.5	7.5	7.3	7.4	7.4	7.2	7.3
10	7.8	7.2	7.6	7.5	7.4	7.5	7.5	7.3	7.4	7.3	7.2	7.3
11	7.8	7.4	7.6	7.6	7.4	7.5	7.5	7.3	7.4	7.4	7.2	7.3
12	7.7	7.4	7.5	7.4	7.4	7.4	7.7	7.3	7.5	7.3	7.2	7.3
13	7.6	7.2	7.4	7.7	7.4	7.4	8.0	7.4	7.7	7.4	7.2	7.3
14	7.7	7.4	7.6	7.8	7.4	7.5	7.7	7.2	7.5	7.4	7.2	7.3
15	7.5	7.0	7.3	7.8	7.3	7.7	7.6	7.2	7.3	7.5	7.2	7.4
16	7.4	7.1	7.3	7.7	7.5	7.6	7.8	7.2	7.5	7.5	7.0	7.4
17	7.3	7.2	7.2	7.5	7.3	7.4	7.7	7.3	7.5	7.5	7.2	7.4
18	7.3	7.0	7.2	7.8	7.3	7.5	7.9	7.4	7.6	7.6	7.3	7.5
19	7.4	7.1	7.3	7.9	7.5	7.7	7.7	7.4	7.6	8.0	7.5	7.8
20	7.4	7.0	7.3	7.8	7.2	7.5	7.5	7.3	7.4	8.1	7.6	7.8
21	7.4	7.1	7.3	7.5	7.3	7.4	7.4	7.2	7.3	7.7	7.4	7.6
22	7.4	7.1	7.3	8.2	7.4	7.8	7.4	7.3	7.3	7.5	7.2	7.3
23	7.4	7.0	7.2	8.1	7.9	8.0	7.9	7.3	7.6	7.4	7.3	7.4
24	7.5	7.1	7.3	7.9	7.2	7.4	7.8	7.3	7.5	7.5	7.4	7.4
25	7.4	7.3	7.3	7.3	7.2	7.3	---	---	---	7.6	7.4	7.5
26	7.5	7.3	7.4	7.4	7.2	7.3	---	---	---	7.6	7.5	7.5
27	8.2	7.4	7.8	7.2	7.2	7.2	---	---	---	8.0	7.3	7.8
28	7.9	7.4	7.7	7.5	7.2	7.4	7.8	7.3	7.5	8.0	7.7	7.9
29	7.8	7.4	7.6	7.7	7.4	7.5	7.4	7.1	7.3	7.7	7.5	7.5
30	8.0	7.4	7.7	7.8	7.4	7.6	8.1	7.0	7.6	7.5	7.4	7.5
31	---	---	---	7.6	7.3	7.4	7.5	7.2	7.3	---	---	---
MONTH	8.2	7.0	7.4	8.2	7.2	7.6	8.1	7.0	7.5	8.1	7.0	7.5
YEAR	8.2	7.0	7.5									

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

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

SURFACE-WATER RECORDS
Scioto River Basin

03220510 SCIOTO RIVER AT O'SHAUGHNESSY DAM, OHIO—CONTINUED

WATER-QUALITY RECORDS—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	---	---	---	9.4	7.5	8.4	12.5	11.6	12.0	15.2	14.4	14.6	
2	---	---	---	10.9	8.5	9.0	12.8	11.5	12.0	14.8	14.5	14.6	
3	---	---	---	10.6	8.7	9.4	12.9	12.0	12.5	15.3	14.8	15.0	
4	5.7	4.0	4.9	10.2	8.7	9.4	13.3	12.3	12.7	15.5	15.2	15.3	
5	7.1	4.0	5.8	9.5	8.4	8.8	13.5	12.5	13.0	15.4	15.2	15.3	
6	6.5	3.6	5.2	9.4	8.3	8.7	---	---	---	15.4	15.3	15.4	
7	7.5	3.7	6.0	9.4	8.0	8.5	---	---	---	15.4	14.5	15.0	
8	8.0	5.9	6.8	9.1	7.8	8.2	---	---	---	14.5	14.1	14.3	
9	7.0	5.0	6.0	8.9	7.8	8.3	---	---	---	15.2	14.1	14.8	
10	7.0	3.9	5.6	9.3	8.1	8.5	---	---	---	15.5	15.2	15.4	
11	6.0	3.5	4.7	11.3	8.5	10.6	---	---	---	15.7	15.5	15.6	
12	4.7	3.3	3.8	11.5	10.8	11.1	---	---	---	15.6	14.6	15.2	
13	7.0	3.3	4.8	10.9	10.8	10.8	---	---	---	14.6	14.4	14.5	
14	7.5	4.9	5.9	10.8	9.8	10.4	---	---	---	14.7	14.5	14.6	
15	7.6	4.9	5.9	9.8	8.3	8.9	---	---	---	15.0	14.4	14.7	
16	9.0	4.6	6.5	9.1	8.3	8.7	---	---	---	15.1	14.4	14.7	
17	9.5	5.7	6.5	8.4	7.3	7.7	---	---	---	15.1	14.3	14.6	
18	7.4	5.5	6.2	8.4	7.2	7.6	---	---	---	15.2	14.4	14.6	
19	7.6	5.4	6.3	7.7	7.2	7.4	---	---	---	15.3	14.1	14.6	
20	8.5	6.4	6.9	8.3	7.4	7.9	---	---	---	15.0	14.0	14.3	
21	8.7	5.5	6.8	8.9	7.9	8.3	---	---	---	14.9	14.1	14.4	
22	7.6	5.5	6.4	9.1	8.3	8.7	---	---	---	15.2	14.2	14.6	
23	8.6	5.4	7.0	9.2	8.6	8.8	14.1	13.9	14.0	15.4	14.3	14.7	
24	9.6	6.6	7.5	10.6	8.9	10	14.1	13.7	13.9	15.4	14.3	14.7	
25	8.3	6.7	7.6	12.0	10.6	11.5	13.7	13.4	13.6	15.1	14.1	14.5	
26	7.5	6.3	6.8	12.4	12.0	12.2	13.9	13.5	13.8	14.7	14.0	14.3	
27	8.0	6.4	7.3	12.3	11.4	11.8	14.0	13.7	13.8	15.2	14.2	14.6	
28	9.3	7.2	8.2	11.5	11.2	11.3	14.2	13.7	13.8	---	---	---	
29	8.7	7.5	8.1	11.8	11.1	11.4	14.3	13.8	14.0	---	---	---	
30	8.3	7.3	7.7	11.7	10.9	11.3	14.9	13.7	14.0	15.0	13.9	14.3	
31	8.6	7.5	7.9	---	---	---	15.5	14.9	15.2	15.5	13.6	14.2	
MONTH	9.6	3.3	6.4	12.4	7.2	9.5	15.5	11.5	13.4	15.7	13.6	14.7	

DAY	MAX	FEBRUARY			MARCH			APRIL			MAY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	14.5	13.5	13.9	14.3	13.9	14.1	---	---	---	13.7	8.4	10.7	
2	14.9	13.4	13.9	14.2	13.8	14.0	11.4	10.6	11.1	12.5	8.4	9.8	
3	14.3	12.8	13.5	14.6	14.0	14.3	10.9	10.0	10.5	10.4	8.7	9.5	
4	14.2	12.8	13.6	14.4	13.8	14.1	10.5	9.8	10.1	10.5	9.5	10.0	
5	14.6	14.2	14.5	15.4	13.8	14.7	11.4	9.8	11.0	11.5	9.9	11.0	
6	14.6	14.3	14.4	15.6	15.3	15.5	11.8	11.3	11.5	11.3	10.8	11.2	
7	14.3	13.4	13.8	15.5	15.3	15.4	12.6	11.8	12.1	11.0	10.4	10.7	
8	13.8	13.3	13.5	15.4	15.0	15.2	13.2	12.6	12.9	11.0	10.3	10.7	
9	13.8	13.2	13.5	15.5	15.3	15.4	13.3	13.1	13.2	10.8	9.7	10.3	
10	13.7	13.1	13.4	15.6	15.4	15.5	13.5	13.2	13.3	10.6	9.9	10.2	
11	13.7	13.1	13.4	15.6	15.3	15.4	13.3	12.9	13.1	10.4	9.7	10	
12	14.1	13.0	13.6	15.5	15.3	15.4	13.1	12.7	12.9	9.9	9.1	9.7	
13	14.4	13.4	13.7	15.4	15.2	15.3	12.8	11.3	12.3	9.1	8.1	8.7	
14	14.2	13.4	13.7	15.5	15.3	15.4	12.0	11.4	11.7	8.4	7.8	8.1	
15	14.2	13.2	13.6	15.5	15.1	15.3	12.1	11.2	11.8	10.9	7.3	8.1	
16	14.1	13.3	13.6	15.2	14.4	14.8	11.7	10.4	11.2	7.5	7.1	7.3	
17	14.1	13.3	13.5	14.5	13.5	14.0	11.1	9.3	10.4	7.5	6.7	7.1	
18	14.0	13.3	13.6	13.5	12.6	13.1	11.8	9.2	10.4	7.0	6.7	6.9	
19	14.1	13.3	13.7	13.0	12.5	12.7	11.8	9.9	10.7	6.9	6.7	6.8	
20	14.5	13.4	13.9	12.5	11.8	12.1	12.5	9.6	10.6	7.5	6.3	6.7	
21	14.3	13.1	13.7	12.4	11.5	11.8	10.8	9.4	10	7.9	7.4	7.7	
22	13.4	12.7	13.0	13.2	11.7	12.7	11.2	9.4	10.0	7.7	7.4	7.6	
23	14.7	13.3	14.3	13.2	11.4	12.3	11.7	9.3	10.2	7.9	7.4	7.6	
24	15.1	14.7	14.8	---	---	---	12.4	9.3	10.5	7.4	6.0	6.7	
25	15.2	15.1	15.2	---	---	---	13.1	8.9	10.3	7.5	6.1	6.6	
26	15.2	15.0	15.1	---	---	---	12.6	8.8	10.3	8.6	5.6	7.2	
27	15.0	14.4	14.6	---	---	---	14.5	9.1	11.1	10.2	7.7	9.0	
28	14.3	14.2	14.3	---	---	---	14.7	9.3	11.5	9.4	6.3	7.9	
29	---	---	---	---	---	---	13.6	7.9	10.6	8.2	5.4	6.8	
30	---	---	---	---	---	---	13.7	7.6	10.4	8.8	5.0	7.3	
31	---	---	---	---	---	---	---	---	---	8.1	4.6	6.3	
MONTH	15.2	12.7	13.9	15.6	11.4	14.3	14.7	7.6	11.2	13.7	4.6	8.5	

SURFACE-WATER RECORDS
Scioto River Basin

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

LOCATION.—Latitude 40°08'36", longitude 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 mi north of Dublin, Ohio.

DRAINAGE AREA.—980 mi².

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, National Geodetic Vertical Datum of 1912. Prior to Aug. 26, 1921, nonrecording gage at site 0.8 mi upstream at same datum; Aug. 26, 1921-Oct. 13, 1924, nonrecording gage at site 100 ft downstream at same datum.

REMARKS.—Records fair except for periods of estimated records, which are poor. Flow regulated since 1924 by O'Shaughnessy Reservoir 0.8 mi upstream. Water-quality data formerly collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Mar. 25, 1913, reached a stage of 24.6 ft, discharge; 74,500 ft³/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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	451	36	509	7440	168	601	1200	204	523	186	291	2380
2	299	38	536	6830	178	555	909	341	602	196	102	9130
3	195	42	436	5150	212	596	759	563	937	335	653	9280
4	142	44	341	3740	561	610	690	729	1760	415	1620	6630
5	132	46	324	2100	1070	2020	2830	2450	1480	439	1660	4730
6	106	300	265	1110	982	3830	3920	4470	1010	1810	2030	3220
7	105	198	201	827	739	2810	4630	4190	741	3090	1850	1460
8	74	35	224	733	479	2840	5440	4690	674	5060	985	675
9	71	38	166	1080	e370	6360	4310	6700	1930	8970	674	559
10	69	69	165	1800	e310	5020	3540	9170	1210	7570	631	459
11	66	2560	172	1480	e280	4770	2140	9390	3150	5740	540	389
12	63	3170	150	933	e230	4900	1260	7510	2660	5070	427	280
13	60	1920	163	637	e200	5850	910	5680	2090	4410	621	186
14	50	1110	244	633	e180	7430	720	4220	8280	3040	360	188
15	49	716	291	481	e170	7290	613	2780	6070	1530	254	288
16	54	559	383	391	e160	6380	547	2200	3560	782	308	183
17	47	431	378	e340	e150	5140	497	1990	2210	598	203	176
18	47	387	367	e320	e145	4050	459	1380	1260	522	233	180
19	46	357	1220	e300	e140	2990	420	1010	831	414	485	54
20	45	312	5260	e270	e135	2300	408	970	630	353	234	32
21	43	278	4770	e250	e130	2130	522	1390	577	370	180	53
22	52	322	3290	e230	e200	2410	534	1240	508	501	78	197
23	46	404	2380	e210	e900	2000	463	1040	438	1030	35	349
24	42	608	1240	e190	2350	1550	401	737	389	1120	34	514
25	e49	836	808	e175	1900	1070	365	571	388	737	36	477
26	e46	960	622	e180	1380	1110	330	622	411	440	209	482
27	48	782	510	e155	906	1470	270	520	408	412	59	3700
28	94	638	447	e155	732	1400	261	253	113	497	364	5370
29	387	549	425	e160	---	1720	253	156	39	530	171	3820
30	358	517	639	e160	---	2450	207	365	113	526	2700	2430
31	139	---	4450	e160	---	1730	---	459	---	564	1450	---
TOTAL	3475	18262	31376	38620	15357	95382	39808	77990	44992	57257	19477	57871
MEAN	112	609	1012	1246	548	3077	1327	2516	1500	1847	628	1929
MAX	451	3170	5260	7440	2350	7430	5440	9390	8280	8970	2700	9280
MIN	42	35	150	155	130	555	207	156	39	186	34	32

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2003, BY WATER YEAR (WY)

MEAN	184	423	829	1268	1402	1778	1542	911	712	445	241	171
MAX	2626	3426	4794	6397	4072	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 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1921 - 2003

ANNUAL TOTAL	298739	499867										
ANNUAL MEAN	818	1369								824		
HIGHEST ANNUAL MEAN										1458		1973
LOWEST ANNUAL MEAN										190		1934
HIGHEST DAILY MEAN	8100	Apr 15				9390	May 11			42900	Jan 22	1959
LOWEST DAILY MEAN	16	Sep 16				32	Sep 20			0.40	Nov 8	1924
ANNUAL SEVEN-DAY MINIMUM	40	Sep 16				46	Oct 18			1.1	Nov 14	1953
MAXIMUM PEAK FLOW						10500	May 9			42900	Jan 22	1959
MAXIMUM PEAK STAGE						10.51	May 9			22.04	Jan 22	1959
INSTANTANEOUS LOW FLOW										7.1	Dec 6	1999
10 PERCENT EXCEEDS	2360					4430				2270		
50 PERCENT EXCEEDS	358					523				209		
90 PERCENT EXCEEDS	46					76				42		

e Estimated.

SURFACE-WATER RECORDS
Scioto River Basin

03223425 WHETSTONE CREEK AT MOUNT GILEAD, OHIO

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

DRAINAGE AREA.—37.9 mi².

PERIOD OF RECORD.—October 1996 to current year.

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

REMARKS.—Records fair except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.89	0.89	4.2	210	e3.1	e10	31	14	19	4.6	6.0	133
2	0.83	0.87	4.0	188	e3.0	e9.6	26	181	13	4.1	15	260
3	0.80	0.86	3.6	185	6.0	e20	22	66	27	3.5	22	79
4	1.00	11	3.2	33	146	e18	22	36	30	3.7	42	33
5	0.92	47	3.2	28	e60	186	499	242	21	5.3	22	19
6	0.81	42	3.2	26	e30	89	155	150	16	4.9	14	13
7	0.76	74	2.9	e20	e22	50	204	64	13	39	9.2	9.0
8	0.71	94	2.9	e15	e16	79	196	138	35	136	6.8	7.2
9	0.68	24	2.7	e12	e12	239	88	653	111	593	5.2	6.0
10	0.69	29	2.4	e10	e9.0	55	55	322	39	150	4.4	5.1
11	0.76	88	2.5	25	e7.0	31	41	193	304	82	3.6	4.4
12	0.74	29	2.6	e20	e6.0	33	33	85	196	38	11	3.7
13	0.73	36	2.9	e15	e5.0	248	26	57	201	21	12	3.3
14	0.70	17	4.2	e12	e4.5	169	24	40	98	15	5.6	3.1
15	0.69	15	4.1	e10	e4.0	130	23	40	53	12	3.9	3.6
16	0.72	11	4.0	e9.0	e3.7	158	20	47	31	11	6.4	3.3
17	0.74	11	7.8	e7.8	e3.5	131	18	32	24	8.0	5.2	3.0
18	0.73	11	9.0	e6.8	e3.4	92	17	26	22	6.2	3.5	2.8
19	0.95	3.8	16	e6.0	e3.3	60	15	21	19	5.1	2.5	4.0
20	0.87	2.9	57	e5.2	e3.2	50	14	117	15	4.0	2.1	33
21	0.83	2.7	28	e5.0	e3.0	51	17	237	12	11	2.0	16
22	0.77	5.1	20	e4.6	e4.0	52	15	69	9.7	29	1.9	71
23	0.78	5.2	17	e4.2	e90	37	13	35	7.8	17	1.7	135
24	0.79	5.0	38	e4.0	e50	27	12	25	6.5	12	1.6	39
25	1.1	4.6	38	e3.8	e30	24	11	20	5.4	7.5	1.5	22
26	1.3	4.5	34	e3.6	e20	38	11	16	4.9	5.3	3.3	16
27	0.91	4.9	8.0	e3.5	e15	34	9.0	14	4.8	5.9	6.4	854
28	0.85	4.5	5.2	e3.4	e12	25	8.1	14	4.0	57	4.5	206
29	0.99	4.3	4.9	e3.2	---	87	8.4	13	3.6	24	2.9	63
30	0.98	4.6	38	e3.2	---	80	7.9	12	4.7	12	13	34
31	0.91	---	230	e3.2	---	41	---	22	---	7.7	8.3	---
TOTAL	25.93	593.72	603.5	885.5	574.7	2353.6	1641.4	3001	1350.4	1334.8	249.5	2120.5
MEAN	0.84	19.8	19.5	28.6	20.5	75.9	54.7	96.8	45.0	43.1	8.05	70.7
MAX	1.3	94	230	210	146	248	499	653	304	593	42	854
MIN	0.68	0.86	2.4	3.2	3.0	9.6	7.9	12	3.6	3.5	1.5	2.8

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1997 - 2003, BY WATER YEAR (WY)

	WY 2002	WY 2003	WY 1997	WY 1998	WY 1999	WY 2000	WY 2001	WY 2002	WY 2003
MEAN	7.13	15.3	45.7	45.0	57.1	60.3	80.7	55.8	63.6
MAX	32.2	29.7	133	89.2	90.6	96.6	131	96.8	214
(WY)	2002	2002	1997	1999	2000	1997	2000	2003	1998
MIN	0.84	3.95	14.4	17.8	20.5	20.4	20.4	10.5	3.43
(WY)	2003	2000	1999	2001	2003	2001	1997	1999	1999

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1997 - 2003
ANNUAL TOTAL	11913.02	14734.55	
ANNUAL MEAN	32.6	40.4	37.9
HIGHEST ANNUAL MEAN			46.0
LOWEST ANNUAL MEAN			28.3
HIGHEST DAILY MEAN	799	Apr 3	2060
LOWEST DAILY MEAN	0.54	Sep 14	0.07
ANNUAL SEVEN-DAY MINIMUM	0.61	Sep 8	0.07
MAXIMUM PEAK FLOW		1400	5650
MAXIMUM PEAK STAGE		7.97	13.64
INSTANTANEOUS LOW FLOW			0.07
10 PERCENT EXCEEDS	70	113	88
50 PERCENT EXCEEDS	8.0	12	10
90 PERCENT EXCEEDS	0.79	1.7	1.2

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

SURFACE-WATER RECORDS
Scioto River Basin

03225500 OLENTANGY RIVER NEAR DELAWARE, OHIO

LOCATION.—Latitude 40°21'18", longitude 83°04'02", in NE ¼ 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 mi north of Delaware, Ohio.

DRAINAGE AREA.—393 mi².

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. 1950, water-stage recorder at this site 500 ft downstream at datum 1.72 ft lower; Oct. 1, 1950-Sept. 30, 1985, at datum 78.42 ft lower.

REMARKS.—Records good. Flow completely regulated by Delaware Lake since 1951. Water-quality data formerly 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 ft³/s, Mar. 21, 1927, gage height, 16.9 ft, site and datum then in use; minimum daily, 0.1 ft³/s Sept. 14-29, 1934.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	19	21	62	1490	57	208	310	14	282	98	92	503
2	20	21	68	2300	57	208	22	177	255	98	189	107
3	20	21	68	2100	59	208	22	244	201	98	472	451
4	21	21	56	1340	418	253	22	240	691	98	920	1590
5	21	21	48	1300	887	1280	65	523	420	117	701	2520
6	314	22	48	888	613	1840	1370	1370	154	125	319	2390
7	20	22	48	210	410	1260	2340	1690	154	139	254	1070
8	20	22	48	135	160	828	2210	477	205	693	213	313
9	20	22	39	403	39	1460	2000	470	1240	1380	145	167
10	20	23	34	522	225	1920	1710	604	1880	1770	72	136
11	20	162	34	518	168	1900	274	64	2080	2070	51	65
12	20	763	34	374	103	1850	237	632	1970	2450	41	40
13	20	1070	35	217	103	1860	234	2470	1930	1100	40	40
14	20	863	35	254	103	2920	334	3980	1940	284	40	40
15	20	325	35	104	103	3040	247	4090	1910	120	40	40
16	20	229	37	42	103	1750	114	3420	1380	51	41	40
17	20	224	36	68	58	1410	113	2780	457	111	44	40
18	20	225	160	80	45	1230	171	804	227	114	41	40
19	21	223	239	80	65	837	166	230	223	98	40	40
20	17	101	674	80	80	624	166	249	219	98	40	41
21	17	32	1200	130	80	602	96	578	218	98	40	41
22	16	33	1590	147	92	630	16	777	162	98	37	170
23	18	34	596	146	107	619	15	847	84	439	33	1010
24	19	95	43	104	1990	222	11	345	84	756	32	831
25	21	366	49	78	1290	34	7.4	234	84	271	34	380
26	21	519	236	78	525	37	504	179	51	68	35	307
27	21	366	272	71	261	60	484	154	21	68	35	462
28	21	271	203	57	208	583	15	141	23	393	38	2290
29	21	119	203	57	---	900	13	122	57	835	35	3370
30	21	53	188	57	---	985	12	122	98	372	55	3350
31	21	---	970	57	---	966	---	123	---	70	303	---
TOTAL	910	6289	7388	13487	8409	32524	13300.4	28150	18700	14580	4472	21884
MEAN	29.4	210	238	435	300	1049	443	908	623	470	144	729
MAX	314	1070	1590	2300	1990	3040	2340	4090	2080	2450	920	3370
MIN	16	21	34	42	39	34	7.4	14	21	51	32	40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1951 - 2003, BY WATER YEAR (WY)

MEAN	77.2	270	436	477	643	746	567	413	309	246	114	76.1
MAX	560	1442	1683	1790	2073	2087	1537	1618	1247	1723	1259	729
(WY)	1987	1973	1991	1952	1959	1963	1964	1996	1981	1987	1995	2003
MIN	10.8	6.53	7.81	20.5	18.4	117	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 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1951 - 2003

ANNUAL TOTAL	112271.6	170093.4		
ANNUAL MEAN	308	466		363
HIGHEST ANNUAL MEAN				609
LOWEST ANNUAL MEAN				137
HIGHEST DAILY MEAN	3140	May 16	4090	May 15
LOWEST DAILY MEAN	8.4	Jul 6	7.4	Apr 25
ANNUAL SEVEN-DAY MINIMUM	11	Jul	18	Oct 18
MAXIMUM PEAK FLOW			4580	May 16
MAXIMUM PEAK STAGE			8.97	May 16
INSTANTANEOUS LOW FLOW				1.0
10 PERCENT EXCEEDS	916		1590	1030
50 PERCENT EXCEEDS	94		145	93
90 PERCENT EXCEEDS	20		21	19

SURFACE-WATER RECORDS
Scioto River Basin

03226800 OLENTANGY RIVER NEAR WORTHINGTON, OHIO

LOCATION.—Latitude 40°06'37", longitude 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, Ohio, and 2.8 mi upstream from Rush Run.

DRAINAGE AREA.—497 mi².

PERIOD OF RECORD.—October 1955 to September 1984, October 1996 to current year.

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 and sediment data formerly collected at this site.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood in Jan. 1952, reached a stage of 15.3 ft, discharge 15,000 ft³/s, from information by U.S. Army Corps of Engineers.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	24	77	2280	e64	274	843	36	236	109	140	1890
2	22	23	83	2410	e62	309	129	80	400	112	236	2380
3	24	24	86	2670	e60	330	98	268	703	108	456	900
4	36	26	84	1490	334	312	97	266	772	134	1110	1810
5	64	38	68	1420	863	1730	850	1070	872	354	1170	2690
6	152	71	58	1240	792	2470	1040	1410	231	729	402	3100
7	171	44	59	360	439	1930	3390	2250	213	677	296	1720
8	32	30	59	194	315	1340	3010	1260	447	1180	251	449
9	23	28	57	385	104	2490	2510	2260	1160	2020	188	213
10	23	118	56	649	91	2480	2350	1440	2250	2290	127	184
11	23	655	47	552	264	2380	767	1090	2880	2360	85	132
12	21	551	50	533	e110	2400	329	619	2730	2880	279	80
13	21	1120	59	219	e100	2670	306	2200	2860	1970	447	58
14	22	1030	137	e150	e170	3140	339	4410	3430	350	87	56
15	24	460	113	e120	e150	4160	422	4940	2480	242	104	61
16	23	256	100	e100	e100	2460	183	4750	2040	121	285	57
17	23	235	82	e90	e90	1900	169	3310	836	81	249	52
18	20	225	83	e100	e76	1770	211	1760	314	139	95	51
19	29	228	562	e100	e70	1230	224	333	293	118	71	60
20	34	207	1160	e100	e80	903	244	705	273	107	60	59
21	29	74	1280	e100	e100	785	383	1440	262	135	55	54
22	24	94	1830	e190	390	821	141	907	255	150	53	232
23	20	107	1270	e180	784	774	81	1280	141	464	50	966
24	18	85	113	e120	1470	573	67	526	110	1050	42	1460
25	75	248	102	e100	2180	121	59	291	103	554	39	410
26	150	488	134	e90	820	227	393	275	103	124	41	371
27	43	488	330	e80	419	157	560	199	85	83	416	3130
28	26	284	229	e74	276	476	217	215	40	161	103	2750
29	31	252	220	e70	---	1480	57	169	30	776	86	3820
30	43	88	400	e66	---	1400	43	157	68	788	3120	4340
31	30	---	1340	e64	---	1240	---	236	---	95	553	---
TOTAL	1306	7601	10328	16296	10773	44732	19512	40152	26617	20461	10696	33535
MEAN	42.1	253	333	526	385	1443	650	1295	887	660	345	1118
MAX	171	1120	1830	2670	2180	4160	3390	4940	3430	2880	3120	4340
MIN	18	23	47	64	60	121	43	36	30	81	39	51

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1956 - 2003, BY WATER YEAR (WY)

MEAN	86.4	302	548	601	752	979	769	539	395	260	146	117
MAX	576	1797	1772	2352	2368	2517	2033	1295	1297	1672	801	1118
(WY)	1973	1973	1978	1992	1959	1963	1964	2003	1981	1992	1980	2003
MIN	11.9	25.7	12.1	17.7	27.2	139	40.0	62.7	15.6	26.9	31.9	17.6
(WY)	1965	1964	1964	1977	1964	1983	1971	1962	1962	2001	2001	1964

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1956 - 2003
ANNUAL TOTAL	140988.1	242009	
ANNUAL MEAN	386	663	454
HIGHEST ANNUAL MEAN			778
LOWEST ANNUAL MEAN			269
HIGHEST DAILY MEAN	3310	May 16	10800
LOWEST DAILY MEAN	7.1	Jul 8	6.5
ANNUAL SEVEN-DAY MINIMUM	9.6	Sep 6	8.0
MAXIMUM PEAK FLOW		7460	Aug 30
MAXIMUM PEAK STAGE		9.66	Aug 30
INSTANTANEOUS LOW FLOW			5.2
10 PERCENT EXCEEDS	1180	2270	1330
50 PERCENT EXCEEDS	143	228	139
90 PERCENT EXCEEDS	22	42	25

e Estimated.

SURFACE-WATER RECORDS
Scioto River Basin

03227500 SCIOTO RIVER AT COLUMBUS, OHIO

LOCATION.—Latitude 39°54'34", longitude 83°00'33", Franklin County, Hydrologic Unit 05060001, on right bank at Jackson Pike Wastewater Treatment Plant, Columbus, Ohio, 0.4 mi downstream from bridge on Frank Road, 2.8 mi upstream from Scioto Big Run, and 5 mi downstream from Olentangy River.

DRAINAGE AREA.—1,629 mi².

PERIOD OF RECORD.—October 1920 to current year. Monthly discharge only for some periods, published in WSP 1305.

REVISED RECORDS.—WSP 743: 1927(M). WSP 803: 1922-24, 1926-30, 1932-33. WSP 1908: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 680.00 ft above sea level. Prior to Oct. 1, 1924, nonrecording gage at site 200 ft upstream at same datum.

REMARKS.—Records good except for periods of estimated record, which are fair. Flow regulated by Griggs Reservoir (see station 03221500),

O'Shaughnessy Reservoir (see station 03220500), and Delaware Lake upstream from station. Records include sewage return flow from Jackson Pike Wastewater Treatment Plant. Shadeville Treatment Plant flow enters downstream. For statement on diversions from Big Walnut Creek, see REMARKS for station 03229500. Water-quality data formerly collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Mar. 25, 1913, reached a stage of 25.9 ft; discharge, 138,000 ft³/s, estimated by Franklin County Conservancy District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	660	193	613	10000	328	1150	2510	365	844	246	801	3750
2	411	141	600	9770	329	1080	1430	495	990	345	754	12200
3	453	136	596	8820	374	1100	1100	712	1740	343	1180	11100
4	432	141	460	5840	678	1150	928	1020	2350	517	4230	8620
5	496	190	420	4130	1670	2700	2840	3140	2440	1200	3540	7000
6	240	294	358	2860	2110	6600	4290	5490	1630	1990	2740	6230
7	427	500	314	1690	1520	5260	7610	6040	1290	3420	2680	3730
8	221	218	296	1190	1060	3990	9030	6970	1220	5370	2040	1770
9	151	153	283	1310	696	8710	6950	7030	2670	10200	1130	1080
10	155	484	256	2480	e520	8050	5760	11300	3300	10300	987	865
11	183	2990	338	2360	e460	7320	3630	11400	4680	8300	953	697
12	173	3540	333	1830	e400	7470	1990	8660	5950	7990	801	515
13	149	3200	318	1170	e370	8200	1540	7530	4970	7060	1480	381
14	138	2320	833	1010	e350	10100	1260	8600	10600	3710	890	329
15	137	1620	569	869	e330	11700	1210	8380	9560	2340	424	374
16	141	1090	512	600	e310	9290	970	7180	6120	1530	673	372
17	135	818	509	504	e300	7540	811	5020	3590	888	1050	285
18	132	692	490	464	e300	6010	801	3680	2100	728	425	275
19	146	650	1130	477	e290	4600	782	1700	1500	653	427	303
20	144	604	6140	457	e280	3610	746	1780	1140	505	599	215
21	150	479	6520	442	e280	2990	1360	3100	941	492	312	184
22	142	442	5180	418	e500	3370	926	2160	889	706	280	1030
23	140	505	4260	434	e1500	2950	706	2230	748	1100	200	1240
24	130	633	1960	412	e3200	2550	601	1700	569	2190	175	1890
25	364	965	1270	374	4940	1620	531	1040	486	1750	174	1180
26	916	1510	917	334	2690	1730	489	1210	513	900	189	1050
27	281	1560	909	306	1760	1740	873	793	616	564	1330	6720
28	189	1120	823	302	1340	1840	857	1030	433	601	735	7380
29	295	934	729	325	---	3000	431	444	194	1070	765	6990
30	610	724	859	324	---	3830	479	481	174	1490	9630	6300
31	337	---	4310	308	---	3110	---	899	---	843	3300	---
TOTAL	8678	28846	43105	61810	28885	144360	63441	121579	74247	79341	44894	94055
MEAN	280	962	1390	1994	1032	4657	2115	3922	2475	2559	1448	3135
MAX	916	3540	6520	10000	4940	11700	9030	11400	10600	10300	9630	12200
MIN	130	136	256	302	280	1080	431	365	174	246	174	184

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2003, BY WATER YEAR (WY)

	376	823	1494	2133	2354	2948	2527	1610	1288	833	482	367
MEAN	376	823	1494	2133	2354	2948	2527	1610	1288	833	482	367
MAX	4633	5490	7274	10510	5993	8373	6865	6175	5866	5804	3287	3883
(WY)	1927	1973	1991	1937	1975	1963	1964	1996	1947	1992	1995	1926
MIN	60.5	71.7	71.1	96.1	110	493	322	132	97.6	85.5	82.0	66.4
(WY)	1922	1923	1935	1945	1934	1941	1946	1934	1925	1921	1930	1924

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1921 - 2003

ANNUAL TOTAL	492302	793241	
ANNUAL MEAN	1349	2173	
HIGHEST ANNUAL MEAN			1427
LOWEST ANNUAL MEAN			2514
HIGHEST DAILY MEAN	12300	Apr 15	305
LOWEST DAILY MEAN	115	Sep 24	1934
ANNUAL SEVEN-DAY MINIMUM	128	Sep 6	48200
MAXIMUM PEAK FLOW			Jan 22 1959
MAXIMUM PEAK STAGE			47
INSTANTANEOUS LOW FLOW			Sep 6 1930
10 PERCENT EXCEEDS	3790	6980	3950
50 PERCENT EXCEEDS	600	934	467
90 PERCENT EXCEEDS	142	267	121

e Estimated.

SURFACE-WATER RECORDS
Scioto River Basin

03228300 BIG WALNUT CREEK AT SUNBURY, OHIO

LOCATION.—Latitude 40°14'10", longitude 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, Ohio, and 0.9 mi upstream from Prairie Run.
DRAINAGE AREA.—101 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1988 to current year.

GAGE.—Water-stage recorder. Elevation of gage is 945 ft above sea level (from topographic map).

REMARKS.—Records fair except for periods of estimated record and flows below 0.5 ft³/s, which are poor. Water-quality data collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	0.37	0.18	8.5	e500	e1.2	e1.9	89	19	143	4.7	0.34	534
2	0.31	0.19	7.6	241	e1.1	e1.8	69	21	62	4.3	2.1	1760
3	0.24	0.13	7.1	117	e1.1	e7.0	55	28	415	3.6	28	1040
4	0.42	0.12	e6.4	e32	e60	e60	48	25	324	3.6	140	253
5	0.43	0.27	e5.6	e23	e13	e300	668	347	125	21	53	112
6	0.29	0.35	e5.4	e14	e9.0	77	303	254	74	129	45	68
7	0.22	0.54	e4.9	e12	e6.6	33	631	105	54	121	28	47
8	0.14	0.59	e4.5	e9.2	e5.0	287	512	102	119	252	17	35
9	0.30	0.67	e4.2	e7.0	e9.0	635	203	1620	404	350	14	29
10	0.18	32	e3.9	e5.4	e23	24	125	1090	108	223	246	22
11	0.18	167	e4.2	e4.7	e5.6	96	94	845	163	218	43	17
12	0.14	38	e4.7	e3.7	e5.0	140	74	271	503	75	25	9.9
13	0.12	17	e6.4	e3.2	e4.7	553	59	172	750	45	16	8.3
14	0.10	9.9	12	e2.8	e4.4	284	49	104	845	25	11	7.8
15	0.07	7.2	20	e2.5	e4.2	288	44	228	239	14	9.9	9.0
16	0.07	5.9	19	e2.2	e3.9	314	38	776	114	12	8.7	7.6
17	0.07	5.1	e15	e2.0	e3.7	250	34	210	72	10	7.7	7.4
18	0.04	4.7	28	e1.9	e5.0	177	41	118	60	7.2	7.3	6.5
19	0.07	4.8	59	e1.7	e10	121	40	83	46	5.6	5.6	23
20	0.04	4.9	356	e1.6	e8.4	127	33	457	35	4.3	5.2	75
21	0.02	4.6	e120	e1.5	e14	117	101	1090	28	4.5	4.1	33
22	0.02	7.4	e66	e1.4	e34	104	76	230	22	6.1	4.2	256
23	0.02	16	e44	e1.4	e100	78	52	110	17	11	3.6	582
24	0.01	17	e32	e1.4	e5.8	63	40	71	14	33	3.0	123
25	0.19	18	e22	e1.3	e3.0	55	34	54	12	11	2.4	60
26	0.33	16	e16	e1.3	e2.4	194	30	44	9.6	6.4	1.1	38
27	1.4	13	e13	e1.3	e2.2	130	25	36	8.7	4.8	2.7	3210
28	0.53	10	e11	e1.2	e2.0	81	21	31	7.5	4.3	4.4	917
29	0.43	9.2	e9.0	e1.2	---	225	20	33	6.1	4.4	22	270
30	0.29	8.9	e40	e1.2	---	162	20	30	5.2	3.0	1380	144
31	0.23	---	e140	e1.2	---	68	---	169	---	0.68	243	---
TOTAL	7.27	419.64	1095.4	1001.3	347.3	5053.7	3628	8773	4785.1	1617.48	2383.34	9704.5
MEAN	0.23	14.0	35.3	32.3	12.4	163	121	283	160	52.2	76.9	323
MAX	1.4	167	356	500	100	635	668	1620	845	350	1380	3210
MIN	0.01	0.12	3.9	1.2	1.1	1.8	20	19	5.2	0.68	0.34	6.5
CFSM	0.00	0.14	0.35	0.32	0.12	1.61	1.20	2.80	1.58	0.52	0.76	3.20
IN.	0.00	0.15	0.40	0.37	0.13	1.86	1.34	3.23	1.76	0.60	0.88	3.57

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1989 - 2003, BY WATER YEAR (WY)

MEAN	13.0	58.9	126	166	159	164	199	159	143	79.1	27.6	28.2
MAX	81.2	256	585	426	424	354	334	398	338	348	167	323
(WY)	1991	1993	1991	1996	1990	1993	1996	1996	1989	1992	1995	2003
MIN	0.002	0.051	0.72	16.4	12.4	46.0	36.7	17.0	1.29	0.15	0.007	0.006
(WY)	1992	1992	1992	1992	2003	1990	1997	1999	1999	1991	1991	1991

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1989 - 2003
ANNUAL TOTAL	28823.71	38816.03	
ANNUAL MEAN	79.0	106	110
HIGHEST ANNUAL MEAN			159
LOWEST ANNUAL MEAN			67.4
HIGHEST DAILY MEAN	1560	Apr 15	3210
LOWEST DAILY MEAN	0.00	Aug 1	0.01
ANNUAL SEVEN-DAY MINIMUM	0.00	Aug 1	0.03
MAXIMUM PEAK FLOW			4920
MAXIMUM PEAK STAGE			10.44
INSTANTANEOUS LOW FLOW			0.00
ANNUAL RUNOFF (CFSM)	0.78	1.05	1.09
ANNUAL RUNOFF (INCHES)	10.62	14.30	14.79
10 PERCENT EXCEEDS	180	262	254
50 PERCENT EXCEEDS	15	17	26
90 PERCENT EXCEEDS	0.00	0.49	0.19

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**

03228300 BIG WALNUT CREEK AT SUNBURY, OHIO—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—April 2000 to current year.

PERIOD OF DAILY RECORD—

SPECIFIC CONDUCTANCE: April 2000 to current year.

pH: April 2000 to current year.

WATER TEMPERATURE: April 2000 to current year.

DISSOLVED OXYGEN: April 2000 to current year.

INSTRUMENTATION.—Water-quality monitor. Electronic data logger. Set for 1-hour interval. Satellite telemeter at station.

REMARKS.—Interruptions in the water-quality record are due to malfunction of the instrument. Water temperature records are good except Oct. 1-Dec. 15, Jan. 28, Feb. 27, 28, Mar. 21, Apr. 15, Aug. 29, and Sept. 5-9, which are fair. pH records are good except Oct. 1-Dec. 15 and June 13-16, which are fair. Specific conductance records are good except Oct. 1-Dec. 15 and May 16-23, which are fair. Dissolved oxygen records are fair except Oct. 1-Dec. 16 and June 16-Aug. 11, which are poor.

EXTREMES FOR PERIOD OF RECORD.—

SPECIFIC CONDUCTANCE: Maximum, 999 microsiemens, Dec. 4, 2002; minimum, 146 microsiemens, Sept. 27, 2003.

pH: Maximum, 8.9 units, Apr. 19, 2002; minimum, 6.5 units, Apr. 18, 2001.

WATER TEMPERATURE: Maximum, 33°C, July 24 and Aug. 16, 2000; minimum, 0.5°C, on many days during winter.

DISSOLVED OXYGEN: Maximum, 20 mg/L, Sept. 1 and 29, 2000, and Aug. 20, 2001; minimum, 0.5 mg/L, June 8, 2000, and Aug. 24, 2001.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum, 999 microsiemens, Dec. 14; minimum, 146 microsiemens, Sept. 27.

pH: Maximum, 8.8 units, Apr. 24; minimum, 6.6 units, Nov. 13 and Dec. 3-5.

WATER TEMPERATURE: Maximum, 27.0°C, Aug. 21; minimum, 0.5°C, many days in Dec.-Mar.

DISSOLVED OXYGEN: Maximum, 16.3 mg/L, Feb. 14; minimum, 3.3 mg/L, June 20.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	---	---	---	712	684	702	825	787	801	412	342	389
2	696	659	682	711	692	703	811	801	806	456	342	403
3	701	659	683	715	689	706	828	794	812	533	456	498
4	706	589	673	716	700	710	852	813	832	581	533	558
5	660	610	641	717	653	696	864	836	849	616	581	599
6	661	633	648	697	672	691	883	850	864	657	616	631
7	681	646	665	713	692	699	899	865	885	694	641	667
8	690	660	676	720	701	711	906	871	894	701	680	691
9	700	670	684	725	714	719	935	887	914	710	550	670
10	706	654	685	726	501	685	952	908	930	550	472	490
11	689	646	671	627	434	499	962	926	938	575	495	538
12	683	647	668	609	511	579	937	917	928	626	575	607
13	685	643	667	639	607	619	951	935	941	673	626	652
14	692	667	679	662	639	650	999	928	973	712	673	696
15	701	671	687	679	662	672	992	882	917	741	711	721
16	712	686	700	702	673	688	882	818	843	767	741	752
17	708	670	693	725	702	715	836	793	809	796	767	779
18	699	663	683	742	725	735	801	770	784	824	796	811
19	676	617	658	743	726	734	776	576	732	836	824	831
20	657	623	642	747	706	736	576	417	461	838	831	835
21	663	637	650	748	730	741	557	480	519	844	833	836
22	677	646	662	765	731	746	622	557	591	851	840	847
23	682	659	671	786	765	776	662	622	644	861	849	855
24	683	660	672	785	766	776	686	662	675	861	851	857
25	678	395	638	792	779	785	709	684	693	862	847	856
26	660	584	613	791	775	783	725	709	717	861	853	857
27	670	627	638	780	770	776	747	723	733	864	853	859
28	700	648	675	787	776	782	758	737	748	---	---	---
29	712	681	702	797	783	790	776	758	768	---	---	---
30	715	700	710	825	779	790	784	699	772	854	841	846
31	715	688	705	---	---	---	699	406	463	842	826	834
MONTH	715	395	671	825	434	713	999	406	782	864	342	706

**SURFACE-WATER RECORDS
Scioto River Basin**

03228300 BIG WALNUT CREEK AT SUNBURY, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	---	---	---	7.9	7.1	7.5	8.0	6.8	7.5	---	---	---	
2	7.4	7.0	7.2	7.8	7.1	7.4	8.0	6.9	7.8	---	---	---	
3	7.5	7.0	7.2	7.9	7.1	7.5	8.0	6.6	7.2	---	---	---	
4	7.4	7.0	7.1	7.8	7.2	7.6	7.9	6.6	7.1	---	---	---	
5	7.3	6.8	7.0	7.9	7.0	7.6	8.0	6.6	7.2	---	---	---	
6	7.5	6.9	7.1	7.9	7.0	7.3	8.0	6.7	7.6	---	---	---	
7	7.7	7.0	7.3	8.0	7.0	7.5	8.0	6.7	7.7	---	---	---	
8	7.7	7.0	7.2	7.8	7.0	7.5	8.0	6.7	7.2	---	---	---	
9	7.5	7.0	7.3	7.7	6.8	7.1	8.0	6.7	7.2	---	---	---	
10	7.7	6.9	7.3	7.5	6.8	7.0	8.0	6.7	7.6	---	---	---	
11	7.5	7.0	7.2	7.6	6.9	7.4	8.0	6.7	7.6	---	---	---	
12	7.4	6.9	7.2	7.6	6.9	7.4	8.0	6.8	7.4	---	---	---	
13	7.6	6.9	7.2	7.7	6.6	7.1	7.9	7.0	7.5	---	---	---	
14	7.5	6.9	7.2	7.7	6.8	7.3	7.9	6.7	7.2	---	---	---	
15	7.8	7.0	7.4	7.7	6.9	7.1	8.0	6.8	7.8	---	---	---	
16	7.6	6.9	7.2	7.6	6.9	7.0	---	---	---	---	---	---	
17	7.5	7.3	7.4	7.7	6.9	7.4	---	---	---	---	---	---	
18	8.0	7.2	7.6	7.8	6.8	7.3	---	---	---	---	---	---	
19	7.8	7.1	7.3	7.8	6.9	7.4	---	---	---	---	---	---	
20	7.9	7.1	7.5	7.9	6.9	7.3	---	---	---	---	---	---	
21	7.9	7.1	7.3	7.8	6.8	7.1	---	---	---	---	---	---	
22	7.9	7.2	7.6	7.9	7.0	7.6	---	---	---	---	---	---	
23	7.9	7.1	7.7	7.9	7.0	7.7	---	---	---	---	---	---	
24	7.7	7.0	7.2	8.0	7.8	7.9	---	---	---	---	---	---	
25	7.7	7.0	7.2	8.0	7.0	7.7	---	---	---	---	---	---	
26	7.6	6.9	7.1	7.9	6.9	7.3	---	---	---	---	---	---	
27	7.9	7.0	7.6	7.9	6.8	7.3	---	---	---	---	---	---	
28	7.8	7.0	7.3	8.0	6.8	7.2	---	---	---	---	---	---	
29	7.9	7.0	7.3	8.0	6.7	7.2	---	---	---	---	---	---	
30	8.0	7.0	7.5	8.0	6.8	7.4	---	---	---	---	---	---	
31	8.0	7.1	7.5	---	---	---	---	---	---	---	---	---	
MONTH	8.0	6.8	7.3	8.0	6.6	7.4	8.0	6.6	7.4	---	---	---	

DAY	MAX	FEBRUARY			MARCH			APRIL			MAY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	---	---	---	---	---	---	8.1	7.2	7.8	8.1	7.5	7.8	
2	---	---	---	---	---	---	8.1	7.1	7.5	8.2	7.5	7.8	
3	---	---	---	---	---	---	8.3	7.1	7.6	8.1	7.6	7.7	
4	---	---	---	---	---	---	---	---	---	8.4	7.6	8.0	
5	---	---	---	---	---	---	---	---	---	8.2	7.3	7.6	
6	---	---	---	---	---	---	---	---	---	7.8	7.4	7.6	
7	---	---	---	---	---	---	7.5	7.3	7.5	7.8	7.5	7.6	
8	---	---	---	---	---	---	7.4	7.3	7.3	8.2	7.5	7.8	
9	---	---	---	---	---	---	7.4	7.3	7.4	8.0	7.2	7.5	
10	---	---	---	---	---	---	7.8	6.7	7.3	7.5	7.2	7.4	
11	---	---	---	---	---	---	8.1	6.7	7.6	7.5	7.3	7.4	
12	---	---	---	---	---	---	8.1	6.9	7.5	7.8	7.4	7.7	
13	---	---	---	---	---	---	8.2	7.0	7.4	7.7	7.4	7.6	
14	---	---	---	---	---	---	8.4	7.0	7.2	7.8	7.4	7.5	
15	---	---	---	---	---	---	8.2	7.1	7.6	7.7	7.3	7.5	
16	---	---	---	---	---	---	8.3	7.4	7.8	7.7	7.3	7.5	
17	---	---	---	---	---	---	8.4	7.5	7.9	7.9	7.4	7.7	
18	---	---	---	---	---	---	8.4	7.6	8.0	7.7	7.4	7.6	
19	---	---	---	---	---	---	8.3	7.4	8.0	7.7	7.4	7.6	
20	---	---	---	---	---	---	8.2	7.5	7.8	7.6	7.3	7.5	
21	---	---	---	---	---	---	7.8	7.3	7.6	7.5	7.2	7.4	
22	---	---	---	8.2	7.0	7.5	8.3	7.3	7.7	7.5	7.3	7.5	
23	---	---	---	8.3	7.3	7.8	8.7	7.3	8.0	7.8	7.4	7.5	
24	---	---	---	8.2	7.2	7.8	8.8	7.5	8.0	8.2	7.4	7.8	
25	---	---	---	7.8	7.3	7.5	8.3	7.4	7.6	8.3	7.5	7.7	
26	---	---	---	7.8	7.2	7.7	8.5	7.4	8.0	8.0	7.6	7.8	
27	---	---	---	7.6	7.2	7.5	8.4	7.4	7.8	8.2	7.6	7.9	
28	---	---	---	8.1	7.2	7.6	8.0	7.4	7.7	8.2	7.6	7.9	
29	---	---	---	7.8	7.2	7.6	8.2	7.5	7.8	8.3	7.6	8.0	
30	---	---	---	---	---	---	8.2	7.5	7.9	8.3	7.6	7.9	
31	---	---	---	8.1	7.3	7.8	---	---	---	8.0	7.5	7.7	
MONTH	---	---	---	8.3	7.0	7.6	8.8	6.7	7.7	8.4	7.2	7.7	

SURFACE-WATER RECORDS
Scioto River Basin

03228300 BIG WALNUT CREEK AT SUNBURY, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003—Continued

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	7.9	7.2	7.6	8.2	7.6	7.9	8.0	7.2	7.5	---	---	---
2	8.2	7.3	7.7	8.2	7.6	7.9	7.9	7.2	7.5	---	---	---
3	8.0	7.4	7.6	8.2	7.6	7.8	7.9	7.5	7.7	---	---	---
4	7.7	7.3	7.5	8.1	7.6	7.7	7.6	7.2	7.4	---	---	---
5	7.9	7.5	7.6	8.0	7.6	7.8	7.9	7.5	7.6	7.8	7.4	7.7
6	8.2	7.5	7.8	7.8	7.4	7.6	7.9	7.5	7.7	---	---	---
7	7.9	7.5	7.7	7.6	7.4	7.6	7.9	7.6	7.7	---	---	---
8	8.0	7.5	7.7	7.6	7.3	7.5	8.0	7.6	7.8	7.8	7.3	7.6
9	7.7	7.3	7.5	7.8	7.4	7.5	8.0	7.6	7.7	---	---	---
10	8.0	7.4	7.7	7.7	7.5	7.6	7.8	7.3	7.5	---	---	---
11	8.0	7.4	7.7	7.8	7.6	7.7	8.0	7.4	7.6	---	---	---
12	7.6	7.4	7.5	8.1	7.7	7.8	8.1	7.6	7.8	8.2	7.7	7.9
13	7.7	7.3	7.5	8.2	7.7	7.8	8.1	7.6	7.8	8.2	7.6	7.9
14	7.7	7.3	7.4	8.1	7.7	7.9	8.2	7.6	7.8	8.2	7.6	7.8
15	7.6	7.4	7.6	8.0	7.7	7.8	8.2	7.6	7.8	8.2	7.5	7.8
16	8.2	7.6	7.7	8.2	7.7	7.9	8.2	7.6	7.8	8.2	7.5	7.9
17	8.1	7.7	7.9	8.2	7.7	7.9	8.2	7.6	7.8	8.2	7.5	7.9
18	8.2	7.7	7.9	8.3	7.7	7.9	8.2	7.5	7.8	8.3	7.5	7.9
19	7.9	7.6	7.8	8.2	7.6	7.8	8.2	7.5	7.7	8.0	7.6	7.8
20	8.2	7.7	7.9	8.3	7.6	7.8	8.2	7.4	7.7	8.0	7.5	7.8
21	8.2	7.8	8.1	8.1	7.6	7.8	8.2	7.4	7.7	8.2	7.5	7.8
22	8.2	7.6	7.9	8.1	7.6	7.8	8.2	7.4	7.7	7.8	7.2	7.7
23	8.0	7.7	7.9	8.0	7.6	7.8	8.1	7.6	7.8	7.6	7.2	7.4
24	8.1	7.7	7.8	7.8	7.4	7.6	8.1	7.5	7.7	7.9	7.6	7.7
25	8.1	7.7	7.8	7.9	7.5	7.7	8.1	7.3	7.7	7.9	7.4	7.8
26	8.3	7.7	7.9	8.1	7.5	7.7	7.7	7.1	7.4	8.1	7.6	7.8
27	8.2	7.7	7.9	8.2	7.5	7.8	7.8	7.1	7.4	---	---	---
28	8.2	7.6	7.9	7.9	7.5	7.7	8.0	7.3	7.6	---	---	---
29	8.2	7.7	7.9	8.1	7.4	7.7	---	---	---	---	---	---
30	8.2	7.6	7.9	8.1	7.3	7.7	---	---	---	8.0	7.5	7.8
31	---	---	---	7.9	7.3	7.5	---	---	---	---	---	---
MONTH	8.3	7.2	7.7	8.3	7.3	7.7	8.2	7.1	7.7	8.3	7.2	7.8
YEAR	8.8	6.6	7.6									

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	---	---	---	10.0	6.5	8.0	2.0	0.5	1.0	5.0	4.0	4.5
2	22.0	18.0	19.5	9.0	5.5	7.0	2.5	0.5	1.5	4.0	3.0	3.5
3	23.0	18.5	20.5	9.0	5.0	7.0	1.5	0.5	0.5	3.0	1.5	2.5
4	22.5	19.5	20.5	8.0	7.5	7.5	0.5	0.5	0.5	1.5	1.0	1.5
5	20.0	17.0	18.5	8.0	7.0	7.5	1.0	0.5	0.5	1.5	0.5	1.5
6	19.0	14.5	16.5	8.5	7.0	7.5	1.0	0.5	0.5	1.5	0.5	1.0
7	18.0	14.5	16.5	9.0	7.0	7.5	0.5	0.5	0.5	1.0	0.5	0.5
8	15.0	12.0	13.5	10.0	7.0	8.0	1.0	0.5	0.5	2.0	0.5	1.0
9	16.0	12.0	14.0	10.0	8.5	9.5	0.5	0.5	0.5	3.0	1.0	2.0
10	16.0	13.0	14.5	12.5	10.0	11.0	0.5	0.5	0.5	3.0	1.0	2.5
11	18.5	14.5	16.0	12.5	11.0	12.0	0.5	0.5	0.5	1.0	0.5	0.5
12	18.5	15.5	17.0	11.0	9.0	10.0	1.0	0.5	1.0	0.5	0.5	0.5
13	18.0	14.0	16.5	9.5	8.0	9.0	1.5	1.0	1.0	0.5	0.5	0.5
14	14.0	10.5	12.0	9.5	8.0	9.0	1.5	1.0	1.0	0.5	0.5	0.5
15	14.5	10.5	12.0	9.0	8.0	8.5	1.5	0.5	1.0	0.5	0.5	0.5
16	13.5	12.0	13.0	8.0	7.0	7.5	1.5	0.5	1.0	0.5	0.5	0.5
17	13.0	10.5	11.5	7.0	5.5	6.0	1.0	0.5	0.5	0.5	0.5	0.5
18	13.5	10.0	11.5	5.5	4.5	5.0	2.5	1.0	2.0	0.5	0.5	0.5
19	13.5	11.5	12.0	7.0	5.0	6.0	3.5	2.5	3.0	0.5	0.5	0.5
20	12.5	8.5	10.5	7.5	4.5	6.0	5.5	2.5	5.0	0.5	0.5	0.5
21	12.0	9.0	10.0	8.5	6.0	7.0	4.5	3.5	4.0	0.5	0.5	0.5
22	13.0	8.5	10.5	7.0	4.5	5.5	4.5	3.5	3.5	0.5	0.5	0.5
23	13.0	9.0	10.5	4.5	4.0	4.5	3.5	2.0	2.5	0.5	0.5	0.5
24	12.0	9.0	10.0	5.5	3.5	4.5	2.0	1.5	2.0	0.5	0.5	0.5
25	10.5	8.5	9.0	4.5	4.0	4.5	1.5	1.0	1.0	0.5	0.5	0.5
26	11.0	10.5	10.5	4.0	3.0	3.5	1.0	0.5	0.5	0.5	0.5	0.5
27	11.0	10.0	10.5	3.5	2.0	3.0	1.0	0.5	0.5	0.5	0.5	0.5
28	11.5	9.5	10.5	2.5	1.0	1.5	1.5	0.5	1.0	---	---	---
29	9.5	8.5	8.5	3.5	1.0	2.0	2.0	0.5	1.0	---	---	---
30	9.0	8.0	8.5	3.5	1.5	2.5	3.0	1.0	2.0	0.5	0.5	0.5
31	9.5	7.5	8.5	---	---	---	5.0	2.5	4.5	0.5	0.5	0.5
MONTH	23.0	7.5	13.0	12.5	1.0	6.5	5.5	0.5	1.5	5.0	0.5	1.0

SURFACE-WATER RECORDS
Scioto River Basin

03228300 BIG WALNUT CREEK AT SUNBURY, OHIO—Continued

WATER-QUALITY RECORDS—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	---	---	---	15.1	8.3	10.7	15.5	13.3	14.2	13.1	12.4	12.7	
2	12.5	4.0	7.2	15.1	9.3	11.6	15.3	13.3	14.1	13.6	13.0	13.3	
3	12.5	3.9	7.2	16.0	8.9	11.5	16.0	13.5	14.5	14.4	13.5	14.0	
4	12.3	3.4	6.2	13.9	7.8	10	16.1	13.8	14.6	15.1	14.4	14.7	
5	12.2	3.7	7.2	14.1	7.3	9.6	15.5	13.6	14.3	15.4	14.6	14.9	
6	12.9	5.5	8.2	13.9	7.3	9.3	15.8	13.6	14.4	15.7	14.7	15.1	
7	13.4	4.5	8.0	14.5	8.0	10.4	16.1	13.2	14.3	16.0	14.9	15.3	
8	13.6	5.6	8.9	12.5	7.9	10.1	15.9	13.4	14.3	15.7	13.7	14.9	
9	13.4	6.7	9.7	11.7	7.3	9.0	16.0	13.0	14.2	14.5	12.7	13.8	
10	13.1	5.4	8.5	11.5	6.8	8.4	16.2	13.1	14.1	14.9	13.2	14.1	
11	14.6	4.3	8.4	9.6	8.3	8.9	15.4	12.8	13.6	15.8	14.0	15.2	
12	14.2	4.2	8.6	10.3	9.6	10.0	14.8	12.9	13.5	15.4	13.6	14.7	
13	14.3	4.4	8.7	10.9	10.1	10.4	14.2	12.2	12.9	15.2	12.0	13.6	
14	12.8	7.4	9.5	11.1	10.0	10.4	13.6	12.1	12.7	15.9	11.9	14.4	
15	14.5	8.0	10.8	11.1	10.1	10.4	13.8	12.7	13.1	---	---	---	
16	12.8	6.0	8.2	11.2	10.3	10.7	14.2	12.5	13.1	---	---	---	
17	13.9	7.6	9.9	12.1	10.7	11.4	14.8	13.3	13.8	---	---	---	
18	14.6	8.1	10.7	13.2	11.6	12.2	15.0	12.6	13.5	---	---	---	
19	12.5	7.6	9.5	12.6	11.3	11.8	14.0	12.3	12.8	---	---	---	
20	14.1	8.5	10.6	13.1	11.1	11.9	12.5	11.0	11.4	---	---	---	
21	12.7	8.4	9.8	12.8	10.6	11.4	12.5	11.7	12.2	---	---	---	
22	12.5	8.4	10.1	13.0	10.6	11.7	12.7	12.3	12.4	---	---	---	
23	13.0	8.1	9.9	13.7	12.1	12.8	13.7	12.7	13.3	---	---	---	
24	13.3	7.3	9.4	13.9	12.5	13.1	14.1	13.3	13.7	---	---	---	
25	10.4	5.6	8.5	13.7	12.6	13.0	14.7	13.5	14.0	---	---	---	
26	11.3	5.4	7.5	14.2	12.9	13.3	15.3	14.2	14.6	---	---	---	
27	11.6	6.8	9.7	14.7	13.1	13.7	15.4	14.4	14.7	---	---	---	
28	13.0	8.0	10.1	15.3	13.6	14.2	15.5	14.2	14.6	---	---	---	
29	12.4	7.9	9.3	14.9	12.6	13.8	15.7	14.3	14.7	---	---	---	
30	14.1	7.9	9.9	14.6	12.6	13.3	14.8	13.4	14.3	---	---	---	
31	15.6	7.7	10.8	---	---	---	13.8	12.4	12.8	---	---	---	
MONTH	15.6	3.4	9.0	16.0	6.8	11.3	16.2	11.0	13.7	16.0	11.9	14.3	
DAY	MAX	FEBRUARY			MARCH			APRIL			MAY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	---	---	---	14.2	13.6	14.0	12.3	9.9	11.3	11.8	6.9	9.2	
2	---	---	---	13.7	13.2	13.4	11.3	8.7	10.1	10.3	6.9	8.4	
3	---	---	---	13.8	13.2	13.5	12.0	8.2	9.9	12.3	8.3	9.9	
4	---	---	---	13.4	12.4	12.8	---	---	---	12.2	8.6	10.4	
5	---	---	---	12.5	11.6	12.0	---	---	---	10.0	7.7	8.6	
6	---	---	---	11.6	10.2	11.1	---	---	---	8.1	6.9	7.6	
7	---	---	---	10.2	9.1	9.8	9.9	7.8	8.9	9.6	6.8	8.1	
8	---	---	---	9.1	8.1	8.6	---	---	---	9.6	8.3	8.8	
9	---	---	---	8.2	7.2	7.8	---	---	---	8.8	8.0	8.4	
10	---	---	---	8.8	7.5	8.5	---	---	---	8.3	7.5	8.0	
11	15.2	14.0	14.4	---	---	---	---	---	---	7.7	6.9	7.2	
12	15.6	14.3	14.8	---	---	---	---	---	---	8.9	6.9	7.9	
13	16.0	14.4	15.1	---	---	---	---	---	---	---	---	---	
14	16.3	14.6	15.3	---	---	---	---	---	---	---	---	---	
15	15.9	14.9	15.3	---	---	---	11.8	8.4	9.7	---	---	---	
16	15.8	15.1	15.4	---	---	---	12.1	8.2	9.8	---	---	---	
17	15.8	15.2	15.5	---	---	---	12.5	8.2	9.7	9.4	5.5	7.9	
18	15.9	15.3	15.6	---	---	---	12.1	8.3	9.6	6.7	4.8	5.7	
19	15.9	15.4	15.6	---	---	---	12.7	8.0	10.2	---	---	---	
20	16.1	15.4	15.6	---	---	---	12.0	7.7	9.4	---	---	---	
21	16.2	15.2	15.6	---	---	---	9.8	7.9	9.1	---	---	---	
22	15.7	14.8	15.3	11.7	9.2	10.5	11.6	9.6	10.6	---	---	---	
23	15.4	14.7	15.0	11.9	9.6	10.7	13.0	10.3	11.5	---	---	---	
24	15.4	14.8	15.1	11.5	8.8	10.2	13.3	10.3	11.6	10.0	9.1	9.5	
25	15.6	15.0	15.3	9.7	8.0	9.0	13.4	10.4	11.5	9.8	8.3	9.2	
26	15.4	14.9	15.1	9.5	8.1	8.8	13.0	9.7	11.3	9.4	7.5	8.7	
27	15.2	14.6	14.9	9.0	8.0	8.5	13.0	9.5	11.1	10.7	7.5	9.0	
28	14.9	14.2	14.5	10.6	7.9	8.9	12.4	8.8	10.7	10.8	7.5	8.6	
29	---	---	---	10.9	8.3	9.7	11.6	8.2	9.8	10.5	7.0	8.6	
30	---	---	---	12.3	10.3	11.5	12.8	8.3	10.1	10.2	7.4	8.5	
31	---	---	---	13.4	11.1	12.4	---	---	---	8.9	7.6	8.2	
MONTH	16.3	14.0	15.2	14.2	7.2	10.6	13.4	7.7	10.3	12.3	4.8	8.5	

SURFACE-WATER RECORDS
Scioto River Basin

03228500 BIG WALNUT CREEK AT CENTRAL COLLEGE, OHIO

LOCATION.—Latitude 40°06'13", longitude 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, Ohio.

DRAINAGE AREA.—190 mi².

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. Flow completely regulated by Hoover Reservoir since Sept. 1954. (See station 03228400). Water-quality data collected at this site 1965-1977. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	141	190	125	133	152	140	240	149	172	185	167	186
2	151	191	151	122	156	141	207	149	160	198	148	1740
3	142	192	146	116	167	148	183	141	179	197	140	2470
4	130	192	131	131	165	159	166	134	405	185	138	1020
5	125	191	129	122	155	151	549	132	350	155	136	475
6	124	190	140	126	156	137	744	127	258	154	142	310
7	123	190	122	126	156	147	707	162	214	155	147	244
8	153	190	118	124	140	155	1120	151	193	159	141	189
9	141	189	146	112	139	149	659	547	352	149	137	161
10	137	205	148	126	148	141	376	2040	315	146	143	164
11	142	202	137	126	160	151	252	1580	258	162	150	154
12	132	165	129	129	139	140	222	837	318	152	132	154
13	131	135	130	129	137	163	182	466	868	148	146	179
14	150	142	121	132	155	505	182	303	1920	160	161	175
15	153	143	125	144	134	524	174	344	977	171	153	154
16	149	146	134	143	129	481	172	863	466	157	127	159
17	125	146	136	144	138	435	171	661	300	160	138	168
18	127	131	138	134	152	369	146	379	243	161	134	164
19	140	132	e135	132	154	294	137	266	220	171	144	148
20	148	131	e130	142	151	267	139	302	184	164	142	140
21	160	140	e120	175	148	257	159	1650	168	161	147	140
22	166	130	111	185	143	238	159	843	155	162	156	149
23	150	143	136	167	135	207	134	431	189	156	153	149
24	139	148	124	158	149	184	137	273	206	146	153	151
25	140	169	111	162	145	175	148	217	193	141	153	159
26	142	163	97	163	145	203	161	183	192	149	160	148
27	149	135	129	170	140	239	154	166	187	165	165	2150
28	168	121	116	161	140	219	170	158	180	162	143	2820
29	174	120	114	166	---	277	175	135	178	155	148	929
30	186	121	117	166	---	452	157	140	177	142	191	468
31	188	---	128	165	---	312	---	181	---	153	152	---
TOTAL	4526	4783	3974	4431	4128	7560	8282	14110	10177	4981	4587	15817
MEAN	146	159	128	143	147	244	276	455	339	161	148	527
MAX	188	205	151	185	167	524	1120	2040	1920	198	191	2820
MIN	123	120	97	112	129	137	134	127	155	141	127	140

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1955 - 2003, BY WATER YEAR (WY)

MEAN	111	124	153	191	237	335	332	269	225	163	145	129
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	0.15	1.69	0.77	1.02	6.24	89.1	46.2	21.5	0.30	0.55	4.86	3.43
(WY)	1956	1956	1956	1956	1956	1972	1955	1955	1955	1955	1955	1955

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1955 - 2003	
ANNUAL TOTAL	74859		87356			
ANNUAL MEAN	205		239			
HIGHEST ANNUAL MEAN					337	
LOWEST ANNUAL MEAN					111	
HIGHEST DAILY MEAN	2940		Apr 15		10600	
LOWEST DAILY MEAN	80		Jan 2		0.00	
ANNUAL SEVEN-DAY MINIMUM	97		Jan 16		0.00	
MAXIMUM PEAK FLOW			4630		23800	
MAXIMUM PEAK STAGE			11.06		19.75	
INSTANTANEOUS LOW FLOW					0.00	
10 PERCENT EXCEEDS	266		359		303	
50 PERCENT EXCEEDS	158		154		123	
90 PERCENT EXCEEDS	112		129		66	

e Estimated.

SURFACE-WATER RECORDS
Scioto River Basin

03228750 ALUM CREEK NEAR KILBOURNE, OHIO

LOCATION.—Latitude 40°21'24", longitude 82°55'18", Delaware County, Hydrologic Unit 05060001, on left bank of upstream side of bridge on County Road 34, 100 ft downstream from West Branch Alum Creek, and 2.6 mi northeast of Kilbourne.

DRAINAGE AREA.—64.9 mi².

PERIOD OF RECORD.—November 1973 to September 1981, October 2000 to current year.

GAGE.—Water-stage recorder. Datum of gage is 900.99 ft above sea level.

REMARKS.—Records poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	e3.4	e5.3	e8.0	420	e7.4	e40	51	26	79	7.1	78	978
2	e2.5	e5.0	e7.6	174	e7.2	e80	45	50	29	6.2	59	973
3	e2.1	e5.0	e6.8	75	e7.0	e200	38	43	242	6.0	56	268
4	e2.5	e5.1	e6.4	47	e230	e400	37	30	134	6.7	172	85
5	e4.2	e5.6	e6.0	37	e120	e1100	530	317	51	37	91	40
6	e3.8	e6.9	e5.6	e31	e40	886	143	147	29	21	46	28
7	e3.0	e7.3	e5.2	e28	e31	367	296	81	25	66	38	25
8	e2.3	e6.5	e4.8	e26	e26	509	234	78	44	93	42	23
9	e2.1	e6.4	e4.6	e23	e30	670	103	1430	119	132	136	22
10	e2.1	e26	e5.0	e21	e17	187	72	701	36	85	163	18
11	e2.1	e125	e6.0	e20	e16	85	58	433	811	53	31	13
12	e2.1	e30	e7.6	e19	e14	64	48	143	572	25	29	9.9
13	e2.1	e19	9.1	e17	e13	619	41	90	394	20	22	8.0
14	e2.1	e10	17	e16	e12	332	36	49	204	11	13	7.2
15	e2.1	e7.5	22	e15	e11	172	34	294	111	8.0	9.5	8.4
16	e2.3	e7.3	21	e14	e11	174	32	668	51	14	12	7.1
17	e2.5	e7.1	16	e13	e10	140	32	112	35	8.8	22	6.3
18	e2.8	e6.4	16	e13	e9.8	96	34	56	30	6.0	15	5.4
19	e3.8	e6.3	88	e12	e9.4	68	31	36	26	5.4	8.4	41
20	e4.3	e6.3	319	e11	e9.0	69	31	340	24	4.8	6.8	27
21	e4.3	6.3	79	e11	e8.8	66	59	354	23	6.6	5.9	18
22	e3.9	16	45	e10	e8.4	62	41	80	20	21	7.9	212
23	e3.5	e27	34	e9.8	e800	46	34	39	17	15	6.1	219
24	e3.4	e31	27	e9.4	e300	39	30	28	13	9.9	5.0	45
25	e4.6	e26	e24	e9.0	e100	35	29	26	9.6	6.5	4.4	26
26	e15	20	e21	e8.6	e70	76	28	24	7.9	5.4	4.6	24
27	e6.2	14	e19	e8.4	e60	56	27	22	8.4	5.4	45	1780
28	e4.7	e13	e18	e8.0	e50	43	26	22	8.0	9.8	29	419
29	e4.7	e11	e16	e7.8	---	182	26	23	8.5	9.6	15	98
30	e6.9	9.2	150	e7.7	---	e126	26	21	9.6	5.7	547	54
31	e6.3	---	559	e7.6	---	61	---	169	---	7.9	64	---
TOTAL	117.7	477.5	1573.7	1129.3	2028.0	7050	2252	5932	3171.0	718.8	1783.6	5488.3
MEAN	3.80	15.9	50.8	36.4	72.4	227	75.1	191	106	23.2	57.5	183
MAX	15	125	559	420	800	1100	530	1430	811	132	547	1780
MIN	2.1	5.0	4.6	7.6	7.0	35	26	21	7.9	4.8	4.4	5.4
CFSM	0.06	0.25	0.78	0.56	1.12	3.50	1.16	2.95	1.63	0.36	0.89	2.82
IN.	0.07	0.27	0.90	0.65	1.16	4.04	1.29	3.40	1.82	0.41	1.02	3.15

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2003, BY WATER YEAR (WY)

	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985
MEAN	14.3	41.3	85.2	97.4	162	134	112	65.0	51.1	14.1	35.3	32.3
MAX	44.2	176	192	220	355	364	215	191	139	51.1	244	183
(WY)	2002	1980	1978	1974	1981	1978	2002	2003	1980	1980	1980	2003
MIN	2.96	5.63	11.0	8.04	16.2	28.9	21.4	12.0	4.60	1.56	1.64	1.86
(WY)	1975	1979	1977	1977	1978	2001	1976	1976	1977	2001	2002	1977

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1974 - 2003

ANNUAL TOTAL	18446.87	31721.9										
ANNUAL MEAN	50.5	86.9								70.2		
HIGHEST ANNUAL MEAN										101		1980
LOWEST ANNUAL MEAN										46.0		1976
HIGHEST DAILY MEAN				1610	Apr 14		1780	Sep 27		2650	Feb 24	1975
LOWEST DAILY MEAN				0.00	Sep 4		2.1	Oct 3		0.00	Sep 4	2002
ANNUAL SEVEN-DAY MINIMUM				0.03	Sep 3		2.1	Oct 9		0.03	Sep 3	2002
MAXIMUM PEAK FLOW							3110	May 9a		4850	Feb 24	1975
MAXIMUM PEAK STAGE							10.08	May 9		12.05	Feb 24	1975
INSTANTANEOUS LOW FLOW										0.00	Sep 3	2002
ANNUAL RUNOFF (CFSM)		0.78						1.34		1.08		
ANNUAL RUNOFF (INCHES)		10.57						18.18		14.69		
10 PERCENT EXCEEDS				95				215		150		
50 PERCENT EXCEEDS				14				24		18		
90 PERCENT EXCEEDS				0.78				5.1		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
Scioto River Basin

03228805 ALUM CREEK AT AFRICA, OHIO

LOCATION.—Latitude 40°10'56", longitude 82°57'42", in SE ¼ 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, Ohio, 2.8 mi upstream from Westerville Reservoir outlet, and 4.2 mi northwest of Westerville, Ohio.

DRAINAGE AREA.—122 mi².

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-Sept. 30, 1985, at datum 22.00 ft lower; Oct. 17, 1973-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 fair. Flow regulated by Alum Creek Lake since Aug. 1973. Water-quality and sediment data formerly collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREME FOR PERIOD OF RECORD.—Maximum discharge, 6,160 ft³/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 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13	10	13	12	9.9	12	72	17	90	12	13	416
2	13	9.7	13	10	9.9	13	17	17	68	12	39	29
3	13	9.7	13	10	10	12	17	17	231	12	64	210
4	13	9.7	13	10	10	11	16	17	412	11	80	1210
5	12	9.8	11	10	9.8	14	21	20	393	11	79	1720
6	11	9.6	8.5	9.9	9.8	12	18	54	185	11	79	1250
7	11	9.6	8.5	9.7	9.9	11	21	122	54	12	78	657
8	11	9.4	8.5	9.7	9.8	13	18	152	34	142	78	451
9	11	9.4	8.7	9.8	9.7	12	18	248	153	298	62	380
10	11	11	8.5	9.6	9.7	11	17	304	193	352	91	237
11	11	11	8.8	9.7	9.6	11	18	25	226	351	122	134
12	11	11	8.7	9.7	9.5	11	18	682	366	278	122	43
13	11	11	8.9	9.7	9.5	10	18	1650	438	70	122	18
14	12	11	9.5	9.7	9.5	9.2	18	1190	436	20	48	18
15	12	11	9.1	9.7	9.7	9.4	18	769	648	19	11	18
16	12	11	9.3	9.8	9.6	9.7	17	953	1030	20	12	18
17	11	11	9.2	9.8	9.6	13	18	916	682	19	11	19
18	11	11	9.2	9.7	9.5	60	18	463	162	16	11	19
19	11	11	11	9.2	7.4	84	17	102	33	15	11	19
20	11	11	11	9.2	6.2	158	17	104	21	15	11	19
21	10	12	9.9	9.3	6.0	154	18	566	12	15	11	19
22	10	12	9.9	7.4	12	91	17	853	12	15	11	20
23	10	12	9.9	6.3	11	90	17	547	13	15	12	133
24	10	12	9.9	6.8	10	90	17	117	13	14	11	198
25	11	12	9.9	7.9	10	90	16	30	12	14	11	196
26	10	12	9.8	8.0	11	86	16	11	12	14	12	82
27	10	12	9.9	7.4	12	146	16	11	13	14	12	24
28	9.9	12	9.9	5.9	12	147	16	12	12	15	12	591
29	11	11	9.9	9.8	---	84	17	12	12	15	12	1640
30	11	11	10	9.7	---	82	16	13	12	11	21	1670
31	10	---	11	9.7	---	155	---	41	---	12	236	---
TOTAL	344.9	325.9	310.4	285.1	272.6	1711.3	578	10035	5978	1850	1505	11458
MEAN	11.1	10.9	10.0	9.20	9.74	55.2	19.3	324	199	59.7	48.5	382
MAX	13	12	13	12	12	158	72	1650	1030	352	236	1720
MIN	9.9	9.4	8.5	5.9	6.0	9.2	16	11	12	11	11	18

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2003, BY WATER YEAR (WY)

	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	1999	2000	2001	2002	2003
MEAN	49.4	105	129	115	159	155	105	125	98.0	70.0	39.3	62.6																		
MAX	309	375	460	437	464	514	358	651	293	364	570	618																		
(WY)	1987	1980	1991	1993	1990	1979	1979	1996	1990	1987	1980	1980																		
MIN	3.85	5.39	6.15	1.50	5.48	5.02	3.46	3.32	3.61	3.05	3.31	3.53																		
(WY)	1974	1989	1976	1976	1981	1987	1981	1976	1976	1976	1981	1981																		

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1974 - 2003	
ANNUAL TOTAL	21629.8		34654.2			
ANNUAL MEAN	59.3		94.9		101	
HIGHEST ANNUAL MEAN					243	
LOWEST ANNUAL MEAN					8.54	
HIGHEST DAILY MEAN	1590	Apr 17	1720	Sep 5	1980	Nov 29 1979
LOWEST DAILY MEAN	8.5	Dec 6	5.9	Jan 28	1992	Aug 25 1992
ANNUAL SEVEN-DAY MINIMUM	8.6	Dec 6	7.1	Jan 22	1976	Jun 11 1976
MAXIMUM PEAK FLOW			2090		2310	
MAXIMUM PEAK STAGE			5.65		27.74	
INSTANTANEOUS LOW FLOW					0.00	
10 PERCENT EXCEEDS	152		233		284	
50 PERCENT EXCEEDS	15		12		18	
90 PERCENT EXCEEDS	10		9.6		6.1	

SURFACE-WATER RECORDS
Scioto River Basin

03229500 BIG WALNUT CREEK AT REES, OHIO

LOCATION.—Latitude 39°51'24", longitude 82°57'26", in NE ¼ 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 Reese, Ohio, 4.2 mi downstream from Alum Creek, and 10.5 mi upstream from mouth.

DRAINAGE AREA.—544 mi².

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-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.—Records good except for periods of estimated record, which are poor. Flow regulated by Hoover Reservoir 26 mi upstream and Alum Creek Lake, 30 mi upstream since Aug. 1973. Water-quality data formerly collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 59,800 ft³/s Jan. 22, 1959, gage height, 22.03 ft (from highwater mark in well), from rating curve extended above 13,000 ft³/s on basis of contracted-opening measurement of peak flow; minimum, 5 ft³/s Sept. 4, 5, 10-12, 1925; minimum daily since 1956, 9.4 ft³/s Sept. 13, 1964.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	106	175	112	1680	e92	301	613	306	458	113	99	2150
2	102	161	115	1060	e90	415	351	264	304	112	443	5180
3	156	160	109	511	e150	440	274	171	1100	111	930	4910
4	312	160	99	334	528	367	244	145	1210	126	1320	2630
5	531	224	97	268	316	1220	1150	1440	1070	483	834	2270
6	169	515	97	e240	e190	1030	1170	588	756	531	473	1970
7	106	256	84	e220	e140	495	1370	1010	480	385	700	1350
8	80	210	87	e210	e130	397	1810	772	394	723	766	893
9	74	175	80	e270	e130	1320	1150	1330	758	1450	307	756
10	74	354	79	307	e120	570	686	3230	715	917	255	549
11	90	2540	149	224	e120	351	475	2960	653	808	279	392
12	99	569	239	e160	e110	311	348	1510	820	635	392	283
13	79	289	167	e150	e110	496	287	1980	1470	424	285	193
14	68	193	833	e140	e110	835	251	1900	6420	195	246	156
15	68	165	429	e130	e100	783	219	1660	2400	199	653	163
16	98	264	254	e130	e100	680	204	2740	1840	496	2540	167
17	87	212	197	e130	e98	634	182	2070	1490	185	714	143
18	76	171	178	e120	e96	534	194	1440	858	141	282	142
19	84	141	352	e120	e94	507	177	656	374	126	185	183
20	143	145	1870	e120	e92	643	177	741	296	111	158	205
21	92	133	530	e110	e90	636	667	2600	226	113	142	141
22	76	312	300	e110	985	493	302	2190	189	207	124	1260
23	72	309	216	e110	2250	402	220	1540	158	231	120	1270
24	84	204	182	e100	767	346	172	714	151	381	112	563
25	265	165	250	e100	409	315	161	427	158	175	102	442
26	1080	150	212	e100	296	902	167	422	143	131	99	469
27	266	156	163	e98	247	556	170	262	273	107	698	3440
28	159	143	148	e96	243	545	145	291	169	174	571	4290
29	216	121	148	e96	---	1010	181	342	134	144	317	2690
30	323	116	190	e94	---	905	294	202	118	120	6060	2120
31	210	---	710	e92	---	659	---	483	---	109	1360	---
TOTAL	5445	8888	8676	7630	8203	19098	13811	36386	25585	10163	21566	41370
MEAN	176	296	280	246	293	616	460	1174	853	328	696	1379
MAX	1080	2540	1870	1680	2250	1320	1810	3230	6420	1450	6060	5180
MIN	68	116	79	92	90	301	145	145	118	107	99	141

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2003, BY WATER YEAR (WY)

	205	369	495	513	664	741	700	592	518	362	284	259
MEAN	205	369	495	513	664	741	700	592	518	362	284	259
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	1976	1988	1991	1993	1985

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1974 - 2003

ANNUAL TOTAL	153598	206821	
ANNUAL MEAN	421	567	474
HIGHEST ANNUAL MEAN			740
LOWEST ANNUAL MEAN			221
HIGHEST DAILY MEAN	5230	Apr 15	6420
LOWEST DAILY MEAN	42	Sep 8	68
ANNUAL SEVEN-DAY MINIMUM	44	Sep 7	79
MAXIMUM PEAK FLOW			8860
MAXIMUM PEAK STAGE			12.89
INSTANTANEOUS LOW FLOW			22
10 PERCENT EXCEEDS	1010	1400	1190
50 PERCENT EXCEEDS	193	256	186
90 PERCENT EXCEEDS	80	99	59

e Estimated.

SURFACE-WATER RECORDS
Scioto River Basin

03230310 LITTLE DARBY CREEK AT WEST JEFFERSON, OHIO

LOCATION.—Latitude 39°57'04", longitude 83°16'10", Madison County, Hydrologic Unit 05060001, at bridge on Middle Pike, 0.4 mi north of West Jefferson, Ohio, and 7.2 mi upstream from Big Darby Creek.

DRAINAGE AREA.—162 mi².

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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	48	73	75	1020	e40	179	209	81	107	49	37	961
2	31	62	63	1090	e39	168	174	88	93	49	49	1560
3	24	55	58	641	e37	182	147	115	194	46	122	1870
4	24	48	e45	392	e80	184	131	92	575	41	250	1080
5	30	47	e40	292	e150	363	264	310	328	58	501	562
6	40	77	e36	243	e120	898	372	914	210	82	221	365
7	32	88	e33	204	e100	561	436	578	169	125	127	258
8	25	76	e30	199	e90	400	893	709	171	348	98	189
9	19	67	e27	277	e80	1160	553	591	329	646	116	148
10	17	75	e24	307	e74	1170	348	1080	255	1090	120	118
11	17	827	e26	232	e68	682	261	1120	183	721	93	95
12	17	1050	e32	e180	e62	726	211	766	238	369	86	80
13	17	459	e38	e150	e58	1000	168	431	287	232	56	70
14	16	273	e60	e140	e54	1110	140	293	592	159	44	64
15	15	197	e110	e120	e52	845	126	363	521	127	43	61
16	15	181	156	e110	e50	781	116	594	378	137	37	54
17	16	192	145	e100	e49	651	109	379	356	118	39	49
18	16	152	115	e90	e47	498	109	266	242	86	31	44
19	18	120	191	e82	e46	376	110	222	191	73	25	42
20	19	104	1120	e76	e45	363	102	238	151	62	22	41
21	18	95	982	e68	e43	422	347	562	122	59	20	38
22	18	101	512	e64	e70	513	404	356	104	62	20	62
23	18	93	326	e60	e300	341	225	230	92	88	17	150
24	17	93	247	e54	853	259	166	182	82	84	16	146
25	23	99	222	e52	482	215	143	152	74	67	14	91
26	209	98	176	e50	342	241	128	139	69	52	13	74
27	230	91	141	e48	277	273	107	125	68	44	18	719
28	124	82	131	e45	218	214	93	112	64	43	24	1300
29	92	79	127	e43	---	257	89	106	57	43	20	661
30	88	84	151	e42	---	390	85	100	52	38	1130	345
31	87	---	609	e41	---	270	---	106	---	32	1530	---
TOTAL	1380	5138	6048	6512	3926	15692	6766	11400	6354	5230	4939	11297
MEAN	44.5	171	195	210	140	506	226	368	212	169	159	377
MAX	230	1050	1120	1090	853	1170	893	1120	592	1090	1530	1870
MIN	15	47	24	41	37	168	85	81	52	32	13	38
CFSM	0.27	1.06	1.20	1.30	0.87	3.12	1.39	2.27	1.31	1.04	0.98	2.32
IN.	0.32	1.18	1.39	1.50	0.90	3.60	1.55	2.62	1.46	1.20	1.13	2.59

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2003, BY WATER YEAR (WY)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	
MEAN	30.3	96.0	144	220	196	261	285	306	226	140	62.3	46.3
MAX	81.0	312	368	485	273	506	493	845	673	701	335	377
(WY)	1996	1994	2002	1996	1994	2003	1996	1997	1993	1995	2003	
MIN	1.74	6.81	10.5	56.6	91.7	74.9	70.2	55.5	18.5	16.8	3.50	0.11
(WY)	2000	2000	2000	2001	1995	2001	1997	1999	1999	1999	1999	1999

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1993 - 2003	
ANNUAL TOTAL	58276.49		84682			
ANNUAL MEAN	160		232		168	
HIGHEST ANNUAL MEAN					256	
LOWEST ANNUAL MEAN					91.1	
HIGHEST DAILY MEAN	1750	May 14	1870	Sep 3	4910	Jun 3 1997
LOWEST DAILY MEAN	0.44	Sep 14	13	Aug 26	0.00	Sep 6 1999
ANNUAL SEVEN-DAY MINIMUM	1.0	Sep 8	16	Oct 12	0.00	Sep 12 1999
MAXIMUM PEAK FLOW			2150		6240	
MAXIMUM PEAK STAGE			11.10		15.53	
INSTANTANEOUS LOW FLOW			14		0.00	
ANNUAL RUNOFF (CFSM)	0.99		1.43		1.03	
ANNUAL RUNOFF (INCHES)	13.38		19.45		14.05	
10 PERCENT EXCEEDS	378		622		422	
50 PERCENT EXCEEDS	85		115		66	
90 PERCENT EXCEEDS	6.2		31		8.2	

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

SURFACE-WATER RECORDS
Scioto River Basin

03230450 HELLBRANCH RUN NEAR HARRISBURG, OHIO

LOCATION.—Latitude 39°50'52", longitude 83°09'26", Franklin County, Hydrologic Unit 05060001, on right downstream side of State Route 665 bridge, 2.5 mi upstream from mouth, 2.7 mi north-northwest of Harrisburg, Ohio and 1.5 mi east of Darbydale, Ohio.
DRAINAGE AREA.—35.8 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1992 to current year.

GAGE.—Water-stage recorder and crest-stage gage. Elevation of gage is 813 ft above sea level (from topographic map). Prior to Sept. 2001 at site 1.5 mi downstream at elevation 28 ft lower.

REMARKS.—Records fair except for periods of estimated record, which are poor. Water-quality data collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	4.9	5.8	4.6	292	e3.8	38	39	10	18	3.5	2.2	303	
2	4.0	5.9	3.9	198	e5.0	50	31	11	12	3.3	3.6	773	
3	3.4	6.7	3.4	117	e9.0	58	25	10	55	2.9	12	373	
4	6.5	6.0	e2.8	73	41	55	22	8.7	66	2.6	61	171	
5	12	7.2	e2.5	52	30	189	72	121	38	6.4	172	101	
6	7.4	17	e2.3	42	e17	160	52	91	25	9.0	87	67	
7	4.7	14	e2.2	35	e13	101	158	109	21	39	72	48	
8	3.4	9.7	e2.1	38	e11	151	152	87	28	25	66	35	
9	2.8	7.9	e2.0	56	e10	363	90	97	92	54	50	26	
10	2.2	23	e2.0	43	e9.2	160	62	133	48	39	61	21	
11	2.7	162	e2.2	29	e8.4	112	47	150	35	27	30	16	
12	3.6	47	e4.0	e19	e8.0	117	36	82	35	16	27	12	
13	4.8	24	e6.0	e16	e7.0	178	27	50	64	11	44	9.6	
14	5.0	16	62	e13	e6.6	149	22	36	108	7.6	31	8.0	
15	4.6	13	51	e11	e6.2	110	19	49	67	6.7	27	6.9	
16	4.0	13	33	e10	e5.7	90	18	44	46	20	20	6.4	
17	2.9	13	22	e8.8	e5.2	72	16	33	51	10	13	5.5	
18	2.3	9.8	18	e8.0	e5.0	59	15	31	39	6.4	9.5	5.1	
19	1.8	8.8	58	e7.0	e4.9	47	13	25	27	4.9	7.1	5.5	
20	1.6	7.8	247	e6.2	e4.9	53	13	38	19	3.7	5.6	5.0	
21	1.8	6.6	97	e5.8	e4.9	51	34	129	15	3.4	4.7	4.8	
22	2.2	6.4	56	e5.2	e80	45	24	60	12	6.0	4.4	28	
23	2.1	6.2	36	e5.0	257	37	17	39	10	6.6	3.7	51	
24	1.8	6.0	27	e4.7	120	30	14	29	8.2	5.4	3.0	24	
25	5.1	5.6	27	e4.4	75	26	13	22	6.9	4.7	2.4	15	
26	31	5.0	20	e4.3	57	72	12	20	6.2	3.2	2.3	19	
27	12	4.7	16	e4.2	47	51	9.6	17	6.8	2.4	4.1	423	
28	6.4	4.3	15	e4.1	40	37	8.6	15	5.5	3.0	26	192	
29	6.4	4.3	14	e4.0	---	82	8.6	14	4.5	3.1	12	98	
30	8.1	5.1	25	e3.9	---	72	9.1	12	3.8	2.4	432	65	
31	7.5	---	104	e3.9	---	49	---	19	---	1.8	288	---	
TOTAL	169.0	471.8	968.0	1123.5	891.8	2864	1078.9	1591.7	972.9	340.0	1583.6	2917.8	
MEAN	5.45	15.7	31.2	36.2	31.9	92.4	36.0	51.3	32.4	11.0	51.1	97.3	
MAX	31	162	247	292	257	363	158	150	108	54	432	773	
MIN	1.6	4.3	2.0	3.9	3.8	26	8.6	8.7	3.8	1.8	2.2	4.8	
CFSM	0.15	0.43	0.84	0.98	0.86	2.50	0.97	1.39	0.88	0.30	1.38	2.63	
IN.	0.17	0.47	0.97	1.13	0.90	2.88	1.08	1.60	0.98	0.34	1.59	2.93	
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2003, BY WATER YEAR (WY)													
MEAN	4.28	15.0	35.0	62.9	48.3	59.3	72.9	63.7	47.7	21.1	14.9	10.7	
MAX	16.0	46.2	82.0	143	75.5	109	157	187	142	82.1	65.4	97.3	
(WY)	1996	1993	1997	1996	2000	1993	1996	1996	1997	1993	1995	2003	
MIN	0.000	0.005	1.95	10.9	23.6	13.8	12.7	5.40	0.36	0.30	0.000	0.000	
(WY)	1995	2000	2000	2001	1995	2001	1997	1999	1999	1999	1999	1999	
SUMMARY STATISTICS													
				FOR 2002 CALENDAR YEAR				FOR 2003 WATER YEAR				WATER YEARS 1993 - 2003	
ANNUAL TOTAL				11136.84				14973.0					
ANNUAL MEAN				30.5				41.0				37.9	
HIGHEST ANNUAL MEAN												66.8	1996
LOWEST ANNUAL MEAN												22.9	2000
HIGHEST DAILY MEAN				410	May 13				773	Sep 2	2000	Jun 29 1998	
LOWEST DAILY MEAN				0.00	Aug 24				1.6	Oct 20	0.00	Aug 30 1993	
ANNUAL SEVEN-DAY MINIMUM				0.00	Aug 24				1.9	Oct 18	0.00	Sep 13 1993	
MAXIMUM PEAK FLOW								1010	Sep 2a	3180			Jun 29 1998
MAXIMUM PEAK STAGE								7.60	Sep 2	14.19			Jun 29 1998
INSTANTANEOUS LOW FLOW								1.6	Oct 20	0.00			Sep 23 1993
ANNUAL RUNOFF (CFSM)				0.82				1.11					1.02
ANNUAL RUNOFF (INCHES)				11.20				15.05					13.92
10 PERCENT EXCEEDS				65				101					87
50 PERCENT EXCEEDS				14				15					10
90 PERCENT EXCEEDS				1.2				3.5					0.09

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 1992 to current year.

PERIOD OF DAILY RECORD.—

SUSPENDED-SEDIMENT DISCHARGE: October 1992 to current year.

INSTRUMENTATION.—Refrigerated water-quality pumping sampler since Oct. 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 at a single vertical, approximately once per week. 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, Oct. 25, 1996, Nov. 13, 1998, and on several days during 1998 and 2000-2003.

SEDIMENT LOADS: Maximum daily, 4,420 tons, June 29, 1998; minimum daily, 0.00 ton, on many days during 1993-1995, 1998, 1999, 2002, and on several days during 1996, 1997, and 2000.

EXTREMES FOR CURRENT YEAR.—

SEDIMENT CONCENTRATIONS: Maximum daily mean, 390 mg/L, Aug. 30; minimum daily mean, 1 mg/L, on several days during the year.

SEDIMENT LOADS: Maximum daily, 474 tons, Aug. 30; minimum daily, 0.01 ton, on several days during the year.

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

[(00061), USGS National Water Information System parameter code; cfs, cubic feet per second; Sampling code*, 10 means stream cross-section sample collected by equal-width-increment (EWI) method, 50 means point sample collected from refrigerated automatic sampler; mg/L, milligrams per liter; std, standard; uS/cm, microsiemens per centimeter; deg C, degrees Celsius; --, no data]

Date	Time	Instantaneous discharge, cfs (00061)	Sampling method, code* (82398)	Dissolved oxygen, mg/L (00300)	pH, water, unfltrd, std units (00400)	Specific conductance, wat unfltrd, uS/cm 25 deg C (00095)	Temperature, air, deg C (00020)	Temperature, water, deg C (00010)	Chloride, water, fltrd, mg/L (00940)	Silica, water, fltrd, mg/L (00955)
OCT										
18...	1345	2.4	10	10.3	7.9	849	18.0	12.5	99.1	4.49
NOV										
19...	1140	8.9	10	12.4	7.8	794	10.5	6.5	73.0	7.97
DEC										
18...	1200	18	10	14.0	7.8	860	11.0	4.0	90.2	4.75
JAN										
02...	1405	173	10	--	--	543	2.0	4.0	--	--
FEB										
26...	1350	55	10	14.7	7.8	861	1.5	1.5	112	5.57
APR										
22...	1135	24	10	10.9	8.1	772	8.0	12.0	86.3	3.67
MAY										
20...	1210	21	10	6.9	7.4	802	22.0	16.5	64.5	7.02
JUL										
11...	1125	27	10	8.0	8.3	722	26.0	20.5	66.4	10.9
AUG										
26...	1110	2.4	10	6.9	8.1	832	29.0	21.5	96.6	7.31
30...	0500	61	50	--	--	--	--	--	60.7	7.84
30...	0530	155	50	--	--	--	--	--	56.7	7.19
30...	0700	309	50	--	--	--	--	--	33.8	5.83
30...	1330	551	50	--	--	--	--	--	16.7	6.31
31...	2030	160	50	--	--	--	--	--	24.6	8.40
SEP										
01...	1730	309	50	--	--	--	--	--	27.3	8.80
01...	1915	556	50	--	--	--	--	--	24.7	10.2
01...	2115	861	50	--	--	--	--	--	23.1	8.54
02...	0925	946	10	--	--	285	21.5	20.5	--	--
03...	1415	330	50	--	--	--	--	--	17.1	8.74
15...	1305	6.9	10	7.9	8.2	718	23.0	20.0	64.9	9.14

SURFACE-WATER RECORDS
Scioto River Basin

03230450 HELLBRANCH RUN NEAR HARRISBURG, OHIO—Continued

WATER-QUALITY RECORDS—Continued

WATER-QUALITY DATA, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003—Continued

[(009451), USGS National Water Information System parameter code; mg/L, milligrams per liter; deg C, degrees Celsius; mm, millimeter; <, concentration or value reported is less than that indicated; --, no data]

Date	Sulfate water, fltrd, mg/L (00945)	Residue total at 105 deg. C, sus- pended, mg/L (00530)	Ammonia+ org-N, water, unfltrd mg/L as N (00625)	Nitrate water, fltrd, mg/L as N (00618)	Nitrite water, fltrd, mg/L as N (00613)	Ortho- phos- phate, water, fltrd, mg/L as P (00671)	Phos- phorus, water, unfltrd mg/L (00665)	Suspnd. sedi- ment, sieve diametr percent <.063mm (70331)	Sus- pended sedi- ment concen- tration mg/L (80154)
OCT									
18...	69.5	<2	.35	.20	<.02	.083	.099	--	2
NOV									
19...	64.2	2	.47	2.82	<.02	.039	.091	--	2
DEC									
18...	65.9	2	.59	4.24	<.02	.019	.046	--	4
JAN									
02...	--	--	--	--	--	--	--	--	71
FEB									
26...	54.0	4	.42	4.65	<.02	.025	.055	--	5
APR									
22...	48.0	5	.66	4.00	<.02	.021	.062	--	5
MAY									
20...	48.1	2	.56	4.30	<.02	.057	.077	--	1
JUL									
11...	45.8	12	.48	4.18	.07	.083	.108	--	13
AUG									
26...	58.5	3	.21	.84	<.02	.137	.157	--	3
30...	49.3	77	.83	1.49	<.02	.102	.243	--	94
30...	42.4	365	2.5	1.40	<.02	.098	.650	--	474
30...	24.9	817	3.9	1.51	<.02	.081	1.15	--	1130
30...	16.0	377	2.3	1.21	<.02	.115	.641	--	334
31...	27.6	221	1.2	1.19	<.02	.114	.303	--	52
SEP									
01...	27.4	148	1.5	1.84	<.02	.124	.376	--	167
01...	20.7	213	1.4	1.30	<.02	.155	.480	--	258
01...	19.4	244	1.8	1.38	<.02	.104	.552	--	302
02...	--	--	--	--	--	--	--	90	70
03...	15.1	96	1.2	1.28	<.02	.101	.296	--	47
15...	47.4	<2	.52	1.27	<.02	<.010	.124	--	1

SURFACE-WATER RECORDS
Scioto River Basin

03230450 HELLBRANCH RUN NEAR HARRISBURG, OHIO—Continued

WATER-QUALITY RECORDS—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

[cfs, cubic feet per second; mg/L, milligrams per liter; tons/day, tons per day; --, no data; e, estimated]

Day	Mean discharge (cfs)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (cfs)	Mean concentration (mg/L)	Sediment discharge (tons/day)	Mean discharge (cfs)	Mean concentration (mg/L)	Sediment discharge (tons/day)	
		OCTOBER			NOVEMBER			DECEMBER		
1	4.9	3	0.04	5.8	3	0.05	4.6	2	0.03	
2	4.0	3	0.03	5.9	3	0.05	3.9	2	0.02	
3	3.4	3	0.03	6.7	3	0.05	3.4	2	0.02	
4	6.5	3	0.06	6.0	3	0.05	e2.8	2	0.01	
5	12	6	0.20	7.2	4	0.07	e2.5	2	0.01	
6	7.4	4	0.09	17	7	0.32	e2.3	2	0.01	
7	4.7	3	0.04	14	5	0.20	e2.2	1	0.01	
8	3.4	3	0.03	9.7	3	0.07	e2.1	1	0.01	
9	2.8	3	0.02	7.9	3	0.07	e2.0	1	0.01	
10	2.2	2	0.01	23	35	9.8	e2.0	1	0.01	
11	2.7	2	0.01	162	150	76	e2.2	2	0.01	
12	3.6	2	0.02	47	27	3.8	e4.0	3	0.04	
13	4.8	2	0.03	24	9	0.58	e6.0	4	0.07	
14	5.0	2	0.03	16	6	0.28	62	44	7.9	
15	4.6	2	0.02	13	6	0.20	51	25	3.6	
16	4.0	2	0.02	13	5	0.18	33	11	1.0	
17	2.9	2	0.02	13	4	0.15	22	5	0.30	
18	2.3	2	0.01	9.8	4	0.10	18	4	0.19	
19	1.8	3	0.02	8.8	3	0.06	58	83	41	
20	1.6	5	0.02	7.8	2	0.05	247	212	159	
21	1.8	6	0.03	6.6	2	0.04	97	99	26	
22	2.2	7	0.04	6.4	2	0.04	56	71	11	
23	2.1	9	0.05	6.2	3	0.04	36	37	3.7	
24	1.8	9	0.05	6.0	3	0.05	27	15	1.1	
25	5.1	8	0.13	5.6	3	0.05	27	13	0.98	
26	31	18	1.6	5.0	3	0.04	20	12	0.65	
27	12	10	0.33	4.7	3	0.03	16	11	0.47	
28	6.4	7	0.12	4.3	3	0.03	15	10	0.39	
29	6.4	6	0.10	4.3	2	0.03	14	8	0.32	
30	8.1	5	0.11	5.1	2	0.03	25	17	1.7	
31	7.5	4	0.08	---	---	---	104	63	21	
TOTAL	169.0	---	3.39	471.8	---	92.51	968.0	---	280.56	
		JANUARY			FEBRUARY			MARCH		
1	292	165	143	e3.8	4	0.04	38	5	0.51	
2	198	91	52	e5.0	4	0.06	50	19	2.6	
3	117	49	16	e9.0	4	0.10	58	19	2.9	
4	73	27	5.4	41	20	2.2	55	12	1.8	
5	52	19	2.6	30	12	1.0	189	85	51	
6	42	14	1.6	e17	8	0.36	160	64	29	
7	35	10	0.94	e13	5	0.19	101	28	7.7	
8	38	11	1.1	e11	5	0.15	151	76	53	
9	56	18	2.7	e10	5	0.14	363	177	187	
10	43	11	1.3	e9.2	5	0.12	160	61	28	
11	29	8	0.64	e8.4	5	0.11	112	39	12	
12	e19	7	0.36	e8.0	5	0.11	117	58	19	
13	e16	7	0.29	e7.0	5	0.09	178	102	53	
14	e13	7	0.23	e6.6	5	0.08	149	70	29	
15	e11	6	0.19	e6.2	4	0.07	110	50	15	
16	e10	6	0.17	e5.7	4	0.06	90	39	9.5	
17	e8.8	6	0.15	e5.2	4	0.05	72	28	5.5	
18	e8.0	6	0.13	e5.0	3	0.04	59	17	2.8	
19	e7.0	6	0.11	e4.9	3	0.04	47	9	1.2	
20	e6.2	6	0.10	e4.9	2	0.03	53	16	2.4	
21	e5.8	6	0.09	e4.9	2	0.03	51	12	1.7	
22	e5.2	5	0.08	e80	94	20	45	11	1.4	
23	e5.0	2	0.07	257	278	213	37	10	0.99	
24	e4.7	5	0.06	120	84	28	30	9	0.71	
25	e4.4	5	0.06	75	15	3.2	26	8	0.57	
26	e4.3	5	0.06	57	5	0.82	72	47	9.4	
27	e4.2	5	0.05	47	5	0.59	51	21	2.9	
28	e4.1	5	0.05	40	4	0.47	37	13	1.4	
29	e4.0	5	0.05	---	---	---	82	60	16	
30	e3.9	4	0.05	---	---	---	72	40	8.0	
31	e3.9	4	0.05	---	---	---	49	23	3.0	
TOTAL	1123.5	---	229.68	891.8	---	271.15	2864	---	558.98	

**SURFACE-WATER RECORDS
Scioto River Basin**

03230450 HELLBRANCH RUN NEAR HARRISBURG, OHIO—Continued

WATER-QUALITY RECORDS—Continued

SEDIMENT DISCHARGE, SUSPENDED (TONS/DAY), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

[cfs, cubic feet per second; mg/L, milligrams per liter; tons/day, tons per day; --, no data; e, estimated]

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)	
		APRIL			MAY			JUNE		
1	39	17	1.8	10	3	0.09	18	10	0.49	
2	31	13	1.1	11	4	0.11	12	8	0.26	
3	25	12	0.80	10	5	0.13	55	35	7.6	
4	22	11	0.64	8.7	5	0.13	66	35	6.6	
5	72	56	12	121	75	33	38	16	1.7	
6	52	26	3.8	91	32	8.4	25	10	0.67	
7	158	134	85	109	75	27	21	8	0.43	
8	152	96	42	87	43	11	28	13	1.3	
9	90	33	8.3	97	74	24	92	87	23	
10	62	12	2.0	133	97	40	48	29	3.8	
11	47	10	1.2	150	83	35	35	17	1.6	
12	36	10	0.92	82	33	7.4	35	13	1.3	
13	27	9	0.67	50	17	2.4	64	39	8.4	
14	22	9	0.53	36	10	0.97	108	85	25	
15	19	9	0.46	49	10	1.3	67	39	7.4	
16	18	8	0.40	44	6	0.76	46	34	4.8	
17	16	8	0.35	33	4	0.32	51	46	6.5	
18	15	8	0.32	31	3	0.23	39	20	2.2	
19	13	7	0.26	25	2	0.13	27	14	1.0	
20	13	7	0.23	38	17	3.9	19	10	0.51	
21	34	14	1.4	129	101	40	15	8	0.35	
22	24	5	0.35	60	27	4.5	12	7	0.24	
23	17	5	0.22	39	8	0.86	10	7	0.18	
24	14	5	0.17	29	8	0.60	8.2	6	0.14	
25	13	4	0.15	22	9	0.54	6.9	6	0.11	
26	12	4	0.13	20	9	0.47	6.2	6	0.09	
27	9.6	4	0.10	17	8	0.38	6.8	5	0.10	
28	8.6	4	0.08	15	8	0.33	5.5	5	0.07	
29	8.6	3	0.08	14	8	0.31	4.5	4	0.05	
30	9.1	3	0.08	12	7	0.25	3.8	4	0.04	
31	---	---	---	19	10	0.53	---	---	---	
TOTAL	1078.9	---	165.54	1591.7	---	245.04	972.9	---	105.93	
		JULY			AUGUST			SEPTEMBER		
1	3.5	4	0.04	2.2	2	0.01	303	114	164	
2	3.3	4	0.04	3.6	3	0.03	773	100	230	
3	2.9	4	0.04	12	5	0.15	373	51	54	
4	2.6	5	0.03	61	121	69	171	28	13	
5	6.4	5	0.08	172	202	106	101	23	6.3	
6	9.0	5	0.12	87	51	13	67	19	3.5	
7	39	22	2.7	72	63	24	48	14	1.8	
8	25	11	0.73	66	49	11	35	9	0.82	
9	54	33	5.3	50	30	6.4	26	4	0.27	
10	39	21	2.2	61	33	6.0	21	3	0.15	
11	27	15	1.1	30	13	1.1	16	2	0.10	
12	16	10	0.43	27	9	0.68	12	2	0.07	
13	11	7	0.22	44	27	3.7	9.6	2	0.04	
14	7.6	6	0.12	31	13	1.1	8.0	1	0.03	
15	6.7	5	0.09	27	11	0.97	6.9	1	0.02	
16	20	10	0.58	20	10	0.54	6.4	1	0.02	
17	10	6	0.16	13	7	0.25	5.5	1	0.02	
18	6.4	4	0.07	9.5	5	0.14	5.1	1	0.02	
19	4.9	4	0.05	7.1	5	0.09	5.5	2	0.02	
20	3.7	3	0.03	5.6	4	0.06	5.0	2	0.02	
21	3.4	3	0.03	4.7	4	0.05	4.8	2	0.02	
22	6.0	3	0.05	4.4	4	0.04	28	18	2.7	
23	6.6	3	0.05	3.7	3	0.03	51	27	4.2	
24	5.4	2	0.03	3.0	3	0.03	24	6	0.44	
25	4.7	2	0.03	2.4	3	0.02	15	5	0.18	
26	3.2	2	0.02	2.3	3	0.02	19	12	1.6	
27	2.4	2	0.01	4.1	4	0.06	423	218	274	
28	3.0	2	0.02	26	15	1.3	192	65	37	
29	3.1	2	0.02	12	7	0.24	98	31	8.4	
30	2.4	2	0.01	432	390	474	65	20	3.5	
31	1.8	2	0.01	288	110	105	---	---	---	
TOTAL	340.0	---	14.41	1583.6	---	825.01	2917.8	---	806.24	
YEAR	14973.0	3598.44								

SURFACE-WATER RECORDS
Scioto River Basin

03230500 BIG DARBY CREEK AT DARBYVILLE, OHIO

LOCATION.—Latitude 39°42'02," longitude 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 mi².

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 good except for periods of estimated record, which are poor. U.S. Army Corps of Engineers satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	188	134	206	3320	e110	434	674	245	354	168	115	2190
2	128	123	188	3300	e110	442	565	242	373	155	139	4380
3	99	113	172	1820	e150	481	473	270	399	145	245	5440
4	90	103	e150	1080	e200	513	422	281	1440	137	355	3630
5	90	97	e140	767	e320	1040	708	677	1070	140	1000	1460
6	88	112	e130	621	e270	2450	1610	2490	679	401	628	908
7	82	130	e120	531	e240	1670	1280	1750	517	640	401	654
8	78	141	e120	484	e210	1240	2640	2470	471	963	360	487
9	74	143	e110	603	e200	2980	1710	1640	867	1650	375	385
10	64	134	e110	829	e180	3400	1060	3500	809	3200	454	323
11	62	910	e100	649	e170	1790	799	4110	559	1880	302	270
12	58	2350	e100	e400	e150	1680	661	2350	730	857	247	228
13	56	1080	e120	e340	e140	2480	533	1230	928	557	256	194
14	54	646	e140	e270	e130	3130	441	865	1470	395	206	178
15	50	466	e200	e220	e120	2300	398	795	1850	381	235	162
16	52	383	e330	e200	e120	1990	366	1240	1020	554	278	155
17	47	382	e380	e190	e110	1760	340	910	898	331	187	143
18	45	369	331	e170	e110	1380	335	719	694	272	140	129
19	46	312	379	e160	e100	1050	319	611	554	219	127	125
20	46	266	2560	e150	e100	942	308	546	454	186	117	123
21	48	241	2960	e140	e120	1010	460	1130	380	165	103	115
22	47	235	1330	e140	e180	1260	895	1040	328	168	100	158
23	47	236	837	e130	1370	961	599	675	288	186	97	328
24	49	238	608	e130	1950	729	441	529	262	267	84	450
25	52	274	515	e130	1200	612	373	444	232	232	78	307
26	92	295	428	e120	814	718	343	394	214	182	74	222
27	321	275	333	e120	599	821	305	359	215	152	76	1480
28	280	237	288	e120	518	664	270	327	194	155	98	3750
29	195	211	270	e120	---	757	252	304	184	143	118	2170
30	158	208	272	e110	---	1260	247	297	172	136	1260	1070
31	141	---	1100	e110	---	909	---	320	---	123	4020	---
TOTAL	2927	10844	15027	17474	9991	42853	19827	32760	18605	15140	12275	31614
MEAN	94.4	361	485	564	357	1382	661	1057	620	488	396	1054
MAX	321	2350	2960	3320	1950	3400	2640	4110	1850	3200	4020	5440
MIN	45	97	100	110	100	434	247	242	172	123	74	115
CFSM	0.18	0.68	0.91	1.06	0.67	2.59	1.24	1.98	1.16	0.91	0.74	1.97
IN.	0.20	0.76	1.05	1.22	0.70	2.99	1.38	2.28	1.30	1.05	0.86	2.20

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2003, BY WATER YEAR (WY)

MEAN	107	257	474	698	776	929	838	600	456	254	156	105
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 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1922 - 2003
ANNUAL TOTAL	175702	229337	
ANNUAL MEAN	481	628	469
HIGHEST ANNUAL MEAN			840
LOWEST ANNUAL MEAN			79.1
HIGHEST DAILY MEAN	5260	Apr 15	5440
LOWEST DAILY MEAN	16	Sep 14	45
ANNUAL SEVEN-DAY MINIMUM	25	Sep 9	47
MAXIMUM PEAK FLOW			6150
MAXIMUM PEAK STAGE			9.79
INSTANTANEOUS LOW FLOW			1.4
ANNUAL RUNOFF (CFSM)	0.90	1.18	0.88
ANNUAL RUNOFF (INCHES)	12.24	15.98	11.94
10 PERCENT EXCEEDS	1120	1660	1130
50 PERCENT EXCEEDS	247	312	160
90 PERCENT EXCEEDS	47	102	26

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

03230800 DEER CREEK AT MT. STERLING, OHIO

LOCATION.—Latitude 39°42'54", longitude 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 mi².

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 formerly collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.2	29	13	1520	e37	200	288	137	136	102	65	468
2	2.2	24	10	1550	e36	226	247	141	115	88	100	2770
3	1.3	21	e8.0	685	e50	265	213	140	150	78	193	2660
4	0.92	18	e6.6	404	e160	252	195	128	411	71	205	1620
5	0.94	16	e5.8	299	e180	669	249	602	303	72	757	544
6	1.9	45	e5.0	245	e130	993	312	1100	205	75	599	338
7	1.4	58	e4.2	204	e110	579	596	691	170	76	443	232
8	0.89	40	e3.6	201	e100	676	1190	795	184	115	534	170
9	1.0	33	e3.2	290	e86	2170	609	642	656	704	314	135
10	1.1	33	e2.8	285	e78	1270	410	1090	356	1020	464	119
11	1.4	488	e2.5	211	e68	682	330	1260	250	448	494	106
12	1.6	237	e4.0	e170	e60	670	278	694	226	264	329	96
13	2.4	86	e8.0	e150	e56	1140	229	391	428	167	172	90
14	3.2	47	87	e120	e50	1400	200	283	744	121	114	86
15	5.3	36	103	e110	e45	826	186	265	608	115	98	86
16	6.0	34	62	e96	e43	673	178	307	391	678	136	83
17	6.7	36	40	e84	e40	539	169	236	1200	234	119	80
18	7.0	31	30	e76	e38	427	171	256	526	133	86	77
19	5.5	26	90	e66	e36	356	164	246	347	104	72	75
20	5.3	23	1660	e62	e34	392	156	215	251	86	64	75
21	6.7	21	792	e56	e50	452	301	610	192	79	58	73
22	8.6	22	446	e52	e100	491	389	447	158	82	61	122
23	11	20	315	e50	e870	369	263	293	136	94	61	249
24	13	18	248	e46	568	306	203	224	119	137	53	142
25	18	18	230	e45	359	272	184	186	109	107	49	104
26	47	17	187	e44	291	384	174	163	102	81	49	89
27	80	15	161	e42	249	377	154	150	106	70	49	1230
28	45	14	157	e41	219	305	141	138	95	130	55	1750
29	31	14	155	e40	---	361	138	133	86	162	59	651
30	35	14	164	e39	---	473	133	124	79	92	146	379
31	39	---	592	e37	---	346	---	132	---	73	862	---
TOTAL	394.55	1534	5595.7	7320	4143	18541	8450	12219	8839	5858	6860	14699
MEAN	12.7	51.1	181	236	148	598	282	394	295	189	221	490
MAX	80	488	1660	1550	870	2170	1190	1260	1200	1020	862	2770
MIN	0.89	14	2.5	37	34	200	133	124	79	70	49	73
CFSM	0.06	0.22	0.79	1.04	0.65	2.62	1.24	1.73	1.29	0.83	0.97	2.15
IN.	0.06	0.25	0.91	1.19	0.68	3.03	1.38	1.99	1.44	0.96	1.12	2.40

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1967 - 2003, 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	1999	2000	2001	2002	2003		
MEAN	52.7	146	277	295	350	422	393	363	274	116	104	84.6																											
MAX	180	743	641	910	910	1239	786	1210	764	480	531	779																											
(WY)	1980	1973	1978	1996	1975	1978	1996	1996	1997	1973	1979	1979																											
MIN	6.29	9.67	15.7	10.0	111	107	58.5	29.2	17.0	12.9	13.7	3.73																											
(WY)	2000	1999	1977	1977	1978	2001	1976	1976	1999	1977	1999	1998																											

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1967 - 2003

ANNUAL TOTAL	67529.45	94453.25	
ANNUAL MEAN	185	259	239
HIGHEST ANNUAL MEAN			394
LOWEST ANNUAL MEAN			82.7
HIGHEST DAILY MEAN			9400
LOWEST DAILY MEAN	0.89	0.89	0.89
ANNUAL SEVEN-DAY MINIMUM	1.2	1.2	1.2
MAXIMUM PEAK FLOW		3670	11600
MAXIMUM PEAK STAGE		9.36	11.95
INSTANTANEOUS LOW FLOW			0.91
ANNUAL RUNOFF (CFSM)	0.81	1.13	1.05
ANNUAL RUNOFF (INCHES)	11.02	15.41	14.26
10 PERCENT EXCEEDS	399	661	546
50 PERCENT EXCEEDS	112	133	96
90 PERCENT EXCEEDS	9.4	13	17

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

03232000 PAINT CREEK NEAR GREENFIELD, OHIO

LOCATION.—Latitude 39°22'45", longitude 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, Ohio, and 3.0 mi downstream from Indian Creek.

DRAINAGE AREA.—249 mi².

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-June 3, 1955, water-stage recorder; June 4, 1955-Sept. 30, 1956, nonrecording gage, at same site at datum 1.00 ft higher.

REMARKS.—Records good except for periods of estimated record, which are fair. Sediment data formerly collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	119	198	98	2070	e56	292	329	121	226	85	87	110
2	82	145	87	2570	e55	420	274	148	167	237	158	1310
3	58	118	78	1590	e68	528	227	695	250	165	410	2950
4	46	101	64	892	e140	469	201	386	369	114	397	3200
5	48	91	e60	590	e230	1460	246	1560	321	92	329	1070
6	39	139	e56	450	e150	1870	240	2220	244	84	386	505
7	40	232	e52	360	e130	1390	418	1360	214	80	324	338
8	31	187	e49	358	e110	1560	765	1030	257	82	456	245
9	31	147	e47	511	e98	2560	701	846	974	183	498	182
10	28	132	e45	520	e88	2220	476	1720	716	684	392	145
11	33	637	e43	388	e82	1330	366	1920	474	697	494	116
12	42	1220	e43	e230	e78	946	292	1190	465	371	485	95
13	31	739	e120	e180	e72	1140	236	647	544	247	276	82
14	27	450	572	e150	e68	1550	196	433	1100	189	175	73
15	24	329	647	e135	e64	1090	177	369	1170	142	123	64
16	28	290	490	e124	e62	717	164	350	646	225	112	58
17	22	273	354	e110	e59	571	156	311	1340	477	103	50
18	18	242	320	e100	e56	461	161	350	1500	253	96	44
19	16	200	449	e94	e54	385	160	346	799	175	73	40
20	21	172	1870	e86	e52	589	147	298	430	131	58	39
21	18	153	1850	e80	e50	702	459	541	328	104	48	40
22	15	150	1130	e74	e150	658	408	575	262	92	51	90
23	14	139	630	e70	1220	482	290	383	211	298	50	279
24	12	123	432	e68	1120	369	220	292	177	157	39	182
25	13	119	364	e66	762	307	186	244	152	137	33	135
26	101	118	280	e64	546	353	168	210	134	90	27	99
27	329	114	221	e62	426	481	141	178	127	68	27	329
28	250	104	198	e60	336	371	121	165	128	61	160	1150
29	182	98	187	e59	---	490	116	210	108	55	122	777
30	261	100	177	e58	---	565	109	203	92	111	69	424
31	268	---	440	e57	---	423	---	247	---	91	80	---
TOTAL	2247	7260	11453	12226	6382	26749	8150	19548	13925	5977	6138	14221
MEAN	72.5	242	369	394	228	863	272	631	464	193	198	474
MAX	329	1220	1870	2570	1220	2560	765	2220	1500	697	498	3200
MIN	12	91	43	57	50	292	109	121	92	55	27	39
MED	31	149	198	124	85	571	223	369	292	137	122	140
CFSM	0.29	0.97	1.48	1.58	0.92	3.47	1.09	2.53	1.86	0.77	0.80	1.90
IN.	0.34	1.08	1.71	1.83	0.95	4.00	1.22	2.92	2.08	0.89	0.92	2.12
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 2003, BY WATER YEAR (WY)												
MEAN	47.1	109	253	367	419	489	403	354	235	103	73.0	62.5
MAX	606	827	784	1510	1078	1712	1190	1731	791	519	633	830
(WY)	1927	1973	1951	1949	1951	1945	1940	1968	1981	1973	1980	1979
MIN	0.59	1.11	2.08	2.97	8.06	28.9	57.3	20.6	2.48	0.82	0.47	0.16
(WY)	1931	1954	1995	1995	1954	1931	1941	1941	1993	1930	1930	1953

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1927 - 2003		
	TOTAL	MEAN	TOTAL	MEAN	MEAN	MEAN	
ANNUAL TOTAL	104853.88		134276				
ANNUAL MEAN		287		368		244	
HIGHEST ANNUAL MEAN					442	1996	
LOWEST ANNUAL MEAN					56.1	1954	
HIGHEST DAILY MEAN		2680	Jun 7	3200	Sep 4	14400	May 24 1968
LOWEST DAILY MEAN		0.71	Sep 11	12	Oct 24	0.00	Sep 10 1953
ANNUAL SEVEN-DAY MINIMUM		0.93	Sep 8	16	Oct 19	0.04	Sep 26 1953
MAXIMUM PEAK FLOW				5050	Sep 4a	21700	May 24 1968
MAXIMUM PEAK STAGE				9.44	Sep 4	14.28	May 24 1968
INSTANTANEOUS LOW FLOW				9.4	Oct 25	0.00	Sep 10 1953
ANNUAL RUNOFF (CFSM)		1.15		1.48		0.98	
ANNUAL RUNOFF (INCHES)		15.66		20.06		13.34	
10 PERCENT EXCEEDS		750		957		608	
50 PERCENT EXCEEDS		119		187		82	
90 PERCENT EXCEEDS		8.8		50		4.4	

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

03232500 ROCKY FORK NEAR BARRETTS MILLS, OHIO

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

DRAINAGE AREA.—140 mi².

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 formerly 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.—Maximum discharge for water year 1995 has been revised to 3,700 ft³/s, May 18, 1995, gage height 9.01 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	15	62	44	701	e8.0	11	205	85	243	41	33	35
2	14	46	40	944	e8.0	49	178	80	196	e72	302	230
3	12	35	36	681	e8.2	52	160	73	344	e50	412	216
4	12	30	32	276	e20	324	147	65	405	e62	258	170
5	14	29	e29	237	e50	1090	144	264	328	e56	210	121
6	14	52	e28	217	e36	652	123	439	253	e50	166	84
7	11	50	e26	117	e27	e200	194	339	261	e55	208	60
8	9.2	44	e24	e83	e22	e250	271	277	379	42	160	48
9	7.9	38	e23	e72	e20	e330	346	223	422	42	211	42
10	6.4	40	e22	e33	e18	e290	355	1390	305	55	202	37
11	8.2	128	e34	e28	e17	e260	295	2100	241	75	142	32
12	13	133	84	e24	e16	220	274	643	236	59	117	26
13	14	112	123	e20	e15	229	237	227	240	55	86	22
14	12	95	284	e18	e15	e240	139	198	1180	46	67	20
15	9.2	88	253	e16	e14	e230	130	221	733	39	93	19
16	13	107	216	e14	e14	219	120	376	337	46	99	17
17	13	109	184	e13	e13	193	114	331	295	42	58	15
18	11	92	197	e12	e12	174	150	876	278	36	47	12
19	10	84	264	e11	e12	200	144	301	235	34	38	12
20	9.7	72	773	e10	e12	689	138	530	196	28	31	11
21	8.5	68	930	e10	e12	768	316	979	163	25	27	9.6
22	7.7	77	255	e9.3	e11	275	279	502	138	26	25	22
23	7.7	66	139	e9.0	465	251	223	253	119	49	26	76
24	7.5	59	123	e8.8	408	226	180	216	103	116	23	57
25	8.5	54	e110	e8.7	e180	205	157	186	85	96	20	46
26	25	49	e96	e8.3	e100	192	141	180	74	69	18	38
27	33	52	e86	e8.3	e50	173	122	166	66	56	16	100
28	35	47	e80	e8.0	e25	162	111	169	54	51	17	150
29	63	48	e76	e8.0	---	224	103	169	49	48	17	116
30	101	47	e71	e8.0	---	261	92	191	44	40	23	80
31	79	---	e100	e8.0	---	185	---	247	---	33	26	---
TOTAL	604.5	2013	4782	3621.4	1608.2	8824	5588	12296	8002	1594	3178	1923.6
MEAN	19.5	67.1	154	117	57.4	285	186	397	267	51.4	103	64.1
MAX	101	133	930	944	465	1090	355	2100	1180	116	412	230
MIN	6.4	29	22	8.0	8.0	11	92	65	44	25	16	9.6

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2003, BY WATER YEAR (WY)

MEAN	52.1	99.2	165	181	241	289	257	212	112	72.6	55.1	58.0
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	26.2	6.22	3.69	4.95	1.88
(WY)	1965	1964	1954	1977	1954	1983	1971	1999	1988	1964	1986	1964

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1952 - 2003	
ANNUAL TOTAL	52791.4		54034.7			
ANNUAL MEAN	145		148		149	
HIGHEST ANNUAL MEAN					259	
LOWEST ANNUAL MEAN					56.5	
HIGHEST DAILY MEAN	2190	May 8	2100	May 11	9520	Mar 10 1964
LOWEST DAILY MEAN	2.7	Sep 11	6.4	Oct 10	0.50	Oct 6 1964
ANNUAL SEVEN-DAY MINIMUM	2.8	Sep 8	8.0	Jan 28	0.69	Oct 6 1964
MAXIMUM PEAK FLOW			2570	May 10	13400	Mar 10 1964
MAXIMUM PEAK STAGE			7.51	May 10	15.56	Mar 6 1945
INSTANTANEOUS LOW FLOW					0.40	Oct 6 1964
10 PERCENT EXCEEDS	325		309		342	
50 PERCENT EXCEEDS	46		74		58	
90 PERCENT EXCEEDS	4.9		12		8.1	

e Estimated.

SURFACE-WATER RECORDS
Scioto River Basin

03234300 PAINT CREEK AT CHILLICOTHE, OHIO

LOCATION.—Latitude 39°19'13", longitude 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 mi².

PERIOD OF RECORD.—October 1985 to current year.

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

GAGE.—Water-stage recorder. Elevation of gage is 600 ft above sea level (from topographic map).

REMARKS.—Records fair except for periods 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. Water-quality data formerly collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	84	1070	420	4900	e370	1480	1440	656	2050	562	253	288
2	270	705	403	7000	e340	2070	834	745	1520	1160	850	3230
3	299	628	386	7160	e300	2460	720	1740	1750	663	2730	3480
4	251	585	e300	5930	e1000	2810	681	996	2600	1100	1440	2490
5	251	529	e220	3040	2130	6680	829	4600	2200	681	1690	3110
6	245	571	e200	1480	e1200	9330	828	5090	1730	561	1010	5950
7	249	660	e190	1190	e900	6370	1220	5030	1420	667	1340	5360
8	244	1040	e180	1340	e800	5000	1740	4840	1390	502	1470	3790
9	170	683	e170	1890	e600	6990	1600	4270	2600	500	1340	1800
10	86	571	e165	2200	e520	7090	2630	4580	2530	648	2310	814
11	84	1230	e160	1700	e490	6680	2080	8770	2360	1270	1960	450
12	96	1290	e200	e1100	e440	3200	2140	3320	2240	1480	1570	291
13	147	2020	691	e900	e410	2730	1820	5610	2300	1150	e1200	246
14	144	1970	2370	e780	e390	3550	1590	6120	3200	1010	e800	216
15	144	1910	2860	e700	e380	3550	1130	5060	4660	946	e900	194
16	165	1980	1950	e640	e370	2430	900	2730	3440	1070	e1200	197
17	188	1090	2020	e560	e360	3110	827	3360	3860	1060	e860	230
18	226	892	1360	e500	e350	3070	950	2670	3710	1320	e600	217
19	227	830	1390	e440	e340	1730	932	2470	3460	709	e420	228
20	224	790	5900	e400	e330	2600	861	2640	2750	496	278	242
21	221	768	6120	e370	e330	4410	1680	4990	1770	466	267	237
22	219	773	5100	e350	e500	3040	2080	3340	1460	438	259	263
23	218	765	3580	e330	6150	2540	1740	2610	1040	1120	338	552
24	216	739	1350	e310	5330	2190	1690	1970	968	1640	273	604
25	210	715	1280	e300	2470	1400	1460	1530	902	1570	243	636
26	254	693	1290	e290	4340	1390	963	1290	710	737	224	620
27	379	543	1210	e280	2270	1680	871	1230	660	595	213	669
28	341	504	1000	e270	1690	1790	813	1180	623	554	277	1190
29	790	454	943	e260	---	1750	797	1340	593	497	276	974
30	1460	429	923	e340	---	2210	664	1520	567	357	264	2780
31	2170	---	874	e400	---	2740	---	2070	---	333	233	---
TOTAL	10272	27427	45205	47350	35100	108070	38510	98367	61063	25862	27088	41348
MEAN	331	914	1458	1527	1254	3486	1284	3173	2035	834	874	1378
MAX	2170	2020	6120	7160	6150	9330	2630	8770	4660	1640	2730	5950
MIN	84	429	160	260	300	1390	664	656	567	333	213	194

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1986 - 2003, BY WATER YEAR (WY)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
MEAN	329	687	1263	1648	2180	2336	2101	2401	1492	620	334	204						
MAX	2106	3368	5202	3533	3949	5148	4375	6366	4266	1687	1156	1378						
(WY)	1991	1986	1991	1996	2000	1997	1994	1996	1996	1990	1990	2003						
MIN	48.2	46.0	62.8	298	310	458	376	239	94.4	66.1	61.5	50.9						
(WY)	1988	2000	1988	1988	1987	1987	1986	1988	1988	1999	1986	2002						

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1986 - 2003

ANNUAL TOTAL	492446	565662	
ANNUAL MEAN	1349	1550	1295
HIGHEST ANNUAL MEAN			2178
LOWEST ANNUAL MEAN			483
HIGHEST DAILY MEAN	9680	May 18	9330
LOWEST DAILY MEAN	34	Sep 13	84
ANNUAL SEVEN-DAY MINIMUM	38	Sep 20	124
MAXIMUM PEAK FLOW			12900
MAXIMUM PEAK STAGE			17.17
10 PERCENT EXCEEDS	4220		3560
50 PERCENT EXCEEDS	680		950
90 PERCENT EXCEEDS	70		240

e Estimated.

SURFACE-WATER RECORDS
Scioto River Basin

03234500 SCIOTO RIVER AT HIGBY, OHIO

LOCATION.—Latitude 39°12'44", longitude 82°51'50", in sec. 6, T.7 N., R.20 W., Ross County, Hydrologic Unit 05060002, on left bank at upstream side of highway bridge, 0.8 mi downstream from Walnut Creek, 1.2 mi north of Higby, Ohio, 3 mi northwest of Richmondale, Ohio, and 5.0 mi upstream from Salt Creek.

DRAINAGE AREA.—5,131 mi².

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 good except for periods of estimated record, which are fair. U.S. Army Corps of Engineers satellite telemeter at station.

Water-quality data formerly collected at this site.

EXTREMES OUTSIDE PERIOD OF RECORD.—Maximum gage height, 31.6 ft, Mar. 26, 1913.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2430	2870	2110	13700	e1340	5180	7910	2830	4990	1950	2420	13200
2	1950	2070	1930	25000	e1300	6170	6000	2920	4470	2670	2670	15500
3	1750	1740	1850	26200	e1300	7220	4380	4040	4860	2220	5060	25000
4	1540	1650	1790	20400	e2600	7270	3690	3110	7860	2530	7200	26600
5	1810	1590	1660	13100	e4000	12100	3940	7590	8980	2210	10700	26000
6	2030	1680	1500	8730	e4700	22600	7480	14900	7770	2880	8910	22200
7	1620	2290	1420	6780	e3800	21500	9470	16100	5860	4240	7310	18100
8	1440	2490	1340	5460	e3200	15700	14100	16400	5010	5930	7260	12600
9	1340	2190	1300	5500	e2800	18900	16600	16300	6510	8720	6470	7260
10	1110	1820	1280	6180	e2500	23400	14200	16600	8800	14300	6410	4830
11	1100	3340	1430	6850	e2200	22300	10900	31500	8580	17200	6000	3810
12	1100	8700	1920	5680	e2000	15800	8300	25300	9280	13400	4910	3010
13	1150	9320	2330	4680	e1900	15000	6150	23000	10800	10900	4460	2520
14	1090	7820	5130	3930	e1800	18200	5190	20000	12400	9380	4390	2160
15	1060	6570	6860	3590	e1740	20600	4260	18700	21200	6640	3630	1930
16	1150	5300	5340	3230	e1700	19400	3770	15800	22000	7210	5600	1850
17	1160	3990	4570	2910	e1650	18000	3350	15800	17000	7700	6010	1880
18	1200	3230	3640	2480	e1600	15100	3210	13000	12600	4820	3910	1740
19	1160	2890	3430	2250	e1570	11300	3120	10300	9380	3390	2530	1650
20	1150	2660	11900	e2000	e1500	10400	2980	7790	7240	2660	2050	1660
21	1190	2520	19800	e1900	e1500	11900	4210	13200	5250	2330	2020	1680
22	1200	2400	17300	e1800	e3000	10000	6010	12700	4470	2150	1880	1670
23	1140	2360	12200	e1750	e1100	9450	5110	10400	3710	3450	1720	3860
24	1120	2540	7830	e1660	17700	8270	4480	8420	3330	4390	1520	5170
25	1120	2450	5400	e1600	11500	6770	3950	6080	3010	5610	1390	4580
26	1330	2610	4510	e1560	12300	5660	3140	4720	2640	4090	1330	3640
27	3260	2990	3850	e1500	7970	6870	2860	4570	2490	2870	1290	3820
28	2180	3030	3240	e1490	5980	6650	3030	3900	2610	2290	2370	14100
29	2230	2590	3010	e1440	---	6450	2960	4330	2380	2280	2800	18600
30	2950	2290	2810	e1400	---	9300	2440	3870	2030	2450	2350	17800
31	4130	---	2970	e1370	---	11000	---	4230	---	2800	13000	---
TOTAL	50190	99990	145650	186120	106250	398460	177190	358400	227510	165660	139570	268420
MEAN	1619	3333	4698	6004	3795	12850	5906	11560	7584	5344	4502	8947
MAX	4130	9320	19800	26200	17700	23400	16600	31500	22000	17200	13000	26600
MIN	1060	1590	1280	1370	1100	5180	2440	2830	2030	1950	1290	1650
CFSM	0.32	0.65	0.92	1.17	0.74	2.51	1.15	2.25	1.48	1.04	0.88	1.74
IN.	0.36	0.72	1.06	1.35	0.77	2.89	1.28	2.60	1.65	1.20	1.01	1.95

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2003, 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	1999	2000	2001	2002	2003
MEAN	1221	2383	4352	6621	7722	9554	8382	6181	4328	2864	1975	1430	6524	15460	17190	39500	18620	28220	19600	25070	13580	11430	10070	13230	1991	1973	1991	1937	1951	1963	1957	1996	1997	1992	1980	1979	263	304	349	433	518	1375	1485	809	718	518	457	301	1931	1935	1935	1931	1954	1941	1941	1941	1934	1944	1936	1953													

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1931 - 2003	
ANNUAL TOTAL	1747495		2323410			
ANNUAL MEAN	4788		6366		4736	
HIGHEST ANNUAL MEAN					8178	
LOWEST ANNUAL MEAN					1364	
HIGHEST DAILY MEAN	25600	May 14	31500	May 11	127000	Jan 23 1959
LOWEST DAILY MEAN	560	Sep 13	1060	Oct 15	244	Oct 23 1930
ANNUAL SEVEN-DAY MINIMUM	572	Sep 9	1110	Oct 10	255	Oct 19 1930
MAXIMUM PEAK FLOW			33000	May 11	177000	Jan 23 1937
MAXIMUM PEAK STAGE			15.77	May 11	26.40	Jan 23 1937
INSTANTANEOUS LOW FLOW			1040	Oct 15	244	Oct 23 1930
ANNUAL RUNOFF (CFSM)	0.93		1.24		0.92	
ANNUAL RUNOFF (INCHES)	12.67		16.84		12.54	
10 PERCENT EXCEEDS	12000		15900		12200	
50 PERCENT EXCEEDS	2810		3910		2100	
90 PERCENT EXCEEDS	910		1500		547	

e Estimated.

SURFACE-WATER RECORDS
Scioto River Basin

03237020 SCIOTO RIVER AT PIKETON, OHIO

LOCATION.—Latitude 39°04'12", longitude 83°01'11", Pike County, Hydrologic Unit 05060002, on left bank ¾ mi downstream from U.S. Highway 23 bridge.

DRAINAGE AREA.—5,836 mi².

PERIOD OF RECORD.—December 2001 to current year.

GAGE.—Water-stage recorder. Datum of gage is 531.43 ft above sea level.

REMARKS.—Records good except for periods of estimated record, which are poor. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2970	3690	2720	e10000	e1550	6610	9430	2940	5430	2320	2950	15000
2	2230	2730	2510	e28000	e1500	8650	7210	3230	5270	2800	2720	18100
3	2070	2170	2380	e30000	e1490	10200	5520	4030	5830	2740	4110	28800
4	1720	1980	2280	e24000	e2200	9440	4600	3600	8820	2730	6750	28100
5	1850	1900	2200	e13000	e4200	13200	5130	6310	10400	2630	9610	27200
6	2110	2030	1970	e9400	e5700	26200	7310	17400	8990	2810	10800	24400
7	2000	2650	1840	e7600	e4700	25700	10600	17700	7110	3540	7460	20000
8	1530	2810	1730	e6600	e4000	19600	15000	17400	6160	5510	7750	14600
9	1490	2830	1660	e6200	e3500	20400	19000	17700	7270	8340	7860	9170
10	1130	2310	1600	e6800	e3000	24200	17200	17200	9140	14700	6850	5740
11	1070	3300	1890	e8000	e2700	25100	13400	33400	9490	22900	6890	4500
12	1120	8340	2940	e6600	e2500	18800	10400	32500	9130	16400	5540	3680
13	1180	9550	3370	e5400	e2300	16300	7610	26500	11300	12200	4900	3130
14	1090	8310	7970	e4600	e2200	19200	6300	22300	12500	10400	4460	2760
15	979	6950	9500	e4000	e2080	22000	5320	20600	21300	7570	4050	2450
16	1190	5900	7110	e3600	e2000	21200	4670	18600	23300	6520	4600	2270
17	1470	4940	5450	e3200	e1930	20000	4230	17300	21500	8770	6590	2230
18	1430	4070	e4850	e2900	e1860	17400	3990	15800	15800	5600	4300	2110
19	1290	3730	e4000	e2600	e1800	13400	3870	13400	11500	4160	3110	e2000
20	1180	3470	e11000	e2400	e1750	11900	3700	9220	8710	3260	2410	1920
21	1150	3260	e24000	e2250	e1700	14400	5330	20000	6590	2870	2240	1970
22	1200	3070	e22000	e2100	e4000	12600	7220	16200	5350	2610	2550	1970
23	1130	2970	e15000	e2000	e20000	11100	6270	13000	4520	3230	5700	2700
24	1050	3130	e9200	e1950	24900	9800	5390	10200	3970	4810	2650	5780
25	1030	3050	e6200	e1870	16200	8120	4870	7680	3570	5500	1850	4540
26	1130	3080	e5200	e1800	13900	6770	4090	6000	3220	4690	1630	4040
27	2910	3340	e4500	e1740	10600	7290	3520	5430	2990	3430	1490	3740
28	2690	3500	e4200	e1700	7500	7370	3470	4860	2970	2780	1620	11200
29	2480	3260	e3800	e1650	---	7040	3370	4880	2880	2600	3480	18600
30	3540	2910	e3500	e1620	---	9340	3000	4800	2580	2700	2560	18800
31	4160	---	e5000	e1580	---	11700	---	4630	---	2860	9190	---
TOTAL	53569	115230	181570	205160	151760	455030	211020	414810	257590	183980	148670	291500
MEAN	1728	3841	5857	6618	5420	14680	7034	13380	8586	5935	4796	9717
MAX	4160	9550	24000	30000	24900	26200	19000	33400	23300	22900	10800	28800
MIN	979	1900	1600	1580	1490	6610	3000	2940	2580	2320	1490	1920

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 2002 - 2003, BY WATER YEAR (WY)

	2002	2003	2002	2003	2002	2003	2002	2003	2002	2003	2002	2003
MEAN	1728	3841	7876	5258	5890	11790	9998	13490	8092	4375	3024	5370
MAX	1728	3841	9895	6618	6359	14680	12960	13600	8586	5935	4796	9717
(WY)	2003	2003	2002	2003	2002	2003	2002	2002	2003	2003	2003	2003
MIN	1728	3841	5857	3898	5420	8895	7034	13380	7597	2815	1251	1024
(WY)	2003	2003	2003	2002	2003	2002	2003	2003	2002	2002	2002	2002

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 2002 - 2003

ANNUAL TOTAL	2120088	2669889		
ANNUAL MEAN	5808	7315		
HIGHEST ANNUAL MEAN		7315	2003	
LOWEST ANNUAL MEAN		7315	2003	
HIGHEST DAILY MEAN	30200	May 18	33400	May 11 2003
LOWEST DAILY MEAN	295	Sep 13	979	Oct 15 2002
ANNUAL SEVEN-DAY MINIMUM	336	Sep 10	1110	Oct 10 2002
MAXIMUM PEAK FLOW			36600	May 11 2003
MAXIMUM PEAK STAGE			19.73	May 11 2003
INSTANTANEOUS LOW FLOW				282 Sep 13 2002
10 PERCENT EXCEEDS	14600	18600		
50 PERCENT EXCEEDS	3370	4600		
90 PERCENT EXCEEDS	1080	1780		

e Estimated.

SURFACE-WATER RECORDS
Scioto River Basin

RESERVOIRS IN SCIOTO RIVER BASIN

03220500 O'SHAUGHNESSY RESERVOIR NEAR DUBLIN, OHIO

LOCATION.—Latitude 40°09'14", longitude 83°07'33", Delaware County, Hydrologic Unit 0506001, in gate house of dam on Scioto River, 4.0 mi north of Dublin, Ohio.
 DRAINAGE AREA.—979 mi².
 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 contents, 43 acre-ft Feb. 11, 1945, elevation, 791.97 ft.

03221500 GRIGGS RESERVOIR NEAR COLUMBUS, OHIO

LOCATION.—Latitude 40°00'54", longitude 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, Ohio, and 6.5 mi upstream from Olentangy River.
 DRAINAGE AREA.—1,044 mi².
 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 May 9, elevation 759.40 ft; minimum contents, 4,450 acre-ft Aug. 26, elevation 756.60.

03228400 HOOVER RESERVOIR AT CENTRAL COLLEGE

LOCATION.—Latitude 40°06'30", longitude 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, Ohio.
 DRAINAGE AREA.—190 mi².
 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: Maximum contents, 79,570 acre-ft Sept. 28, elevation, 896.22 ft; minimum contents, 42,190 acre-ft Nov. 10, elevation 882.92 ft.

SURFACE-WATER RECORDS
Scioto River Basin

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RESERVOIRS IN SCIOTO RIVER BASIN—CONTINUED

MONTHEND ELEVATION AND CONTENTS, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	O' SHAUGHNESSY RESERVOIR			GRIGGS RESERVOIR			HOOVER RESERVOIR		
	ELEVATION (FEET)	CONTENTS (ACRE- FEET)	CHANGE IN CONTENTS (ACRE- FEET)	ELEVATION (FEET)	CONTENTS (ACRE- FEET)	CHANGE IN CONTENTS (ACRE- FEET)	ELEVATION (FEET)	CONTENTS (ACRE- FEET)	CHANGE IN CONTENTS (ACRE- FEET)
Sept. 30	848.85	17,910		756.62	4,800		884.47	45,210	
Oct. 31	847.93	17,000	-910	756.32	4,690	-110	883.64	43,840	-1,370
Nov. 30	848.14	17,200	200	756.64	4,800	110	883.96	44,580	740
Dec. 31	849.09	18,150	950	758.48	5,480	680	886.61	51,180	6,600
CALENDAR YEAR 2002			820			720			-14,350
Jan. 31	848.52	17,580	-570	757.17	5,000	-480	887.85	54,400	3,220
Feb. 28	848.30	17,360	-220	756.70	4,830	-170	890.02	60,180	5,780
Mar. 31	848.62	17,680	320	757.15	4,990	160	894.58	73,860	13,680
Apr. 30	848.73	17,790	110	756.44	4,730	-260	893.57	70,500	-3,360
May 31	848.36	17,420	-370	756.54	4,770	40	894.26	72,770	2,270
June 30	848.64	17,700	280	756.24	4,660	-110	893.38	69,880	-2,890
July 31	849.01	18,070	370	756.68	4,820	160	892.56	67,340	-2,540
Aug. 31	850.46	19,600	1,530	757.06	4,960	140	893.64	70,720	3,380
Sept. 30	848.93	17,990	-1,610	757.34	5,060	100	894.68	74,200	3,480
WATER YEAR 2003			80			260			28,990

SURFACE-WATER RECORDS
Upper Twin Creek Basin

03237280 UPPER TWIN CREEK AT MCGAW, OHIO
Hydrologic Benchmark Station

LOCATION.—Latitude 38°38'37", longitude 83°12'57", Scioto County, Hydrologic Unit 05090201, on left bank, 0.2 mi downstream from Brown Run, 0.4 mi upstream from Tucker Run, 0.8 mi upstream from bridge on U.S. Highway 52 at McGaw, Ohio, 2.7 mi northeast of Buena Vista, Ohio, and 3.3 mi upstream from mouth.

DRAINAGE AREA.—12.2 mi².

PERIOD OF RECORD.—June 1963 to current year.

GAGE.—Water-stage recorder. Datum of gage is 542.41 ft above sea level (revised). Ohio Department of Highways benchmark. Prior to July 21, 1972 at site 0.8 mi downstream at datum 22.41 ft lower; July 21, 1972-Sept. 30, 1984, at site 0.1 mi downstream at datum 1.00 ft higher; Oct. 1, 1984-May 31, 2002, at site 0.1 mi downstream at datum 4.00 ft lower.

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 ft³/s, on basis of contracted-opening and flow-over-road measurement of peak flow.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	
1	0.30	3.2	1.6	110	5.4	24	8.3	8.1	3.6	e3.1	41	3.7	
2	0.26	2.3	1.4	81	7.2	30	7.9	14	2.8	e2.8	16	175	
3	0.22	2.1	1.3	39	11	24	7.4	13	118	e2.6	14	105	
4	0.21	1.9	1.1	25	64	17	6.7	11	84	e2.5	17	55	
5	0.20	12	1.00	21	34	17	6.8	313	31	e2.3	24	20	
6	0.15	26	0.96	17	21	e20	5.7	133	15	e2.2	16	11	
7	0.12	9.0	0.79	16	16	e23	55	164	389	e2.1	9.2	7.4	
8	0.06	5.0	0.78	15	12	21	40	80	109	e2.0	32	5.9	
9	0.04	3.5	0.84	13	11	18	266	45	74	40	23	5.0	
10	0.06	91	0.98	10	11	14	88	378	36	104	20	4.2	
11	4.8	104	4.7	7.9	9.2	12	41	35	25	62	23	3.7	
12	4.2	23	15	6.0	7.6	11	26	26	19	28	18	3.2	
13	3.2	11	53	5.9	6.8	12	20	22	19	18	13	2.8	
14	2.2	6.8	144	5.6	7.4	15	16	10	23	5.0	9.5	2.4	
15	1.8	5.9	39	4.5	164	14	14	26	19	5.2	7.5	2.2	
16	4.2	14	21	4.2	158	14	12	46	218	7.8	6.3	2.0	
17	3.9	15	17	4.0	157	13	11	63	135	8.9	5.1	1.7	
18	2.5	9.3	51	3.3	77	12	26	284	49	11	4.1	1.6	
19	2.0	6.0	72	3.3	48	11	25	91	18	22	3.7	1.4	
20	1.7	4.6	179	3.3	49	88	21	82	10	20	3.9	1.2	
21	1.5	3.8	52	2.9	110	140	42	302	5.8	15	4.0	1.1	
22	1.4	3.5	29	2.4	795	31	35	73	3.1	14	5.0	2.4	
23	1.2	3.0	20	2.1	263	15	25	37	1.3	10	5.8	5.3	
24	1.1	2.6	15	1.8	106	13	20	22	e2.2	7.4	4.3	3.5	
25	1.1	2.2	17	1.8	72	11	17	14	e3.8	5.2	2.7	2.4	
26	1.1	2.0	13	1.7	40	9.8	15	9.6	e6.0	3.8	2.0	1.9	
27	0.99	1.8	9.6	1.8	23	8.6	11	7.0	e5.0	2.8	2.0	2.6	
28	1.1	1.4	9.1	1.7	17	8.0	9.2	5.8	e4.2	2.4	2.0	3.6	
29	17	1.5	8.7	2.3	---	8.9	9.1	6.0	e3.7	2.3	1.7	2.9	
30	16	1.7	8.0	3.7	---	9.1	8.3	4.7	e3.3	1.7	1.9	2.3	
31	7.2	---	8.0	4.1	---	8.7	---	4.3	---	33	2.5	---	
TOTAL	81.81	379.1	795.85	421.3	2302.6	673.1	895.4	2329.5	1435.8	449.1	340.2	442.4	
MEAN	2.64	12.6	25.7	13.6	82.2	21.7	29.8	75.1	47.9	14.5	11.0	14.7	
MAX	17	104	179	110	795	140	266	378	389	104	41	175	
MIN	0.04	1.4	0.78	1.7	5.4	8.0	5.7	4.3	1.3	1.7	1.7	1.1	
CFSM	0.22	1.04	2.10	1.11	6.74	1.78	2.45	6.16	3.92	1.19	0.90	1.21	
IN.	0.25	1.16	2.43	1.28	7.02	2.05	2.73	7.10	4.38	1.37	1.04	1.35	
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2003, BY WATER YEAR (WY)													
MEAN	2.39	6.26	16.0	17.8	24.4	30.1	27.9	21.9	8.53	3.94	3.10	3.85	
MAX	16.8	29.0	81.6	46.3	82.2	90.7	66.7	93.1	47.9	30.8	38.0	33.3	
(WY)	1990	1986	1979	1996	2003	1964	1965	1996	2003	1986	1979	2000	
MIN	0.000	0.000	0.000	0.44	4.42	4.39	4.41	1.63	0.043	0.027	0.000	0.000	
(WY)	1964	1964	1964	1981	1978	1969	1971	1991	1988	2002	1999	1999	
SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1963 - 2003													
ANNUAL TOTAL	6437.59					10546.16							
ANNUAL MEAN	17.6					28.9					13.8		
HIGHEST ANNUAL MEAN											31.9		
LOWEST ANNUAL MEAN											5.15		
HIGHEST DAILY MEAN						443 Mar 20					850 May 15 1996		
LOWEST DAILY MEAN	0.00					Jul 8					0.00 Jul 12 1963		
ANNUAL SEVEN-DAY MINIMUM	0.00					Jul 8					0.00 Sep 21 1963		
MAXIMUM PEAK FLOW						4650					4650 May 10 2003		
MAXIMUM PEAK STAGE						10.52					10.52 May 10 2003		
INSTANTANEOUS LOW FLOW						0.04					0.00 Jul 12 1963		
ANNUAL RUNOFF (CFSM)	1.45					2.37					1.13		
ANNUAL RUNOFF (INCHES)	19.63					32.16					15.38		
10 PERCENT EXCEEDS	40					75					32		
50 PERCENT EXCEEDS	3.9					9.1					3.1		
90 PERCENT EXCEEDS	0.00					1.7					0.06		

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

**SURFACE-WATER RECORDS
Ohio Brush Creek Basin**

03237500 OHIO BRUSH CREEK NEAR WEST UNION, OHIO

LOCATION.—Latitude 38°48'13", longitude 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 mi east of West Union, Ohio, and 7.1 mi upstream from Beasley Fork.

DRAINAGE AREA.—387 mi².

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 National Geodetic Vertical Datum of 1912. Prior to Nov. 22, 1940, nonrecording gage at same site and datum.

REMARKS.—Records fair except for periods of estimated record, which are poor. Water-quality and sediment data formerly collected at this site.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.3	97	39	2030	e300	716	316	119	528	49	163	667
2	8.3	56	36	978	e500	2240	262	107	271	58	111	11000
3	9.7	37	34	637	e1100	1380	224	118	2600	53	154	2040
4	9.1	29	32	459	2150	894	202	110	1750	47	597	899
5	14	41	30	449	869	1670	784	2420	725	39	1790	494
6	20	439	28	463	410	1690	607	2190	411	33	463	320
7	11	247	29	355	313	991	854	834	710	32	291	240
8	7.2	124	30	311	228	648	1130	623	1000	30	380	193
9	6.1	76	32	266	206	547	2120	358	2540	44	377	163
10	6.2	116	141	208	219	406	1420	10700	664	1660	780	137
11	87	1230	868	146	207	308	751	9900	381	1850	974	109
12	59	430	645	e120	191	278	499	1580	303	370	1280	90
13	28	189	2920	e110	171	284	359	763	466	345	355	74
14	20	112	881	e90	165	427	279	474	701	203	218	64
15	16	87	440	e86	1820	343	241	376	607	138	160	56
16	55	416	306	e80	1330	284	219	552	324	426	401	49
17	63	357	961	e74	769	256	205	580	1430	139	205	43
18	38	197	867	e68	529	236	286	3110	1390	81	134	38
19	27	127	4320	e62	394	264	346	1840	434	531	93	34
20	21	92	1040	e58	410	3320	237	1770	322	255	71	31
21	17	75	504	e54	981	2010	1550	6090	236	123	58	29
22	15	74	334	e52	6510	1060	810	1430	190	87	9200	47
23	12	76	249	e50	4580	618	410	731	160	1920	6260	433
24	9.8	70	247	e48	1490	438	280	481	132	1110	602	217
25	8.8	62	260	e46	847	339	232	352	110	364	348	115
26	9.0	54	204	e45	581	295	215	296	93	209	252	75
27	8.9	51	177	e44	482	289	185	264	81	142	200	410
28	13	46	166	e43	427	242	157	246	71	161	172	702
29	287	44	157	e60	---	711	142	253	67	217	159	260
30	515	43	316	e90	---	918	134	690	55	160	328	176
31	208	---	4710	e130	---	441	---	474	---	157	274	---
TOTAL	1617.4	5094	21003	7712	28179	24543	15456	49831	18752	11033	26850	19205
MEAN	52.2	170	678	249	1006	792	515	1607	625	356	866	640
MAX	515	1230	4710	2030	6510	3320	2120	10700	2600	1920	9200	11000
MIN	6.1	29	28	43	165	236	134	107	55	30	58	29
CFSM	0.13	0.44	1.75	0.64	2.60	2.05	1.33	4.15	1.62	0.92	2.24	1.65
IN.	0.16	0.49	2.02	0.74	2.71	2.36	1.49	4.79	1.80	1.06	2.58	1.85

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 2003, 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	1999	2000	2001	2002	2003
MEAN	89.2	252	532	735	839	1012	745	561	274	185	154	134																																																																	
MAX	651	1447	2252	2637	2242	3909	2030	2230	1424	1222	1000	2053																																																																	
(WY)	1976	1986	1991	1950	2000	1964	1948	1996	1998	1932	1935	1979																																																																	
MIN	0.13	0.28	2.28	12.1	24.9	96.5	106	27.5	3.18	1.46	1.04	0.43																																																																	
(WY)	1954	1954	1954	1977	1954	1941	1971	1930	1988	1988	1988	1953																																																																	

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1927 - 2003

ANNUAL TOTAL	176992.6	229275.4	
ANNUAL MEAN	485	628	458
HIGHEST ANNUAL MEAN			951
LOWEST ANNUAL MEAN			158
HIGHEST DAILY MEAN	15200	Apr 22	11000
LOWEST DAILY MEAN	1.1	Aug 14	6.1
ANNUAL SEVEN-DAY MINIMUM	1.2	Aug 12	11
MAXIMUM PEAK FLOW			34300
MAXIMUM PEAK STAGE			22.73
INSTANTANEOUS LOW FLOW			
ANNUAL RUNOFF (CFSM)	1.25	1.62	1.18
ANNUAL RUNOFF (INCHES)	17.01	22.04	16.07
10 PERCENT EXCEEDS	979	1450	1000
50 PERCENT EXCEEDS	120	252	109
90 PERCENT EXCEEDS	3.1	34	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
White Oak Creek Basin

03238500 WHITE OAK CREEK NEAR GEORGETOWN, OHIO

LOCATION.—Latitude 38°51'29", longitude 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, Ohio, and 7.2 mi upstream from mouth.

DRAINAGE AREA.—218 mi².

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 and crest gage. Datum of gage is 604.20 ft above sea level. Prior to Oct. 12, 1972, nonrecording gage at a site 1 mi downstream at datum 35.24 ft lower. See WSP 2108 for history of changes prior to Dec. 8, 1940.

REMARKS.—Records fair except for periods of estimated record and below 10 ft³/s, which are poor. Water-quality and sediment data formerly collected at this site. Satellite telemeter at this station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14	53	19	6000	45	554	143	29	344	17	173	18
2	9.0	27	19	1870	70	1980	114	31	132	17	578	3590
3	6.7	18	18	439	e200	871	96	71	1160	14	696	709
4	7.2	11	e13	262	e400	486	78	75	912	13	364	300
5	6.1	34	e13	177	e250	1700	262	3410	254	17	268	145
6	e4.3	215	e12	241	181	1130	241	2270	139	14	131	69
7	e3.6	162	e12	278	126	478	321	461	248	17	156	40
8	e3.2	63	e11	161	80	280	722	397	299	14	385	30
9	e3.0	33	e11	138	86	240	1440	205	406	18	421	25
10	e5.0	29	e10	138	87	178	771	5560	192	1810	1070	21
11	19	521	69	93	71	124	287	8590	107	1010	137	18
12	18	252	334	50	87	109	185	810	404	185	86	16
13	10	91	357	58	63	117	131	255	489	73	59	14
14	10	45	1280	46	69	413	102	156	1610	40	31	13
15	11	35	435	39	543	218	78	121	1500	36	24	11
16	16	136	190	e36	585	152	66	209	365	83	19	9.4
17	9.4	176	122	e35	307	125	59	194	226	37	15	9.7
18	7.8	96	286	e34	206	109	55	655	808	22	12	10
19	6.1	51	627	e32	164	182	56	651	219	115	10	10
20	4.8	35	3930	e31	146	2050	52	1460	127	152	8.5	9.9
21	e4.5	29	501	e30	321	1070	1050	3780	93	43	7.4	8.4
22	e3.8	32	203	e29	4950	568	389	428	60	26	48	237
23	e3.1	33	126	e28	6080	252	164	198	46	787	733	954
24	e3.0	30	95	e27	1040	165	104	128	37	425	104	148
25	e20	28	89	e26	446	127	76	99	32	119	36	51
26	80	26	94	e26	283	118	59	87	29	45	22	29
27	106	23	79	e25	239	117	49	80	28	27	15	910
28	40	22	60	e26	209	100	39	64	25	65	11	586
29	152	21	55	e30	---	579	34	108	23	49	9.1	145
30	454	20	67	39	---	606	31	1160	20	38	13	89
31	144	---	542	41	---	221	---	353	---	186	12	---
TOTAL	1184.6	2347	9679	10485	17334	15419	7254	32095	10334	5514	5654.0	8225.4
MEAN	38.2	78.2	312	338	619	497	242	1035	344	178	182	274
MAX	454	521	3930	6000	6080	2050	1440	8590	1610	1810	1070	3590
MIN	3.0	11	10	25	45	100	31	29	20	13	7.4	8.4

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1925 - 2003, BY WATER YEAR (WY)

MEAN	64.9	159	297	431	492	551	433	301	168	106	88.0	87.4
MAX	580	1103	1427	1487	1281	1822	1134	1646	996	740	531	1220
(WY)	1984	1986	1991	1950	1955	1963	1973	1996	1998	2001	1926	1979
MIN	0.071	0.000	1.64	1.67	12.2	41.5	31.6	10.9	0.47	0.000	1.28	0.17
(WY)	1941	2000	1964	1977	1934	1941	1971	1934	1999	1999	1993	1985

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1925 - 2003
ANNUAL TOTAL	87715.20	125525.0	
ANNUAL MEAN	240	344	264
HIGHEST ANNUAL MEAN			583
LOWEST ANNUAL MEAN			82.4
HIGHEST DAILY MEAN	6540	Apr 28	8590
LOWEST DAILY MEAN	0.00	Jul 16	3.0
ANNUAL SEVEN-DAY MINIMUM	0.00	Jul 23	4.6
MAXIMUM PEAK FLOW			12600
MAXIMUM PEAK STAGE			8.71
INSTANTANEOUS LOW FLOW			20.87
10 PERCENT EXCEEDS	448	748	538
50 PERCENT EXCEEDS	49	89	43
90 PERCENT EXCEEDS	0.00	12	2.4

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.—Latitude 39°44'54", longitude 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, Ohio, and at mile 82.25.

DRAINAGE AREA.—129 mi².

PERIOD OF RECORD.—July 1952 to current year.

REVISED RECORDS.—WRD-OH-98-1; 1991(M), 1993(M), and 1994(M).

GAGE.—Water-stage recorder. Datum of gage is 816.56 ft above sea level.

REMARKS.—Records fair except for periods of estimated record, which are poor. Water-quality and sediment data formerly collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35	60	56	698	e58	129	170	94	167	201	124	622
2	31	52	52	633	e57	137	155	100	137	130	227	1970
3	28	48	50	357	71	151	142	95	157	93	188	1390
4	29	45	51	238	164	144	136	90	229	82	270	797
5	32	46	47	190	140	369	164	331	173	107	1060	376
6	30	65	45	166	e100	565	161	470	144	110	553	251
7	28	79	50	146	e90	376	245	397	132	112	385	194
8	26	64	44	146	e80	387	413	505	138	280	505	166
9	25	57	45	189	e74	995	263	475	160	1280	273	149
10	24	107	45	184	e70	585	201	703	136	1130	306	135
11	24	510	45	e145	e66	355	173	701	181	468	258	123
12	24	335	49	e125	e64	324	156	439	183	270	185	114
13	23	180	52	e115	e60	499	140	281	319	194	150	107
14	22	129	142	e100	e58	598	129	215	385	158	129	101
15	22	106	162	e96	e56	409	123	257	376	142	139	98
16	23	99	129	e92	e54	343	119	244	375	174	203	91
17	22	99	107	e88	e52	283	115	202	521	133	147	86
18	22	87	97	e84	e50	234	133	256	291	116	118	82
19	24	78	194	e80	e49	202	135	221	235	105	102	81
20	23	71	860	e76	e48	232	126	211	224	95	93	77
21	23	68	506	e74	e48	307	307	332	175	113	87	73
22	22	71	272	e72	105	309	239	229	154	301	82	207
23	21	67	187	e70	448	225	173	185	138	153	78	202
24	21	68	153	e68	363	189	148	167	124	137	72	136
25	32	70	143	e67	227	171	138	153	114	112	68	111
26	124	67	117	e66	181	207	130	143	111	96	65	99
27	110	64	102	e64	155	197	115	133	120	89	77	705
28	74	60	97	e70	138	171	106	128	103	277	78	765
29	65	59	94	e66	---	230	101	131	95	267	76	345
30	81	61	151	e63	---	247	97	174	89	153	219	225
31	75	---	469	e60	---	192	---	174	---	127	283	---
TOTAL	1165	2972	4613	4688	3126	9762	4953	8236	5886	7205	6600	9878
MEAN	37.6	99.1	149	151	112	315	165	266	196	232	213	329
MAX	124	510	860	698	448	995	413	703	521	1280	1060	1970
MIN	21	45	44	60	48	129	97	90	89	82	65	73
CFSM	0.29	0.77	1.15	1.17	0.87	2.44	1.28	2.06	1.52	1.80	1.65	2.55
IN.	0.34	0.86	1.33	1.35	0.90	2.82	1.43	2.38	1.70	2.08	1.90	2.85

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2003, BY WATER YEAR (WY)

MEAN	36.3	70.2	113	138	177	210	204	178	134	89.5	64.9	43.2
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	9.40	11.0	11.3	10.4	20.9	35.1	54.9	35.2	22.1	10.6	11.3	6.94
(WY)	2000	1954	1954	1977	1954	1954	1971	1954	1988	1954	1999	1999

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1952 - 2003

ANNUAL TOTAL	46448	69084	
ANNUAL MEAN	127	189	121
HIGHEST ANNUAL MEAN			228
LOWEST ANNUAL MEAN			28.6
HIGHEST DAILY MEAN	1350	Apr 15	1970
LOWEST DAILY MEAN	10	Sep 11	21
ANNUAL SEVEN-DAY MINIMUM	12	Sep 8	22
MAXIMUM PEAK FLOW			2290
MAXIMUM PEAK STAGE			7.30
INSTANTANEOUS LOW FLOW			
ANNUAL RUNOFF (CFSM)	0.99	1.47	0.94
ANNUAL RUNOFF (INCHES)	13.39	19.92	12.78
10 PERCENT EXCEEDS	253	385	257
50 PERCENT EXCEEDS	94	131	64
90 PERCENT EXCEEDS	20	49	17

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

03241500 MASSIES CREEK AT WILBERFORCE, OHIO

LOCATION.—Latitude 39°43'22", longitude 83°52'58", Greene County, Hydrologic Unit 05090202, on left bank at bridge on Wilberforce-Clifton Road, 0.5 mi northwest of Wilberforce, Ohio, 0.6 mi downstream from unnamed right bank tributary, and 1.7 mi upstream from Clark Run.

DRAINAGE AREA.—63.2 mi².

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 and crest gage. Datum of gage is 865.15 ft above sea level. Aug. 4, 1972-Sept. 30, 1979, at site 150 ft downstream at same datum.

REMARKS.—Records fair except for periods of estimated record, which are poor. Water-quality and sediment data formerly collected at this site. Satellite telemeter at station.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.7	27	25	561	e24	64	78	36	51	37	32	450
2	7.3	22	23	441	e23	72	68	45	43	36	154	981
3	6.5	19	21	228	e30	80	61	62	55	33	108	728
4	7.3	17	20	143	e80	76	58	45	72	31	137	288
5	8.1	18	e19	104	e60	269	88	473	60	43	371	164
6	6.7	33	e18	82	e45	345	79	421	49	55	154	107
7	6.4	37	e18	72	e40	221	168	355	47	86	116	81
8	6.0	31	e17	75	e37	301	246	263	51	306	136	66
9	6.0	27	e16	129	e33	659	145	225	75	1420	83	54
10	6.1	65	e16	110	e31	370	103	322	60	927	163	51
11	6.2	326	e15	e70	e29	214	83	414	74	343	332	43
12	5.9	178	e19	e60	e27	211	72	208	102	175	199	37
13	5.8	97	e25	e54	e25	379	61	125	250	113	100	33
14	5.5	72	126	e48	e24	382	54	90	256	83	72	31
15	5.5	59	107	e45	e23	237	51	110	249	93	97	29
16	5.8	55	79	e41	e22	189	49	89	569	219	167	27
17	5.8	52	64	e40	e21	147	48	81	530	123	95	25
18	5.3	43	59	e37	e20	114	64	109	325	81	64	24
19	7.1	38	229	e35	e19	95	63	92	249	64	48	24
20	6.7	34	642	e33	e18	125	57	101	284	49	40	23
21	6.2	34	399	e32	25	165	103	203	143	55	35	21
22	5.8	37	193	e31	82	154	85	125	97	214	32	62
23	5.6	32	118	e30	310	108	66	88	77	110	29	71
24	5.6	33	87	e29	214	86	56	75	67	145	26	43
25	24	34	78	e29	128	78	54	67	58	78	24	21
26	60	31	58	e28	95	134	49	59	54	59	22	13
27	42	29	49	e28	79	114	41	53	50	49	27	140
28	28	28	46	e27	70	86	39	50	44	53	29	56
29	27	28	44	e27	---	122	37	56	39	51	31	14
30	41	30	121	e26	---	124	34	50	37	40	133	8.9
31	36	---	358	e25	---	89	---	58	---	35	103	---
TOTAL	409.9	1566	3109	2720	1634	5810	2260	4550	4117	5206	3159	3715.9
MEAN	13.2	52.2	100	87.7	58.4	187	75.3	147	137	168	102	124
MAX	60	326	642	561	310	659	246	473	569	1420	371	981
MIN	5.3	17	15	25	18	64	34	36	37	31	22	8.9
CFSM	0.21	0.83	1.59	1.39	0.92	2.97	1.19	2.32	2.17	2.66	1.61	1.96
IN.	0.24	0.92	1.83	1.60	0.96	3.42	1.33	2.68	2.42	3.06	1.86	2.19

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1952 - 2003, BY WATER YEAR (WY)

MEAN	15.7	40.9	66.1	77.1	100	119	111	95.8	66.5	42.2	28.3	16.4
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 2002 CALENDAR YEAR	FOR 2003 WATER YEAR	WATER YEARS 1952 - 2003
ANNUAL TOTAL	24708.5	38256.8	
ANNUAL MEAN	67.7	105	64.8
HIGHEST ANNUAL MEAN			113 1973
LOWEST ANNUAL MEAN			8.68 1954
HIGHEST DAILY MEAN	802 Apr 15	1420 Jul 9	3620 Jan 21 1959
LOWEST DAILY MEAN	2.2 Sep 9	5.3 Oct 18	0.30 Sep 3 1954
ANNUAL SEVEN-DAY MINIMUM	2.3 Sep 8	5.7 Oct 12	0.33 Sep 1 1954
MAXIMUM PEAK FLOW		1700 Jul 9 ^a	7300 Jan 21 1959
MAXIMUM PEAK STAGE		8.01 Jul 9	11.25 Jan 21 1959
INSTANTANEOUS LOW FLOW			0.30 Sep 3 1954
ANNUAL RUNOFF (CFSM)	1.07	1.66	1.02
ANNUAL RUNOFF (INCHES)	14.54	22.52	13.92
10 PERCENT EXCEEDS	138	249	148
50 PERCENT EXCEEDS	38	58	29
90 PERCENT EXCEEDS	4.8	19	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.—Latitude 39°10'17", longitude 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, Ohio, 1.2 mi upstream from East Fork, 6.4 mi downstream from North Branch Creek, and at mile 12.9.

DRAINAGE AREA.—1,203 mi².

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 and crest-stage gage. Datum of gage is 494.35 ft, National Geodetic Vertical Datum of 1912. June 22, 1915-May 14, 1920, nonrecording gage at site 4 mi upstream at different datum; Mar. 11, 1925-Aug. 16, 1928, nonrecording gage at bridge 500 ft upstream at datum 5.72 ft higher; Aug. 17, 1928-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 poor. 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. Sediment data formerly collected at this site.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood in Mar. 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	960	1250	587	12700	514	1850	1850	537	1070	517	1000	1720
2	732	1030	564	7340	562	3310	1640	570	950	768	4500	14100
3	589	837	517	5780	882	2760	1180	975	1200	691	2420	14000
4	491	654	485	4740	2560	2980	914	907	1530	528	1690	7800
5	572	676	482	3310	1760	7190	1520	8340	1370	707	1360	5420
6	536	1890	489	2480	1250	7050	1420	6170	1100	918	2040	4540
7	415	1540	475	2170	814	5410	1810	6610	896	1240	1320	3750
8	371	1180	469	1440	656	4350	2990	5750	1080	1410	1460	1100
9	348	931	471	1640	647	6810	2990	4480	2480	3590	1390	881
10	341	1530	438	1430	706	5790	2000	12000	1660	6360	1830	889
11	481	7530	588	1130	e640	4420	1380	9020	1830	5070	1490	821
12	427	4240	1100	917	e580	2690	1120	5440	1960	3840	1600	673
13	436	3020	1150	e800	e540	3080	935	3910	2830	1760	1310	542
14	381	2200	3400	e740	e500	5200	823	1830	5050	1190	829	493
15	340	1450	2940	e700	812	4240	766	1860	6320	1420	878	482
16	309	1300	2310	e640	694	2410	718	3190	5170	3590	867	457
17	265	1190	1190	e600	646	2150	685	2100	5370	1600	795	445
18	258	1060	2220	e580	689	1900	679	2390	5520	1090	752	407
19	302	974	5870	e560	681	1790	666	1990	4270	952	662	379
20	323	807	12800	e550	656	2010	716	1940	2890	888	498	366
21	370	765	6410	e540	760	3320	1600	3430	1970	713	420	459
22	317	936	4950	e520	5210	3210	1370	3070	1520	635	406	2680
23	289	1050	3170	e510	7960	2140	1020	1450	1080	1740	358	2210
24	283	916	1640	e500	5070	1740	827	1150	953	2390	335	1200
25	1200	741	1700	e540	3610	1470	740	1040	858	1250	319	777
26	4190	726	1520	588	1740	2580	695	969	723	809	300	592
27	2000	717	1080	574	1450	2350	655	918	853	632	295	4250
28	2030	694	991	548	1590	1960	598	935	802	623	383	4540
29	2160	673	884	553	---	3630	564	964	645	654	407	4010
30	3120	608	1490	542	---	3160	551	929	569	718	403	2080
31	1670	---	5020	514	---	2210	---	1060	---	582	917	---
TOTAL	26506	43115	67400	56176	44179	105160	35422	95924	64519	48875	33234	82063
MEAN	855	1437	2174	1812	1578	3392	1181	3094	2151	1577	1072	2735
MAX	4190	7530	12800	12700	7960	7190	2990	12000	6320	6360	4500	14100
MIN	258	608	438	500	500	1470	551	537	569	517	295	366
CFSM	0.71	1.19	1.81	1.51	1.31	2.82	0.98	2.57	1.79	1.31	0.89	2.27
IN.	0.82	1.33	2.08	1.74	1.37	3.25	1.10	2.97	2.00	1.51	1.03	2.54

	STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1916 - 2003, BY WATER YEAR (WY)											
MEAN	364	797	1321	1849	2094	2415	2145	1721	1090	722	477	392
MAX	2775	4189	5494	7131	4951	8212	5396	7594	4686	3542	3014	3711
(WY)	1927	1986	1991	1949	1950	1945	1940	1996	1973	1958	1926	1979
MIN	47.0	60.2	73.4	88.6	145	218	369	138	117	78.0	77.6	43.0
(WY)	1954	1954	1935	1977	1954	1941	1941	1934	1925	1930	1930	1953

SUMMARY STATISTICS			FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1916 - 2003					
ANNUAL TOTAL	657418				702573							
ANNUAL MEAN	1801				1925		1283					
HIGHEST ANNUAL MEAN							2364					
LOWEST ANNUAL MEAN							301					
HIGHEST DAILY MEAN	15800		Jun 6		14100		Sep 2		72400			Jan 22 1959
LOWEST DAILY MEAN	140		Sep 13		258		Oct 18		27			Sep 18 1954
ANNUAL SEVEN-DAY MINIMUM	147		Sep 8		303		Oct 17		37			Sep 12 1964
MAXIMUM PEAK FLOW					26500		Sep 2		84100			Jan 22 1959
MAXIMUM PEAK STAGE					17.66		Sep 2a		27.30			Jan 22 1959
INSTANTANEOUS LOW FLOW					254		Oct 18		27			Sep 18 1954
ANNUAL RUNOFF (CFSM)	1.50				1.60		1.07					
ANNUAL RUNOFF (INCHES)	20.33				21.73		14.49					
10 PERCENT EXCEEDS	4930				4820		3060					
50 PERCENT EXCEEDS	916				1080		506					
90 PERCENT EXCEEDS	256				473		116					

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

03247500 EAST FORK LITTLE MIAMI RIVER AT PERINTOWN, OHIO

LOCATION.—Latitude 39°08'13", longitude 84°14'17", Clermont County, Hydrologic Unit 05090202, on right bank at upstream wingwall of highway bridge at Perintown, Ohio, 0.2 mi downstream from Sugarcamp Run, 5 mi upstream from mouth, and at mile 6.4.

DRAINAGE AREA.—476 mi².

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 and crest gage. Datum of gage is 507.03 ft above sea level. Prior to Feb. 6, 1940, nonrecording gage at same site and datum.

REMARKS.—Records good except for periods of estimated record, which are poor. 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 formerly collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 42,400 ft³/s Mar. 10, 1964, gage height, 23.84 ft; minimum daily, 0.4 ft³/s July 24, 1930, Sept. 11, 12, 23, 1939; minimum gage height, -0.18 ft Oct. 3-7, 1917.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	246	580	69	3740	83	3310	479	62	201	53	151	916
2	241	265	66	2000	136	2660	269	80	325	55	2250	3140
3	222	249	58	4520	323	2630	261	171	432	57	741	1710
4	134	193	54	3910	1850	1310	254	138	557	53	488	1390
5	97	329	56	2280	2350	2610	284	3480	749	65	652	2770
6	53	610	56	1620	1420	3040	217	2630	453	52	1890	1740
7	48	488	62	1230	511	3230	397	3570	256	143	1590	910
8	46	394	83	712	262	2350	467	3350	410	80	677	513
9	46	269	70	591	259	406	801	2230	533	136	443	250
10	45	703	59	e430	268	697	1060	8910	442	653	463	92
11	109	2190	209	e310	257	871	1160	3510	448	571	509	78
12	88	1180	291	e240	218	763	1120	3880	319	812	322	65
13	71	1070	662	e180	177	672	913	3680	521	495	388	56
14	66	676	1710	e140	182	318	436	3590	960	168	249	54
15	64	337	2220	e120	737	438	163	3580	1270	167	168	53
16	63	413	1470	e110	634	513	88	3580	1650	419	125	50
17	68	445	896	e100	460	371	78	2610	2270	305	93	47
18	69	331	1140	e120	805	347	80	577	1520	262	74	47
19	72	323	2100	e140	473	354	67	1140	2960	231	60	46
20	78	294	3650	e100	229	588	65	1080	2080	174	52	45
21	73	218	3680	e74	423	2210	349	1290	483	194	51	45
22	69	273	3270	e64	3710	2880	175	1460	203	186	447	338
23	49	246	2190	e60	2980	1450	123	760	192	386	123	380
24	44	207	758	e58	3810	539	98	461	149	637	66	928
25	362	192	645	e56	3170	396	98	248	137	750	55	738
26	549	180	472	e56	285	267	79	225	98	382	49	482
27	402	146	405	e57	1440	309	87	220	110	230	47	739
28	586	123	213	60	4200	350	88	212	79	208	54	752
29	1390	96	190	67	---	671	80	193	58	178	69	851
30	1130	77	254	80	---	766	65	164	54	159	105	762
31	951	---	1120	71	---	782	---	174	---	127	100	---
TOTAL	7531	13097	28178	23296	31652	38098	9901	57255	19919	8388	12551	19987
MEAN	243	437	909	751	1130	1229	330	1847	664	271	405	666
MAX	1390	2190	3680	4520	4200	3310	1160	8910	2960	812	2250	3140
MIN	44	77	54	56	83	267	65	62	54	52	47	45

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1977 - 2003, BY WATER YEAR (WY)

	267	374	733	760	1015	1086	897	963	544	277	203	240
MEAN	267	374	733	760	1015	1086	897	963	544	277	203	240
MAX	980	1446	2108	1637	2162	2432	1789	3657	2165	1110	1220	1869
(WY)	1984	1986	1991	1991	1990	1997	1998	1996	1997	2001	1979	1979
MIN	18.5	48.0	54.1	15.3	168	138	73.5	48.4	35.6	32.4	38.6	30.1
(WY)	1983	2000	1977	1977	1987	1983	1986	1988	1988	1984	1987	1983

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1977 - 2003

ANNUAL TOTAL	251844	269853	
ANNUAL MEAN	690	739	611
HIGHEST ANNUAL MEAN			1058
LOWEST ANNUAL MEAN			266
HIGHEST DAILY MEAN	4480	May 19	8910
LOWEST DAILY MEAN	33	Sep 6	44
ANNUAL SEVEN-DAY MINIMUM	36	Aug 4	48
MAXIMUM PEAK FLOW			26200
MAXIMUM PEAK STAGE			20.32
INSTANTANEOUS LOW FLOW			14
10 PERCENT EXCEEDS	2480	2270	2080
50 PERCENT EXCEEDS	180	310	153
90 PERCENT EXCEEDS	39	58	38

e Estimated.

SURFACE-WATER RECORDS
Great Miami River Basin

03260706 BOKENGEHALAS CREEK AT DE GRAFF, OHIO

LOCATION.—Latitude 40°18'40", longitude 84°54'45", sec. 6, R. 13, T. 3, Logan County, Hydrologic Unit 05080001, at DeGraff on right bank 100 ft downstream from bridge on County Road 11, and 1.1 mi upstream from mouth.

DRAINAGE AREA.— 40.4 mi².

PERIOD OF RECORD.—June 1992 to September 1996, October 1997 to September 2002 recording crest-stage gage; October 2002 to September 2003.

October 1957 to May 1992, at site 2.9 mi upstream published as "near DeGraff" (station 03260700), are not equivalent because of difference in drainage areas.

GAGE.—Water-stage recorder. Datum of gage is 977.38 ft above sea level.

REMARKS.—Records fair except for periods of estimated record, which are poor. Diurnal fluctuation caused by municipal plants in Bellefontaine, 12.7 mi upstream and DeGraff, 0.25 mi upstream. Since storage capacity is small, daily flows are not affected appreciably.

COOPERATION.—Discharge measurements furnished by Miami Conservancy District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11	10	17	191	e16	e20	51	34	39	22	38	242
2	10	9.7	16	114	e16	e20	45	70	36	21	121	613
3	9.6	9.2	15	78	21	e19	41	49	90	20	262	271
4	9.7	9.4	15	59	80	e24	40	63	76	28	193	146
5	14	10	14	49	e32	e190	153	207	57	236	155	103
6	8.9	15	13	42	e26	e100	90	121	43	207	131	79
7	8.5	11	13	37	e23	e60	109	107	40	488	113	63
8	8.8	10	12	38	e22	104	116	85	73	681	98	53
9	8.6	9.8	e12	50	e21	255	81	225	100	e800	82	47
10	8.5	17	e11	49	e20	101	67	227	58	e350	67	42
11	8.4	108	e11	e32	e19	73	58	340	119	e170	58	37
12	8.2	45	e12	e29	e18	72	51	160	103	e130	51	e36
13	7.7	29	e12	e26	e18	197	45	113	149	e100	46	e35
14	7.7	22	e13	e25	e17	165	42	90	194	e74	43	e34
15	8.4	19	e12	e24	e17	123	40	86	110	e68	38	e33
16	8.4	17	e11	e23	e17	125	38	119	78	e66	37	e31
17	8.2	15	e11	e22	e17	107	e39	81	73	e62	36	e31
18	8.1	14	e13	e21	e16	87	e42	71	67	e56	34	e31
19	10	14	44	e21	e16	72	e37	63	50	e54	31	e30
20	8.7	13	159	e20	e16	74	e40	79	41	e50	31	e29
21	8.0	13	73	e20	17	94	e42	68	37	e120	29	e28
22	8.2	17	46	e19	57	85	e38	57	33	e90	28	e46
23	8.1	18	34	e19	124	65	e35	51	31	e70	27	e40
24	8.1	17	e25	e18	e56	56	33	47	29	e50	26	e32
25	10	20	e22	e18	e33	52	33	45	27	e47	26	e29
26	21	18	e21	e17	e25	83	33	44	26	e46	25	e70
27	11	17	e19	e17	e23	61	32	41	25	e44	30	e200
28	9.9	16	e18	e17	e21	52	32	40	24	e44	25	e120
29	11	16	e18	e16	---	82	32	39	23	e43	24	e54
30	15	19	79	e16	---	70	32	36	22	e42	60	e50
31	11	---	270	e16	---	57	---	45	---	40	35	---
TOTAL	302.7	578.1	1061	1143	804	2745	1567	2903	1873	4319	2000	2655
MEAN	9.76	19.3	34.2	36.9	28.7	88.5	52.2	93.6	62.4	139	64.5	88.5
MAX	21	108	270	191	124	255	153	340	194	800	262	613
MIN	7.7	9.2	11	16	16	19	32	34	22	20	24	28
MED	8.7	16	15	23	20	74	40	70	47	62	38	44
CFSM	0.24	0.48	0.85	0.91	0.71	2.19	1.29	2.32	1.55	3.45	1.60	2.19
IN.	0.28	0.53	0.98	1.05	0.74	2.53	1.44	2.67	1.72	3.98	1.84	2.44
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1993 - 2003, BY WATER YEAR (WY)												
MEAN	13.3	35.9	35.2	53.5	47.1	62.5	76.2	69.8	51.6	50.9	31.6	26.1
MAX	23.0	85.5	85.1	103	82.3	118	170	140	86.5	139	64.5	88.5
(WY)	1996	1993	2002	1996	1997	1997	2002	1996	1997	2003	2003	2003
MIN	5.94	7.60	9.40	17.2	17.9	31.7	48.0	21.7	13.3	9.62	9.10	6.37
(WY)	1995	1995	1995	1995	1995	2001	1997	1999	1999	1994	1994	1994

SUMMARY STATISTICS		FOR 2003 WATER YEAR		WATER YEARS 1993 - 2003	
ANNUAL TOTAL		21950.8			
ANNUAL MEAN		60.1		48.8	
HIGHEST ANNUAL MEAN				60.1 2003	
LOWEST ANNUAL MEAN				35.2 1994	
HIGHEST DAILY MEAN		800	Jul 9	800	Jul 9 2003
LOWEST DAILY MEAN		7.7	Oct 13	5.0	Oct 3 1994
ANNUAL SEVEN-DAY MINIMUM		8.1	Oct 12	5.3	Oct 2 1994
MAXIMUM PEAK FLOW		925	Jul 9a	925	Jul 9 2003
MAXIMUM PEAK STAGE		6.80	Jul 9	6.80	Jul 9 2003
INSTANTANEOUS LOW FLOW		7.0	Oct 13	5.0	Oct 3 1994
ANNUAL RUNOFF (CFSM)		1.49		1.21	
ANNUAL RUNOFF (INCHES)		20.21		16.41	
10 PERCENT EXCEEDS		121		107	
50 PERCENT EXCEEDS		36		30	
90 PERCENT EXCEEDS		11		9.4	

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

03261500 GREAT MIAMI RIVER AT SIDNEY, OHIO

LOCATION.—Latitude 40°17'13", longitude 84°09'00", Shelby County, Hydrologic Unit 05080001, on right bank 50 ft upstream from North Street bridge in Sidney, Ohio, and 0.5 mi downstream from Tawawa Creek.

DRAINAGE AREA.—541 mi².

PERIOD OF RECORD.—February 1914 to current year. Prior to October 1962, published as Miami River at Sidney.

REVISED RECORDS.—WSP 1305: 1914(M), 1922(M). WSP 1908: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 924.70 ft, National Geodetic Vertical Datum of 1912. Prior to Sept. 18, 1919, nonrecording gage at site 50 ft downstream at datum 1.76 ft higher; Sept. 18, 1919–Aug. 1925, nonrecording gage at site 50 ft downstream at present datum.

REMARKS.—Records good except for periods of estimated record, which are poor. Pumpage for City of Sidney averaged 5.50 ft³/s in 2003 and is returned as sewage 1.2 mi downstream from the station. Some regulation by Indian Lake, 28 mi upstream, capacity, 45,900 acre-ft; water diverted into Miami and Erie Canal at Port Jefferson, 2.8 mi upstream, prior to 1926; amount of diversion not published. Sediment data formerly collected at this site.

COOPERATION.—Gage-height record and eight discharge measurements furnished by Miami Conservancy District.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Mar. 25, 1913, reached a stage of 19.6 ft, present datum; discharge, 44,000 ft³/s, computed by Miami Conservancy District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	76	69	142	3210	e120	325	692	191	377	167	266	2700
2	64	65	136	2600	e140	325	540	354	268	163	877	6440
3	58	60	111	1790	161	365	456	586	388	153	3370	5510
4	59	58	88	1200	602	344	422	598	1060	160	3520	4000
5	64	63	102	865	822	1840	1530	1570	768	1270	3930	2670
6	64	72	88	622	513	2360	1670	2120	534	2170	2590	1770
7	57	83	80	473	e300	1540	1520	1840	407	5060	1670	1160
8	51	76	86	428	e240	1380	2010	1490	369	7220	1090	745
9	50	71	72	703	e200	3250	1680	1900	694	11000	718	454
10	48	120	76	900	e170	2440	1290	2880	515	9790	539	338
11	46	885	80	640	e150	1770	979	3910	635	8130	436	276
12	47	573	81	350	e140	1580	677	3320	1060	6160	429	237
13	45	286	81	e260	e130	2590	523	2460	2090	4450	741	211
14	44	187	89	e230	e130	3280	416	1830	2590	2920	996	198
15	45	142	91	e200	e120	3030	355	1400	2170	2010	625	191
16	45	124	90	e190	e120	2750	322	1250	1500	1420	384	195
17	45	113	90	e180	e110	2360	319	965	1050	970	322	167
18	44	105	89	e170	e110	1910	334	742	1130	628	278	154
19	55	98	239	e160	e100	1470	301	575	1060	499	224	148
20	57	92	1800	e160	e100	1330	281	795	721	417	198	158
21	53	87	1310	e150	e100	1750	312	1380	491	499	183	137
22	51	105	677	e140	e200	1830	341	1040	363	1760	172	157
23	50	125	402	e140	1660	1370	331	697	298	1840	170	202
24	48	150	282	e130	1400	1000	256	500	242	1380	166	182
25	61	195	e200	e130	949	773	226	393	213	883	153	159
26	99	204	e180	e130	684	1310	265	344	207	557	140	166
27	104	177	e160	e130	503	1230	274	301	216	433	144	747
28	80	148	e140	e130	385	920	199	280	210	426	182	1080
29	70	134	e130	e120	---	1080	201	243	182	465	201	665
30	70	135	587	e120	---	1250	202	235	168	366	515	431
31	75	---	2970	e120	---	943	---	238	---	300	723	---
TOTAL	1825	4802	10749	16771	10359	49695	18924	36427	21976	73666	25952	31648
MEAN	58.9	160	347	541	370	1603	631	1175	733	2376	837	1055
MAX	104	885	2970	3210	1660	3280	2010	3910	2590	11000	3930	6440
MIN	44	58	72	120	100	325	199	191	168	153	140	137

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 2003, BY WATER YEAR (WY)

MEAN	161	308	503	720	767	953	883	560	441	329	184	144
MAX	1717	1876	2373	3846	2186	2507	2500	2010	2073	2376	1173	2365
(WY)	1927	1973	1991	1930	1950	1927	1957	1996	1958	2003	1973	1926
MIN	21.9	36.3	41.3	42.1	49.5	106	164	70.6	36.1	24.6	28.5	21.2
(WY)	1964	1935	1935	1977	1964	1941	1946	1934	1988	1934	1963	1963

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1926 - 2003	
ANNUAL TOTAL	175490		302794			
ANNUAL MEAN	481		830		495	
HIGHEST ANNUAL MEAN					963	
LOWEST ANNUAL MEAN					141	
HIGHEST DAILY MEAN	4920	Apr 15	11000	Jul 9	17400	Mar 21 1927
LOWEST DAILY MEAN	31	Sep 12	44	Oct 14	8.0	Sep 23 1935
ANNUAL SEVEN-DAY MINIMUM	33	Sep 7	45	Oct 12	15	Sep 19 1935
MAXIMUM PEAK FLOW			11600	Jul 9a	20700	Mar 20 1927
MAXIMUM PEAK STAGE			14.32	Jul 9	15.91	Jan 21 1959
INSTANTANEOUS LOW FLOW			43	Oct 13	1.5	Aug 13 1963
10 PERCENT EXCEEDS	1290		2100		1270	
50 PERCENT EXCEEDS	183		322		183	
90 PERCENT EXCEEDS	49		76		45	

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

03261950 LORAMIE CREEK NEAR NEWPORT, OHIO

LOCATION.—Latitude 40°18'25", longitude 84°23'02", in SE ¼ 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, Ohio, 3 mi south of Fort Loramie, Ohio, 3 mi downstream from Mile Creek, and at mile 16.5.

DRAINAGE AREA.—152 mi².

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-September 30, 1980, water-stage recorder at same site at datum 0.43 ft higher.

REMARKS.—Records good except for periods of estimated record, which are poor. Some regulation by Lake Loramie 5 mi upstream, capacity, 13,000 acre-ft. Sediment data formerly collected at this site.

COOPERATION.—Gage-height record and eight 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 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	2.7	e14	9.8	1070	e7.0	84	158	42	40	8.9	23	662
2	2.1	e11	9.8	607	e7.0	84	87	81	21	8.3	357	3110
3	2.0	e9.6	6.7	255	e13	83	49	95	72	9.4	962	2520
4	2.3	e8.6	5.5	134	276	89	43	130	151	14	1390	881
5	7.2	e8.0	4.9	94	144	486	199	620	102	254	1380	289
6	2.8	e10	4.5	74	81	576	182	798	72	893	513	149
7	2.5	e13	3.8	56	55	281	259	386	56	3570	232	90
8	3.2	e17	3.5	58	39	319	463	208	44	5540	141	60
9	2.7	e18	3.1	254	e25	1330	317	311	35	6170	105	45
10	2.3	e19	3.8	271	e19	794	219	618	28	5120	69	33
11	2.1	e100	4.1	e110	e15	431	133	1040	29	3200	50	24
12	2.3	e50	4.7	e70	e12	493	118	717	76	1250	201	18
13	1.8	e23	5.0	e50	e10	1200	104	329	289	453	129	14
14	1.4	e15	6.3	e30	e9.0	1900	97	179	323	249	62	11
15	1.6	e10	7.7	e25	e8.4	1170	88	153	281	160	41	14
16	1.8	e7.0	7.2	e20	e7.8	833	32	137	145	117	29	e12
17	2.2	e6.0	7.1	e16	e7.0	657	25	99	93	79	28	e10
18	2.2	e5.6	7.4	e14	e6.6	450	22	78	248	60	19	e8.0
19	3.5	e5.4	143	e12	e6.2	294	18	61	202	47	13	e7.0
20	1.3	e5.0	467	e10	e6.0	489	17	61	109	33	10	6.6
21	0.89	e6.0	239	e9.4	e9.0	1230	21	95	61	110	9.2	6.2
22	1.1	e8.0	118	e9.0	65	1120	23	70	39	1650	8.6	16
23	1.5	e11	62	e8.8	359	499	19	51	27	1580	7.7	52
24	1.2	e20	e34	e8.4	313	276	16	38	19	571	6.3	29
25	2.5	e27	e25	e8.2	196	216	18	33	14	239	5.8	44
26	3.7	e25	e18	e7.8	129	281	23	29	11	130	6.1	40
27	0.86	e22	e15	e7.6	95	237	18	24	18	79	6.1	425
28	1.6	e19	e12	e7.4	92	205	15	22	14	70	6.0	276
29	5.3	e15	e10	e7.2	---	251	21	22	8.9	53	8.2	128
30	e13	13	163	e7.0	---	233	18	18	9.1	37	68	78
31	e14	---	1050	e7.0	---	203	---	39	---	28	56	---
TOTAL	95.65	521.2	2460.9	3317.8	2012.0	16794	2822	6584	2637.0	31782.6	5942.0	9057.8
MEAN	3.09	17.4	79.4	107	71.9	542	94.1	212	87.9	1025	192	302
MAX	14	100	1050	1070	359	1900	463	1040	323	6170	1390	3110
MIN	0.86	5.0	3.1	7.0	6.0	83	15	18	8.9	8.3	5.8	6.2

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1965 - 2003, 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	1999	2000	2001	2002	2003
MEAN	39.8	101	177	165	214	272	238	141	117	127	47.7	30.6																											
MAX	360	656	802	560	613	826	700	437	561	1025	322	302																											
(WY)	1987	1973	1991	1996	1975	1978	1972	1996	1981	2003	1995	2003																											
MIN	0.75	1.32	1.63	0.63	14.1	37.6	23.1	7.14	1.47	0.51	0.22	0.53																											
(WY)	1965	1981	1977	1977	1978	2001	1971	1988	1988	1965	1965	1966																											

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1965 - 2003

ANNUAL TOTAL	50090.85	84026.95					
ANNUAL MEAN	137	230	139				
HIGHEST ANNUAL MEAN			249				
LOWEST ANNUAL MEAN			39.6				
HIGHEST DAILY MEAN	3270	May 14	6170	Jul 9	6170	Jul 9	2003
LOWEST DAILY MEAN	0.86	Oct 27	0.86	Oct 27	0.10	Aug 15	1965
ANNUAL SEVEN-DAY MINIMUM	1.7	Oct 18	1.7	Oct 18	0.13	Sep 9	1966
MAXIMUM PEAK FLOW			6450	Jul 9a	6500	Dec 31	1990
MAXIMUM PEAK STAGE			15.51	Jul 9	15.51	Jul 9	2003
INSTANTANEOUS LOW FLOW					0.10	Aug 15	1965
10 PERCENT EXCEEDS	297		505		354		
50 PERCENT EXCEEDS	18		33		23		
90 PERCENT EXCEEDS	2.1		5.0		1.8		

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

SURFACE-WATER RECORDS
Great Miami River Basin

03262700 GREAT MIAMI RIVER AT TROY, OHIO

LOCATION.—Latitude 40°02'25", longitude 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, Ohio, 1.2 mi upstream from small left bank tributary, 2.3 mi downstream from Spring Creek, and at mile 105.

DRAINAGE AREA.—926 mi².

PERIOD OF RECORD.—Water years 1961, 1962 (occasional low-flow measurements, 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 averaged 8.1 ft³/s in 2003 and is returned as sewage 1 mi downstream from the station. Water-quality and sediment data formerly collected at this site.

COOPERATION.—Gage-height record and eight 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 ft³/s.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	168	110	177	e5400	e130	e560	1270	338	550	306	473	2730
2	133	103	182	e4000	e130	e500	962	418	588	298	1240	11300
3	127	95	170	e2200	e160	e490	743	788	577	286	4780	10300
4	104	93	135	e1400	e300	e470	676	799	1420	281	5890	6570
5	95	112	e120	e1000	e800	2500	2300	2180	1400	1410	7370	3620
6	83	129	e110	e800	e700	4460	2580	3650	1030	3770	4110	2360
7	89	122	e105	e660	606	2590	2130	3000	790	11300	2470	1650
8	87	132	e100	e600	412	1920	3110	2290	705	14400	1650	1120
9	86	124	e98	e900	418	6100	2600	2720	915	18800	1150	729
10	86	190	e100	e1400	380	4720	1990	4280	926	18200	908	532
11	86	966	129	e900	e290	3010	1540	6590	777	16300	767	456
12	85	986	116	e600	e230	2760	1130	5440	1420	12800	709	375
13	80	463	112	e480	e210	4640	865	3570	3220	7600	1040	334
14	70	297	115	e400	e190	7090	706	2530	4200	4090	1270	305
15	64	227	116	e350	e170	5760	626	1960	3060	2910	1090	312
16	61	181	115	e320	e160	4870	566	1710	2200	2130	760	298
17	62	155	113	e300	e150	4020	487	1480	1510	1650	605	288
18	65	135	119	e280	e140	3120	506	1220	1410	1330	473	279
19	79	141	210	e250	e130	2360	476	1010	1540	983	401	267
20	97	133	2600	e240	e125	2250	452	1320	1230	876	358	248
21	89	123	e1800	e230	e120	4070	475	2030	895	811	334	236
22	89	155	e800	e220	e200	4280	496	1570	652	3050	317	274
23	83	158	e540	e210	e500	2680	492	1120	532	4670	309	356
24	76	185	e400	e200	e1900	1820	431	861	460	2970	320	378
25	117	214	e340	e190	e1300	1400	385	692	390	1770	303	315
26	160	280	e300	e180	e900	2140	384	615	351	1170	276	316
27	179	269	e270	e170	e740	2040	431	550	385	829	256	1130
28	140	218	e240	e160	e640	1560	358	499	360	716	274	1900
29	126	186	e200	e160	---	1780	341	467	356	780	321	1120
30	118	174	e300	e150	---	2060	342	434	321	646	759	717
31	109	---	e2000	e140	---	1610	---	491	---	517	1050	---
TOTAL	3093	6856	12232	24490	12131	89630	29850	56622	34170	137649	42033	50815
MEAN	99.8	229	395	790	433	2891	995	1827	1139	4440	1356	1694
MAX	179	986	2600	5400	1900	7090	3110	6590	4200	18800	7370	11300
MIN	61	93	98	140	120	470	341	338	321	281	256	236

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1963 - 2003, BY WATER YEAR (WY)

MEAN	283	604	998	912	1216	1622	1540	1014	789	703	361	221
MAX	2268	3824	3949	3069	3403	4005	4032	3294	2858	4440	2246	1694
(WY)	1987	1973	1991	1974	1975	1963	1964	1996	1981	2003	1995	2003
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 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1963 - 2003

ANNUAL TOTAL	310039	499571		
ANNUAL MEAN	849	1369	853	
HIGHEST ANNUAL MEAN			1662	1973
LOWEST ANNUAL MEAN			300	1988
HIGHEST DAILY MEAN	10400	Apr 15	18800	Jul 9
LOWEST DAILY MEAN	33	Sep 12	61	Oct 16
ANNUAL SEVEN-DAY MINIMUM	53	Aug 28	69	Oct 13
MAXIMUM PEAK FLOW			19800	Jul 9
MAXIMUM PEAK STAGE			16.08	Jul 9
INSTANTANEOUS LOW FLOW				4.3
10 PERCENT EXCEEDS	2190	3360	2200	
50 PERCENT EXCEEDS	312	496	312	
90 PERCENT EXCEEDS	81	116	73	

e Estimated.

SURFACE-WATER RECORDS

Great Miami River Basin

03263000 GREAT MIAMI RIVER AT TAYLORSVILLE, OHIO

LOCATION.—Latitude 39°52'27", longitude 84°09'45", in SW ¼ sec. 36, R.8, T.2, Montgomery County, Hydrologic Unit 05080001, on right upstream face of Taylorsville Dam, 0.8 mi north of Taylorsville, Ohio, 2.1 mi east of Vandalia, Ohio, 9.5 mi upstream from Stillwater River, and at mile 90.9.

DRAINAGE AREA.—1,149 mi².

PERIOD OF RECORD.—January 1914 to September 1917 (published as Miami River at Tadmor), October 1921 to current year. 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, National Geodetic Vertical Datum of 1912 (levels by Miami Conservancy District). Prior to October 1921, nonrecording gage at site 1.7 mi upstream at different datum; Jan. 1, 1922-Nov. 11, 1925, nonrecording gage at site 50 ft downstream at outlet works of Taylorsville Dam at datum 60.03 ft lower; Oct. 1921-Sept. 1978 at site 650 ft downstream at datum 60.03 ft lower.

REMARKS.—Records fair except for periods of estimated record, which are poor. 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 Mar. 1913, reached a stage of 25.4 ft at site at Tadmor; discharge, 127,000 ft³/s computed by Miami Conservancy District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	211	167	288	7460	e280	e840	1620	422	587	348	575	3050
2	175	161	291	5960	e310	e740	1240	456	676	338	1020	13200
3	148	155	e240	3680	e360	e700	1030	734	701	328	3590	14400
4	155	150	e220	2400	e600	e900	916	839	1340	305	6610	9930
5	165	155	e200	1730	e1000	2950	2490	2080	1440	1120	7330	5190
6	143	198	e190	1370	e900	5610	3170	4040	1070	3280	5360	3290
7	135	187	e190	1090	e800	3450	2540	3590	851	8680	3150	2250
8	129	185	e190	985	e660	2620	3520	2930	843	13600	2060	1590
9	124	183	e190	1340	e580	7320	3130	2930	1030	16800	1510	1170
10	128	387	200	1910	e500	5980	2420	4850	1020	22200	1070	901
11	127	2090	219	e1100	e430	3870	1860	6550	901	20700	869	746
12	121	1500	219	e800	e370	3370	1420	6220	1290	16900	759	648
13	121	845	213	e700	e340	4600	1110	4230	2960	12000	977	569
14	116	549	250	e600	e320	7880	946	2980	4970	5490	1250	531
15	104	423	249	e560	e290	6560	846	2510	4040	3520	1140	550
16	103	368	246	e520	e280	5570	788	2260	2920	2570	745	504
17	103	315	239	e500	e260	4730	694	1810	1980	1840	596	468
18	103	280	249	e460	e250	3810	685	1490	1630	1360	523	408
19	110	259	527	e430	e240	2930	656	1190	1810	1040	455	399
20	124	250	3590	e410	e230	2650	618	1340	1390	897	412	384
21	119	240	3110	e400	e220	4150	683	2470	1020	932	383	383
22	121	317	1750	e380	e700	5160	653	1920	777	2790	366	462
23	130	344	1040	e370	e1200	3450	638	1390	640	5080	344	496
24	120	356	775	e350	e2400	2340	586	1070	565	3790	334	494
25	170	384	668	e340	e1600	1760	531	882	484	2080	321	428
26	293	423	550	e330	e1200	2420	528	815	450	1320	303	409
27	220	425	478	e320	e1000	2540	537	731	526	971	341	2900
28	208	371	445	e310	e860	1950	492	686	445	921	323	3030
29	192	329	417	e300	---	2200	440	640	407	855	379	1740
30	191	311	814	e290	---	2650	429	557	386	779	3280	1180
31	174	---	5560	e290	---	2050	---	610	---	656	2010	---
TOTAL	4583	12307	23807	37685	18180	107750	37216	65222	39149	153490	48385	71700
MEAN	148	410	768	1216	649	3476	1241	2104	1305	4951	1561	2390
MAX	293	2090	5560	7460	2400	7880	3520	6550	4970	22200	7330	14400
MIN	103	150	190	290	220	700	429	422	386	305	303	383
CFSM	0.13	0.36	0.67	1.06	0.57	3.03	1.08	1.83	1.14	4.31	1.36	2.08
IN.	0.15	0.40	0.77	1.22	0.59	3.49	1.20	2.11	1.27	4.97	1.57	2.32
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1922 - 2003, BY WATER YEAR (WY)												
MEAN	320	602	1028	1494	1570	1953	1840	1185	984	689	390	286
MAX	3089	4228	4587	8024	4473	5158	5525	4603	5567	4951	2786	3608
(WY)	1927	1973	1991	1937	1950	1963	1922	1996	1958	2003	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 2002 CALENDAR YEAR			FOR 2003 WATER YEAR			WATER YEARS 1922 - 2003		
ANNUAL TOTAL				393334			619474					
ANNUAL MEAN				1078			1697			1025		
HIGHEST ANNUAL MEAN										2005		
LOWEST ANNUAL MEAN										292		
HIGHEST DAILY MEAN				12500			Apr 15			22200 Jul 10		
LOWEST DAILY MEAN				65			Sep 13			103 Oct 16		
ANNUAL SEVEN-DAY MINIMUM				68			Sep 8			109 Oct 13		
MAXIMUM PEAK FLOW										22700 Jul 10		
MAXIMUM PEAK STAGE										25.13 Jul 10		
INSTANTANEOUS LOW FLOW										101 Oct 16		
ANNUAL RUNOFF (CFSM)				0.94			1.48			0.89		
ANNUAL RUNOFF (INCHES)				12.73			20.06			12.13		
10 PERCENT EXCEEDS				2670			3940			2490		
50 PERCENT EXCEEDS				430			700			400		
90 PERCENT EXCEEDS				117			190			96		

e Estimated.

SURFACE-WATER RECORDS
Great Miami River Basin

03264000 GREENVILLE CREEK NEAR BRADFORD, OHIO

LOCATION.—Latitude 40°06'08", longitude 84°25'48", in NW ¼ sec. 34, T.9N., R.4E., 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, Ohio, and 6 mi upstream from mouth.

DRAINAGE AREA.—193 mi².

PERIOD OF RECORD.—October 1930 to September 2000, October 2000 to September 2002, recording crest-stage gage; October 2002 to September 2003.

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 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 except for periods of estimated record, which are poor. Some diurnal fluctuation caused by mill 8 mi upstream from station; daily flows are not affected appreciably. Sediment data formerly collected at this site.

COOPERATION.—Gage-height record and six 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 ft³/s, at site with drainage area of 213 mi², computed by Miami Conservancy District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	29	27	821	e49	e110	203	88	91	57	88	1790
2	26	26	26	694	e48	e100	179	92	80	78	447	4520
3	28	26	26	369	e60	e94	162	88	103	87	883	4110
4	16	26	e25	242	e110	e110	154	83	126	64	948	2060
5	25	27	e24	189	e170	432	427	183	e110	484	893	782
6	28	41	e23	162	e110	760	371	283	e100	1010	475	500
7	25	34	e22	138	e90	363	285	219	e90	1340	296	371
8	22	32	e21	138	e80	310	308	185	e80	2620	216	291
9	22	32	e20	252	e70	1350	257	318	e74	3260	169	236
10	22	35	e20	271	e66	853	218	650	e70	2810	263	203
11	21	125	e22	181	e64	495	193	1140	e700	1960	207	174
12	21	92	e24	125	e60	525	173	759	e500	871	149	152
13	20	59	e26	e110	e58	974	154	388	e1000	554	127	138
14	19	45	32	e96	e54	1280	140	261	e900	398	111	123
15	19	36	34	e90	e52	775	134	215	e350	309	100	126
16	20	35	31	e82	e50	664	129	177	e250	265	92	e115
17	20	34	30	e76	e47	531	125	150	e190	216	88	e110
18	20	32	31	e70	e44	413	120	150	e160	181	80	e105
19	20	30	95	e66	e42	350	114	145	e140	163	73	e100
20	21	28	349	e64	e41	470	111	244	e120	140	69	97
21	20	29	233	e62	e39	1310	108	258	e110	163	68	92
22	20	33	135	e60	e60	1060	106	185	e100	363	72	119
23	20	34	93	e58	e400	533	97	149	e86	386	66	260
24	21	31	e68	e56	e300	367	94	127	e74	259	61	189
25	24	31	e56	e56	e200	290	96	115	e62	184	57	e160
26	49	31	e46	e54	e160	358	101	105	66	142	58	e330
27	41	31	e40	e54	e130	317	92	98	75	121	54	e1000
28	30	31	e37	e52	e120	255	87	95	65	120	53	e2000
29	28	29	e32	e52	---	283	89	97	60	109	54	e250
30	38	30	114	e52	---	277	87	89	64	99	955	e190
31	31	---	654	e50	---	229	---	94	---	91	947	---
TOTAL	763	1134	2416	4842	2774	16238	4914	7230	5996	18904	8219	20693
MEAN	24.6	37.8	77.9	156	99.1	524	164	233	200	610	265	690
MAX	49	125	654	821	400	1350	427	1140	1000	3260	955	4520
MIN	16	26	20	50	39	94	87	83	60	57	53	92
CFSM	0.13	0.20	0.40	0.81	0.51	2.71	0.85	1.21	1.04	3.16	1.37	3.57
IN.	0.15	0.22	0.47	0.93	0.53	3.13	0.95	1.39	1.16	3.64	1.58	3.99
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1931 - 2003, BY WATER YEAR (WY)												
MEAN	54.5	108	172	247	272	328	316	218	189	117	71.8	56.7
MAX	496	724	772	1430	844	826	783	935	1142	610	723	690
(WY)	1987	1994	1991	1937	1950	1963	1964	1933	1958	2003	1979	2003
MIN	10.7	14.9	13.5	14.9	15.9	48.2	58.7	27.7	21.6	13.9	8.93	9.47
(WY)	1964	1935	1964	1945	1935	1941	1935	1941	1934	1988	1999	
SUMMARY STATISTICS FOR 2003 WATER YEAR WATER YEARS 1931 - 2003												
ANNUAL TOTAL	94123											
ANNUAL MEAN	258											
HIGHEST ANNUAL MEAN	302 1950											
LOWEST ANNUAL MEAN	52.8 1941											
HIGHEST DAILY MEAN	4520 Sep 2 7920 May 14 1933											
LOWEST DAILY MEAN	16 Oct 4 5.3 Sep 17 1963											
ANNUAL SEVEN-DAY MINIMUM	20 Oct 13 6.4 Aug 25 1988											
MAXIMUM PEAK FLOW	4660 Sep 2a 9320 May 14 1933											
MAXIMUM PEAK STAGE	8.79 Sep 2 10.31 Mar 5 1963											
INSTANTANEOUS LOW FLOW	4.8 Sep 17 1963											
ANNUAL RUNOFF (CFSM)	1.34 0.93											
ANNUAL RUNOFF (INCHES)	18.14 12.57											
10 PERCENT EXCEEDS	652 395											
50 PERCENT EXCEEDS	101 74											
90 PERCENT EXCEEDS	26 21											

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

03265000 STILLWATER RIVER AT PLEASANT HILL, OHIO

LOCATION.—Latitude 40°03'28", longitude 84°21'22", in SW ¼ 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, Ohio, 2 mi downstream from Painter Creek, 2 mi upstream from Canyon Run, and at mile 28.35.

DRAINAGE AREA.—503 mi².

WATER-DISCHARGE RECORDS

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, National Geodetic Vertical Datum of 1912. Prior to Dec. 23, 1934, nonrecording gage at same site and datum.

REMARKS.—Records fair except for periods of estimated record, which are poor. Sediment data formerly collected at this site.

COOPERATION.—Gage-height record and nine discharge measurements furnished by Miami Conservancy District.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Mar. 25, 1913, reached a stage of 17.5 ft. Discharge at site about 3 mi upstream, 51,400 ft³/s, computed by Miami Conservancy District. This stage is not comparable with present gage heights because of failure of levee in 1913. Water-quality data collected at this site.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003												
DAILY MEAN VALUES												
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	38	53	51	2830	e78	e270	434	e145	183	114	152	3510
2	34	49	48	1880	e76	e240	378	e150	161	101	380	10800
3	34	48	43	826	e74	e230	331	e150	201	142	1080	7170
4	32	48	38	512	e180	e280	330	e140	318	107	1330	3390
5	27	53	50	395	e400	1370	1300	e300	278	855	1660	1350
6	39	67	42	333	e230	2180	943	e900	217	2750	851	797
7	40	70	37	286	e180	858	671	e500	194	5780	471	567
8	35	62	45	287	e160	738	864	546	183	7490	342	441
9	31	57	36	721	e150	4260	619	1080	172	9800	277	360
10	28	78	42	737	e140	2200	496	1630	154	9220	300	312
11	28	280	46	424	e130	1230	423	2990	145	4710	298	271
12	26	230	46	269	e120	1570	370	1780	158	1810	247	239
13	26	143	47	e220	e110	3350	318	808	554	1010	205	220
14	24	96	53	e190	e100	3800	281	533	749	677	181	202
15	26	73	56	e170	e90	2240	266	436	779	513	160	202
16	25	63	58	e160	e84	2010	253	369	468	428	145	194
17	24	57	58	e150	e76	1540	241	314	370	354	137	178
18	26	56	62	e140	e70	1080	227	299	563	301	125	163
19	28	50	184	e130	e66	798	213	291	431	269	113	157
20	30	46	1190	e120	e62	1300	206	509	292	239	105	153
21	30	45	592	e115	e60	4350	204	566	226	250	100	146
22	32	53	309	e110	e110	2970	196	383	194	863	98	174
23	30	59	210	e105	e500	1300	182	309	173	710	103	375
24	32	60	e150	e100	1410	819	170	268	154	447	92	341
25	42	63	e120	e96	653	614	173	240	137	318	86	248
26	72	61	e110	e92	e480	927	185	215	130	254	78	219
27	82	64	e100	e88	e370	749	167	197	140	221	77	1710
28	61	62	e90	e86	e310	552	151	189	131	215	73	2080
29	55	57	e80	e84	---	654	150	187	119	197	74	878
30	56	53	305	e82	---	663	e145	178	126	178	1170	563
31	55	---	2650	e80	---	510	---	184	---	161	1380	---
TOTAL	1148	2256	6948	11818	6469	45652	10887	16786	8100	50484	11890	37410
MEAN	37.0	75.2	224	381	231	1473	363	541	270	1629	384	1247
MAX	82	280	2650	2830	1410	4350	1300	2990	779	9800	1660	10800
MIN	24	45	36	80	60	230	145	140	119	101	73	146
CFSM	0.07	0.15	0.45	0.76	0.46	2.93	0.72	1.08	0.54	3.24	0.76	2.48
IN.	0.08	0.17	0.51	0.87	0.48	3.38	0.81	1.24	0.60	3.73	0.88	2.77
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1917 - 2003, BY WATER YEAR (WY)												
MEAN	144	283	445	607	708	913	839	490	465	284	149	132
MAX	1338	1909	2437	3961	2177	2433	2513	1700	3334	1629	1823	2127
(WY)	2002	1994	1991	1937	1950	1963	1922	1996	1958	2003	1979	1926
MIN	11.7	19.3	16.0	21.5	44.0	79.8	131	44.6	33.7	22.2	14.1	14.9
(WY)	1964	1964	1964	1977	1964	1941	1971	1941	1988	1977	1988	1954
SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1917 - 2003												
ANNUAL TOTAL	169247				209848				453			
ANNUAL MEAN	464				575				775			
HIGHEST ANNUAL MEAN									1973			
LOWEST ANNUAL MEAN									99.3			
HIGHEST DAILY MEAN	7010				May 14				17400			
LOWEST DAILY MEAN	14				Sep 13				4.0			
ANNUAL SEVEN-DAY MINIMUM	18				Sep 10				8.1			
MAXIMUM PEAK FLOW									26400			
MAXIMUM PEAK STAGE									Jan 14 1937			
INSTANTANEOUS LOW FLOW									18.46			
ANNUAL RUNOFF (CFSM)	0.92				1.14				4.0			
ANNUAL RUNOFF (INCHES)	12.52				15.52				12.24			
10 PERCENT EXCEEDS	1160				1310				1020			
50 PERCENT EXCEEDS	142				194				146			
90 PERCENT EXCEEDS	28				47				33			

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**

185

03265000 STILLWATER RIVER AT PLEASANT HILL, OHIO—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—June 2002 to current year.

PERIOD OF DAILY RECORD—

SPECIFIC CONDUCTANCE: June 2002 to current year.

pH: June 2002 to current year.

WATER TEMPERATURE: June 2002 to current year.

DISSOLVED OXYGEN: June 2002 to current year.

TURBIDITY: June 2002 to current year.

INSTRUMENTATION.—Water-quality monitor. Electronic data logger. Set for 1-hour interval. Satellite telemeter at station.

REMARKS.—Interruptions in water-quality record are due to malfunction of the instrument. Water temperature records are good except Nov. 12, 26, Jan. 5, Feb. 5, 26-28, Mar. 19, May 7, 20, June 10, 25, July 29, Aug. 13, Sept. 12, and 26, which are fair. Specific conductance records are good except Nov. 11-26, Jan. 22-Feb. 5, Mar. 19-Apr. 3, and May 20-July 19, which are fair. pH records are good except Oct. 15-29, Nov. 12-Dec. 10, Jan. 7-22, Feb. 5-Mar. 19, and June 25-July 10, which are fair. Dissolved oxygen records are fair except Nov. 12-Mar. 19, May 7-20, June 25-July 10, and Sept. 12-26, which are poor. Turbidity records are poor.

EXTREMES FOR PERIOD OF RECORD.—

SPECIFIC CONDUCTANCE: Maximum, 1,040 microsiemens, Dec. 19, 2002; minimum, 198 microsiemens, Sept. 2, 2003.

pH: Maximum, 8.9 units, Dec. 17, 2002; minimum, 7.0 units, Nov. 16 and 17, 2002.

WATER TEMPERATURE: Maximum, 31.5°C, Aug. 3, 2002; minimum, 0.0°C, many days in Dec., 2002 and Jan.-Mar., 2003.

DISSOLVED OXYGEN: Maximum, >20.0 mg/L, Nov. 24, Dec. 2-10, 2002, June 1, and 2, 2003; minimum, 4.9, July 24, 2002.

TURBIDITY: Maximum, 1,200 NTU, Mar. 21, 2003; minimum, 1.0 NTU, Nov. 19, 2002 and June 2, 2003

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum, 1,040 microsiemens, Dec. 19; minimum, 198 microsiemens, Sept. 2.

pH: Maximum, 8.9 units, Dec. 17; minimum, 7.0 units, Nov. 16 and 17.

WATER TEMPERATURE: Maximum, 28.5°C, July 4; minimum, 0.0°C, many days in Dec.-Mar.

DISSOLVED OXYGEN: Maximum, >20.0 mg/L, Nov. 24, Dec. 2-10, June 1, and 2; minimum 6.2, Oct. 5.

TURBIDITY: Maximum, 1,200 NTU, Mar. 21; minimum, 1.0 NTU, Nov. 19 and June 2.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	587	520	546	778	693	728	819	796	810	515	494	507
2	582	521	558	820	772	801	825	804	817	568	515	544
3	650	582	628	774	751	765	849	814	833	668	563	620
4	681	650	670	767	741	759	862	826	850	711	657	674
5	682	663	675	743	715	733	862	837	852	728	711	721
6	703	677	693	772	726	758	873	840	858	760	728	745
7	719	703	714	785	770	773	888	843	866	825	760	796
8	724	706	718	807	783	793	879	844	862	833	793	811
9	728	708	721	817	801	811	899	845	874	801	687	752
10	731	708	722	803	697	774	901	856	875	687	645	657
11	710	660	684	738	580	656	902	861	884	677	650	663
12	701	660	686	748	632	704	887	869	879	725	677	703
13	716	690	706	732	658	679	875	830	855	758	725	744
14	726	701	716	778	707	748	840	825	834	793	758	777
15	725	708	718	782	775	779	849	808	832	814	789	800
16	730	708	723	778	771	775	955	814	862	838	814	826
17	738	719	731	779	768	772	970	898	941	890	838	870
18	745	727	739	786	776	782	960	886	899	878	851	866
19	744	728	738	800	786	792	1040	794	966	918	865	884
20	750	728	741	800	777	792	794	660	723	916	873	886
21	744	730	738	792	771	785	747	715	739	878	850	862
22	746	730	740	776	755	765	773	747	758	---	---	---
23	750	730	741	780	765	769	794	773	784	---	---	---
24	754	731	748	777	752	767	808	794	804	---	---	---
25	763	673	738	771	759	766	809	798	802	---	---	---
26	746	684	725	778	766	773	811	798	807	---	---	---
27	751	684	726	841	778	801	831	811	822	---	---	---
28	759	731	746	890	841	868	858	824	833	---	---	---
29	751	707	736	847	807	827	901	858	886	---	---	---
30	746	685	719	819	803	813	879	583	836	---	---	---
31	693	678	681	---	---	---	610	463	535	---	---	---
MONTH	763	520	705	890	580	770	1040	463	832	918	494	748

SURFACE-WATER RECORDS
Great Miami River Basin

03265000 STILLWATER RIVER AT PLEASANT HILL, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER		MAX	NOVEMBER		MAX	DECEMBER		MAX	JANUARY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	8.4	7.8	8.1	7.8	7.6	7.7	7.9	7.7	7.8	8.1	8.0	8.1
2	8.3	7.8	8.0	7.8	7.5	7.6	8.0	7.7	7.8	8.2	8.0	8.1
3	8.3	7.8	8.1	8.4	7.5	7.8	7.9	7.6	7.8	8.2	8.2	8.2
4	8.2	7.9	8.0	8.4	7.6	7.8	7.9	7.6	7.7	8.3	8.2	8.2
5	8.2	7.8	8.0	8.2	7.5	7.9	7.9	7.6	7.8	8.3	8.3	8.3
6	8.2	7.8	8.0	8.0	7.6	7.8	7.9	7.6	7.8	8.5	8.3	8.4
7	8.2	7.8	8.0	8.0	7.7	7.8	8.0	7.7	7.8	8.3	7.7	8.1
8	8.3	7.8	8.1	8.1	7.7	7.9	8.1	7.8	8.0	8.1	7.8	8.0
9	8.2	8.0	8.1	8.0	7.8	7.9	8.0	7.7	7.9	8.2	7.7	8.0
10	8.3	8.0	8.1	8.1	7.8	8.0	7.9	7.6	7.8	8.2	7.8	7.9
11	8.4	8.0	8.2	7.9	7.6	7.7	8.8	7.6	8.2	8.1	7.8	7.9
12	8.6	8.0	8.2	7.9	7.3	7.6	8.6	7.6	7.9	8.1	7.8	8.0
13	8.6	8.0	8.2	7.3	7.1	7.2	8.8	7.6	8.2	8.0	7.9	8.0
14	8.3	8.0	8.1	7.3	7.0	7.2	8.7	7.8	8.1	8.1	8.0	8.0
15	8.5	7.9	8.2	7.3	7.1	7.2	7.9	7.7	7.8	8.2	8.1	8.1
16	8.1	7.8	7.9	7.2	7.0	7.1	8.0	7.7	7.8	8.1	8.1	8.1
17	8.1	7.8	7.9	7.4	7.0	7.3	8.9	7.7	8.2	8.2	8.0	8.1
18	8.2	7.9	8.0	7.5	7.2	7.3	8.8	7.9	8.1	8.1	8.0	8.0
19	8.7	8.0	8.3	7.7	7.4	7.5	8.7	8.2	8.4	8.1	8.0	8.0
20	8.8	7.9	8.2	7.7	7.4	7.5	8.2	8.0	8.1	8.1	8.0	8.0
21	8.2	7.9	8.1	8.0	7.6	7.8	8.2	8.0	8.1	8.1	7.9	8.0
22	8.6	7.9	8.2	7.9	7.6	7.7	8.2	8.1	8.2	---	---	---
23	8.3	7.9	8.1	7.9	7.6	7.7	8.3	8.2	8.2	---	---	---
24	8.3	8.0	8.1	7.9	7.6	7.7	8.3	8.2	8.2	---	---	---
25	8.7	8.0	8.4	7.8	7.6	7.7	8.3	8.2	8.3	---	---	---
26	8.7	8.1	8.4	7.9	7.6	7.7	8.3	7.5	8.0	---	---	---
27	8.1	8.0	8.0	7.7	7.4	7.5	7.7	7.5	7.6	---	---	---
28	8.5	7.9	8.1	7.7	7.4	7.5	7.8	7.6	7.7	---	---	---
29	8.2	7.4	7.8	7.8	7.5	7.6	8.2	7.6	7.8	---	---	---
30	8.0	7.4	7.7	8.8	7.7	7.9	8.4	8.1	8.3	---	---	---
31	8.3	7.7	8.0	---	---	---	8.2	7.9	8.0	---	---	---
MONTH	8.8	7.4	8.1	8.8	7.0	7.6	8.9	7.5	8.0	8.5	7.7	8.1

DAY	MAX	FEBRUARY		MAX	MARCH		MAX	APRIL		MAX	MAY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	---	---	---	8.0	7.7	7.8	8.2	7.6	7.9	---	---	---
2	---	---	---	8.0	7.8	7.9	8.3	8.0	8.1	---	---	---
3	---	---	---	8.0	7.8	7.9	---	---	---	---	---	---
4	---	---	---	8.1	7.9	8.0	---	---	---	---	---	---
5	---	---	---	8.1	7.7	7.9	---	---	---	---	---	---
6	7.8	7.5	7.6	7.7	7.6	7.7	---	---	---	---	---	---
7	7.8	7.7	7.8	7.8	7.7	7.7	---	---	---	---	---	---
8	7.9	7.8	7.8	8.0	7.7	7.8	---	---	---	8.2	8.0	8.0
9	7.9	7.8	7.8	7.8	7.5	7.5	---	---	---	8.2	7.8	8.0
10	8.1	7.9	8.0	7.8	7.5	7.6	---	---	---	8.0	7.8	7.9
11	8.2	7.9	8.1	7.9	7.8	7.8	---	---	---	7.9	7.8	7.8
12	8.2	8.0	8.1	7.9	7.8	7.8	8.6	8.2	8.4	7.9	7.8	7.9
13	8.2	7.9	8.0	7.8	7.7	7.8	8.6	8.2	8.5	8.1	7.9	8.0
14	8.1	7.9	8.0	7.8	7.4	7.8	8.6	8.3	8.5	8.2	8.0	8.1
15	8.0	7.9	8.0	7.8	7.8	7.8	8.6	8.3	8.4	8.3	8.1	8.2
16	8.2	7.9	8.0	7.9	7.5	7.7	8.5	8.2	8.4	8.3	8.1	8.2
17	8.2	7.9	8.0	7.8	7.6	7.7	8.5	8.3	8.4	8.3	8.2	8.3
18	8.2	7.8	8.0	8.0	7.5	7.7	8.4	8.2	8.3	8.3	8.2	8.3
19	8.3	7.9	8.0	8.0	7.5	7.7	8.4	8.2	8.3	8.4	8.3	8.3
20	8.1	8.0	8.0	8.0	7.5	7.6	8.4	8.2	8.3	8.4	8.1	8.3
21	8.3	8.0	8.1	7.7	7.3	7.4	8.3	8.2	8.2	8.3	8.1	8.2
22	8.3	8.0	8.1	7.4	7.3	7.3	8.4	8.1	8.2	8.5	8.3	8.4
23	8.2	7.8	8.0	7.6	7.4	7.5	8.4	8.1	8.3	8.6	8.4	8.5
24	8.0	7.8	7.8	7.8	7.5	7.6	8.5	8.2	8.3	8.6	8.4	8.5
25	7.9	7.8	7.9	7.9	7.6	7.7	8.4	8.1	8.3	8.6	8.4	8.5
26	7.9	7.6	7.8	7.8	7.6	7.7	8.5	8.2	8.3	8.6	8.4	8.6
27	7.7	7.6	7.6	7.8	7.5	7.7	8.6	8.3	8.4	8.6	8.4	8.6
28	7.8	7.7	7.7	8.0	7.6	7.8	8.6	8.3	8.4	8.6	8.4	8.5
29	---	---	---	8.0	7.6	7.7	8.6	8.3	8.5	8.7	8.4	8.5
30	---	---	---	7.7	7.4	7.6	---	---	---	8.7	8.4	8.6
31	---	---	---	7.9	7.5	7.7	---	---	---	8.5	8.4	8.4
MONTH	8.3	7.5	7.9	8.1	7.3	7.7	8.6	7.6	8.3	8.7	7.8	8.3

SURFACE-WATER RECORDS
Great Miami River Basin

03265000 STILLWATER RIVER AT PLEASANT HILL, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003—Continued

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	8.7	8.4	8.5	8.6	8.4	8.5	8.4	8.3	8.3	8.1	7.7	8.0
2	8.8	8.5	8.6	8.6	8.4	8.5	8.4	8.2	8.3	7.7	7.7	7.7
3	8.6	8.4	8.4	8.4	8.2	8.3	8.2	8.0	8.1	7.8	7.7	7.7
4	8.4	8.3	8.4	8.4	8.2	8.3	8.0	7.9	8.0	7.9	7.8	7.8
5	8.6	8.3	8.4	8.3	7.8	8.1	8.0	7.9	7.9	8.1	7.9	8.0
6	8.6	8.4	8.5	7.9	7.8	7.8	8.1	7.9	8.0	8.2	8.1	8.1
7	8.6	8.4	8.5	7.8	7.5	7.7	8.2	8.1	8.1	8.2	8.1	8.2
8	8.6	8.4	8.5	7.6	7.5	7.5	8.3	8.2	8.2	8.2	8.2	8.2
9	8.6	8.4	8.5	7.6	7.5	7.5	8.3	8.2	8.2	8.3	8.2	8.2
10	8.6	8.4	8.5	7.7	7.5	7.6	8.4	8.3	8.3	8.4	8.3	8.3
11	8.6	8.4	8.5	7.9	7.7	7.8	8.3	8.3	8.3	8.4	8.3	8.3
12	8.5	8.4	8.4	8.0	7.9	8.0	8.3	8.2	8.3	8.4	8.3	8.4
13	8.4	8.2	8.3	8.1	8.0	8.1	8.4	8.0	8.3	8.4	8.3	8.4
14	8.3	8.2	8.2	8.2	8.1	8.1	8.4	8.3	8.4	8.4	8.3	8.4
15	8.3	8.2	8.2	8.2	8.1	8.2	8.4	8.3	8.3	8.4	8.3	8.4
16	8.4	8.3	8.3	8.3	8.2	8.2	8.4	8.3	8.4	8.4	8.3	8.4
17	8.4	8.3	8.4	8.3	8.2	8.2	8.4	8.3	8.4	8.4	8.3	8.4
18	8.4	8.3	8.3	8.4	8.2	8.3	8.4	8.3	8.4	8.5	8.3	8.4
19	8.4	8.0	8.3	8.4	8.2	8.3	8.5	8.4	8.4	8.5	8.4	8.4
20	8.5	8.4	8.4	8.4	8.3	8.4	8.5	8.3	8.4	8.5	8.4	8.4
21	8.5	8.4	8.5	8.4	8.3	8.3	8.5	8.3	8.4	8.5	8.4	8.4
22	8.5	8.5	8.5	8.3	8.1	8.2	8.5	8.3	8.3	8.5	8.3	8.4
23	8.6	8.5	8.5	8.2	8.1	8.1	8.5	8.3	8.4	8.4	8.3	8.4
24	8.6	8.4	8.5	8.3	8.2	8.2	8.5	8.3	8.4	8.5	8.3	8.4
25	8.5	8.4	8.5	8.3	8.2	8.3	8.5	8.3	8.4	8.5	8.3	8.4
26	8.6	8.4	8.5	8.4	8.2	8.3	8.5	8.3	8.4	8.5	8.4	8.5
27	8.6	8.4	8.4	8.4	8.3	8.3	8.5	8.3	8.4	8.5	7.9	8.2
28	8.5	8.3	8.4	8.4	8.3	8.3	8.5	8.3	8.4	8.1	7.9	8.0
29	8.5	8.4	8.4	8.4	8.3	8.3	8.5	8.3	8.4	8.3	8.1	8.2
30	8.5	8.3	8.4	8.4	8.3	8.3	8.4	7.9	8.2	8.4	8.3	8.3
31	---	---	---	8.4	8.3	8.3	8.1	8.0	8.0	---	---	---
MONTH	8.8	8.0	8.4	8.6	7.5	8.1	8.5	7.9	8.3	8.5	7.7	8.2
YEAR	8.9	7.0	8.1									

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	22.5	18.5	20.0	8.5	6.5	7.5	2.5	0.5	1.0	5.0	4.0	4.5
2	23.0	19.5	21.0	8.0	5.0	6.5	2.5	0.5	1.5	4.0	3.0	3.5
3	23.5	20.5	22.0	7.0	5.0	6.0	1.5	0.0	0.5	3.0	2.0	2.0
4	22.5	21.0	21.5	7.0	6.5	7.0	0.5	0.0	0.5	2.5	1.5	2.0
5	21.5	18.5	20.0	7.0	6.5	6.5	1.0	0.0	0.5	2.5	2.0	2.0
6	20.0	16.5	18.5	7.0	6.5	6.5	0.5	0.0	0.5	3.0	2.0	2.5
7	19.0	15.5	17.0	8.5	6.0	7.0	0.5	0.0	0.0	2.0	0.5	1.5
8	16.5	13.5	15.0	9.5	6.0	7.5	1.0	0.0	0.5	3.0	1.5	2.0
9	15.0	13.0	14.0	10.0	8.0	8.5	0.5	0.0	0.0	4.0	2.5	3.0
10	14.5	13.5	14.0	12.5	10.0	11.0	0.5	0.0	0.5	3.5	2.0	3.0
11	17.5	13.5	15.0	12.5	11.0	11.5	1.0	0.5	0.5	2.0	0.0	0.5
12	17.5	15.5	16.5	11.0	9.0	9.5	1.0	0.0	0.5	0.5	0.0	0.0
13	17.0	15.5	16.5	10.0	8.0	9.0	1.0	0.5	1.0	0.5	0.0	0.0
14	16.0	12.0	13.5	9.5	8.5	8.5	1.5	0.5	1.0	0.5	0.0	0.0
15	13.5	11.5	12.5	8.5	7.5	8.5	2.0	0.5	1.0	0.0	0.0	0.0
16	13.0	11.0	12.0	7.5	6.0	6.5	2.0	0.5	1.0	0.0	0.0	0.0
17	11.0	9.5	10.0	6.0	5.0	5.5	1.0	0.0	0.5	0.0	0.0	0.0
18	12.5	9.5	11.0	5.5	3.5	4.5	2.5	0.5	1.5	0.0	0.0	0.0
19	13.5	11.5	12.0	7.0	4.5	5.5	3.5	2.0	3.0	0.0	0.0	0.0
20	12.5	9.5	10.5	7.5	5.0	6.0	4.5	3.5	4.0	0.0	0.0	0.0
21	12.0	9.5	10.5	7.5	6.0	6.5	4.5	3.5	4.0	0.0	0.0	0.0
22	12.5	9.0	10.5	7.0	4.5	5.5	4.0	3.0	3.5	---	---	---
23	12.0	9.5	10.5	5.5	4.5	5.0	3.0	1.5	2.5	---	---	---
24	11.0	9.0	10.0	6.0	3.5	4.5	2.0	0.5	1.5	---	---	---
25	11.0	8.5	9.5	5.0	4.0	4.5	1.0	0.0	0.5	---	---	---
26	10.0	9.5	9.5	4.0	3.0	3.5	0.5	0.0	0.0	---	---	---
27	10.0	9.5	10.0	3.5	2.0	2.5	1.0	0.0	0.5	---	---	---
28	11.5	9.0	10.0	3.0	2.0	2.0	1.0	0.0	0.5	---	---	---
29	10.0	8.0	8.5	4.0	1.0	2.0	2.0	0.0	1.0	---	---	---
30	8.0	7.5	8.0	3.5	1.5	2.5	3.5	0.5	2.0	---	---	---
31	8.0	7.0	7.5	---	---	---	5.0	3.5	4.0	---	---	---
MONTH	23.5	7.0	13.5	12.5	1.0	6.0	5.0	0.0	1.5	5.0	0.0	1.5

SURFACE-WATER RECORDS
Great Miami River Basin

03265000 STILLWATER RIVER AT PLEASANT HILL, OHIO—Continued

WATER-QUALITY RECORDS—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	12.6	6.9	9.1	17.3	11.5	13.7	19.8	12.9	15.5	11.0	10.2	10.5	
2	12.2	7.3	9.2	17.7	12.3	14.2	20.0	13.0	15.5	11.6	11.0	11.3	
3	12.0	6.6	8.8	18.4	12.4	14.6	20.0	13.7	16.1	12.3	11.6	12.1	
4	9.7	6.4	7.9	16.2	11.8	13.6	20.0	13.8	16.3	12.8	12.2	12.5	
5	12.4	6.2	8.5	15.7	11.7	12.9	20.0	13.8	16.6	12.6	12.1	12.3	
6	12.3	7.1	9.2	13.7	10.9	12.1	20.0	13.5	16.5	13.0	12.0	12.4	
7	13.1	7.5	9.7	17.0	11.0	13.2	20.0	13.8	16.4	15.0	12.6	13.5	
8	14.7	8.7	10.9	16.2	11.1	13.0	20.0	13.6	16.6	14.6	13.2	14.1	
9	14.5	9.2	11.6	13.1	10.1	11.5	20.0	13.8	16.4	13.2	12.4	12.9	
10	14.8	9.7	11.8	11.7	8.5	9.7	20.0	13.8	16.6	13.2	12.4	12.8	
11	14.4	9.6	11.8	8.6	7.5	7.9	19.3	13.0	15.4	15.3	13.2	14.4	
12	13.6	8.2	10.6	10.1	8.3	9.2	18.0	12.9	15.0	16.0	15.0	15.3	
13	14.4	8.3	10.7	11.7	9.6	10.3	15.8	12.6	13.8	15.7	14.8	15.2	
14	14.5	9.0	11.2	12.4	9.8	10.8	16.9	12.4	14.0	15.3	14.4	14.9	
15	16.0	9.6	12.2	11.5	9.8	10.4	18.3	12.6	14.5	15.8	14.5	14.9	
16	15.6	10.4	12.5	12.8	9.9	11.1	19.1	12.8	15.1	15.3	14.4	14.7	
17	17.1	11.4	13.8	15.4	10.9	12.7	15.7	13.0	14.0	15.2	14.1	14.6	
18	16.8	11.6	13.7	17.5	12.3	14.3	17.3	12.5	14.0	15.5	14.2	14.7	
19	15.8	10.8	12.8	17.4	12.5	14.2	13.5	10.7	11.9	15.1	13.8	14.3	
20	16.9	10.8	13.4	18.1	12.1	14.3	10.7	10.2	10.3	15.0	13.5	14.0	
21	16.3	11.2	13.7	16.7	11.3	13.4	11.1	10.3	10.8	15.0	13.5	14.1	
22	17.5	11.4	13.6	18.4	11.4	14.0	11.6	11.0	11.2	---	---	---	
23	17.5	11.2	13.9	18.6	12.3	14.7	13.0	11.4	12.1	---	---	---	
24	17.7	11.1	14.1	20.0	13.3	15.5	13.6	12.2	12.7	---	---	---	
25	17.1	11.3	12.7	18.5	13.1	15.1	14.6	12.6	13.4	---	---	---	
26	13.4	10.9	11.7	15.9	13.4	14.3	15.4	13.3	14.0	---	---	---	
27	13.9	10.5	11.7	18.5	12.0	14.3	15.8	13.6	14.4	---	---	---	
28	15.8	10.6	12.5	18.7	12.9	15.0	15.6	13.6	14.4	---	---	---	
29	13.8	10.1	11.8	17.7	13.2	15.0	15.6	13.5	14.2	---	---	---	
30	14.7	10.7	12.3	17.0	12.3	14.2	13.6	11.2	12.8	---	---	---	
31	16.4	11.2	13.1	---	---	---	11.2	10.2	10.6	---	---	---	
MONTH	17.7	6.2	11.6	20.0	7.5	13.0	20.0	10.2	14.2	16.0	10.2	13.6	

DAY	MAX	FEBRUARY			MARCH			APRIL			MAY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	---	---	---	16.2	14.4	15.3	15.1	12.2	13.9	---	---	---	
2	---	---	---	16.2	14.3	15.2	14.6	11.0	12.4	---	---	---	
3	16.6	13.8	15.0	17.4	15.2	16.2	---	---	---	---	---	---	
4	14.6	13.8	14.1	16.9	15.0	15.8	---	---	---	---	---	---	
5	14.6	11.8	14.2	15.0	14.0	14.4	---	---	---	---	---	---	
6	15.0	14.4	14.7	15.1	14.4	14.7	---	---	---	---	---	---	
7	15.9	14.3	15.0	15.7	14.4	15.2	---	---	---	---	---	---	
8	16.8	14.6	15.4	15.3	13.5	14.6	---	---	---	10.3	9.4	9.7	
9	16.7	14.4	15.5	15.2	13.5	14.7	---	---	---	9.8	9.1	9.4	
10	16.2	14.2	15.1	16.0	15.0	15.5	---	---	---	10.0	9.2	9.8	
11	16.7	14.2	15.3	16.0	14.2	15.3	---	---	---	10.3	9.7	10	
12	17.5	14.4	15.5	14.5	13.7	14.2	12.6	8.2	10.1	11.5	10.3	11.0	
13	18.3	14.7	15.9	15.1	13.8	14.3	12.4	6.8	8.8	12.2	11.0	11.8	
14	17.2	14.7	15.6	15.7	14.5	15.2	---	---	---	12.0	10.9	11.4	
15	17.2	14.2	15.3	14.6	13.0	14.0	---	---	---	12.1	10.6	11.3	
16	16.7	14.2	15.1	13.7	12.5	13.2	---	---	---	12.4	10.0	10.9	
17	16.4	14.1	14.8	13.0	12.1	12.6	---	---	---	11.1	9.6	10.2	
18	17.2	14.2	15.2	12.5	11.5	12.2	---	---	---	11.8	9.7	10.4	
19	17.7	14.1	15.6	13.4	11.5	12.4	---	---	---	11.8	9.2	10.3	
20	18.1	14.6	15.9	13.1	12.4	12.7	---	---	---	13.2	9.1	10.2	
21	17.6	14.6	15.9	12.6	12.3	12.4	---	---	---	11.7	9.2	10.5	
22	15.5	13.8	14.6	13.8	12.6	13.4	---	---	---	13.5	10.4	11.6	
23	14.2	13.4	13.7	13.9	12.9	13.6	---	---	---	14.2	10.5	12.1	
24	13.9	13.6	13.7	13.6	11.7	13.0	---	---	---	15.1	11.0	12.7	
25	14.8	13.9	14.3	13.0	11.4	12.1	---	---	---	16.1	10.9	13.0	
26	15.2	14.1	14.6	12.3	11.4	11.9	13.2	8.2	10.3	16.8	10.9	13.6	
27	15.9	14.4	15.0	12.9	11.8	12.3	13.6	8.4	10.8	17.1	10.4	13.3	
28	16.2	14.5	15.3	12.6	11.1	11.9	14.5	8.5	11.0	16.8	10.1	13.1	
29	---	---	---	13.4	10.9	12.2	14.4	7.8	10.7	18.7	10.0	13.7	
30	---	---	---	15.6	13.1	14.3	---	---	---	18.9	9.8	13.7	
31	---	---	---	16.1	14.1	15.0	---	---	---	12.9	9.4	11.2	
MONTH	18.3	11.8	15.0	17.4	10.9	13.9	15.1	6.8	11.0	18.9	9.1	11.5	

**SURFACE-WATER RECORDS
Great Miami River Basin**

03265000 STILLWATER RIVER AT PLEASANT HILL, OHIO—Continued

WATER-QUALITY RECORDS—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003—Continued

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	20.0	10.7	14.1	13.2	7.9	9.8	10.8	7.8	9.0	8.8	7.5	8.5
2	20.0	10.7	14.7	12.6	7.8	9.6	9.2	7.4	8.3	7.5	6.7	7.1
3	13.3	10.2	11.6	11.2	7.2	8.9	8.6	8.0	8.3	7.4	6.9	7.2
4	12.8	11.0	11.8	10.7	7.0	8.5	8.5	8.2	8.4	7.4	7.2	7.3
5	17.0	11.4	13.3	8.4	7.1	7.7	8.6	8.2	8.4	7.5	7.2	7.3
6	16.7	10.4	13.0	8.5	7.8	8.3	8.8	8.4	8.6	---	---	---
7	16.0	9.5	12.3	8.2	7.6	7.9	9.4	8.2	8.7	---	---	---
8	13.3	9.0	11.0	7.9	7.5	7.6	9.6	8.1	8.7	---	---	---
9	14.7	8.8	11.2	8.0	7.0	7.5	10.0	8.2	8.8	---	---	---
10	12.8	8.2	10.7	7.4	6.9	7.2	10.2	8.4	9.1	---	---	---
11	12.1	7.8	9.4	8.3	7.4	7.9	10.2	8.6	9.2	---	---	---
12	---	---	---	8.7	8.3	8.5	10.3	8.7	9.3	---	---	---
13	---	---	---	8.8	8.2	8.6	10.0	8.2	9.1	11.4	8.3	9.4
14	---	---	---	9.0	8.0	8.5	10.0	7.4	8.5	10.4	8.3	9.3
15	---	---	---	8.6	7.8	8.1	9.9	7.1	8.3	11.3	8.2	9.4
16	---	---	---	8.9	7.5	8.0	10.1	7.0	8.3	11.9	8.7	9.9
17	---	---	---	8.8	7.1	7.7	10.1	6.9	8.1	11.9	8.6	10
18	---	---	---	8.3	6.5	7.2	10.6	7.3	8.6	11.9	8.6	10
19	---	---	---	---	---	---	11.2	7.7	9.0	10.8	8.5	9.7
20	---	---	---	---	---	---	11.1	7.8	9.0	12.2	9.0	10.2
21	---	---	---	---	---	---	11.2	7.6	8.8	12.2	9.1	10.4
22	---	---	---	---	---	---	10.3	7.1	8.1	10.2	8.6	9.4
23	---	---	---	---	---	---	10.7	7.0	8.2	10.8	8.7	9.4
24	---	---	---	---	---	---	11.3	7.4	8.6	11.4	9.0	9.8
25	---	---	---	---	---	---	11.2	7.6	8.8	11.7	8.6	9.7
26	10.3	6.9	8.2	---	---	---	11.4	7.2	8.6	11.4	9.0	10.1
27	11.6	7.1	8.8	---	---	---	9.9	6.9	7.7	10.0	8.1	8.8
28	12.1	7.7	9.4	---	---	---	11.0	6.5	8.1	9.2	8.2	8.8
29	12.2	7.8	9.4	---	---	---	10.7	6.5	8.2	10.2	9.2	9.8
30	12.3	7.7	9.6	10.3	7.6	8.8	8.5	7.5	8.2	11.4	10.1	10.7
31	---	---	---	10.3	7.7	8.8	8.6	8.5	8.6	---	---	---
MONTH	20.0	6.9	11.2	13.2	6.5	8.3	11.4	6.5	8.6	12.2	6.7	9.2
YEAR	20.0	6.2	11.9									

TURBIDITY, WATER, UNFILTERED, NEPHELOMETRIC TURBIDITY UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	50	18	34	7.0	3.0	5.0	13	11	11	270	190	230
2	31	12	22	6.0	3.0	4.1	19	11	12	190	120	160
3	32	13	21	8.0	2.0	4.5	19	9.8	11	120	55	86
4	31	18	23	9.0	4.0	6.6	13	9.7	11	55	33	42
5	29	8.9	20	10	7.0	7.8	12	9.7	11	33	23	28
6	30	12	21	12	8.0	9.6	12	9.7	11	24	19	21
7	32	9.2	22	18	7.0	12	11	9.7	11	19	15	17
8	61	7.7	21	22	9.0	13	11	9.6	11	19	14	16
9	24	8.7	17	22	15	17	12	9.6	11	72	19	40
10	24	11	18	65	18	25	12	10	11	74	51	64
11	24	9.0	17	190	49	110	16	10	11	51	32	40
12	26	14	19	130	27	73	16	11	12	32	24	28
13	26	10	18	39	19	26	32	12	13	26	19	23
14	28	8.5	18	19	12	15	13	11	12	19	17	18
15	29	9.0	19	29	7.0	11	13	11	12	18	16	17
16	23	11	16	9.0	3.0	7.2	16	11	12	18	16	17
17	17	7.0	11	8.0	5.0	6.8	13	11	12	18	16	17
18	18	8.0	14	11	4.0	6.1	18	12	14	18	16	17
19	23	10	16	11	1.0	6.6	91	15	23	19	17	18
20	24	9.0	15	17	6.0	9.9	330	91	240	20	17	18
21	16	8.0	12	16	10	13	150	59	97	18	17	18
22	15	8.0	11	16	7.0	9.6	59	37	47	---	---	---
23	17	10	14	11	6.0	7.7	38	25	30	---	---	---
24	17	9.0	14	21	5.0	7.7	25	19	22	---	---	---
25	29	12	16	10	6.0	8.5	20	16	18	---	---	---
26	20	13	17	13	7.0	8.8	17	13	16	---	---	---
27	22	16	19	18	11	12	14	13	14	---	---	---
28	21	12	18	13	11	12	14	11	12	---	---	---
29	20	6.0	15	18	11	13	14	12	12	---	---	---
30	7.0	3.0	5.3	14	11	12	170	13	27	---	---	---
31	7.0	4.0	6.3	---	---	---	420	170	330	---	---	---
MONTH	61	3.0	17	190	1.0	16	420	9.6	35	270	14	45

SURFACE-WATER RECORDS
Great Miami River Basin

03266560 MAD RIVER AT WEST LIBERTY, OHIO

LOCATION.—Latitude 40°15'08", longitude 83°44'59", Logan County, Hydrologic Unit 05080001, on left bank upstream from the State Route 245 bridge, on east side of West Liberty, Ohio, 0.4 mi east of intersection of State Route 245 and State Route 68.

DRAINAGE AREA.—36.6 mi².

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 good.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26	25	24	108	25	29	53	38	52	38	44	483
2	25	25	22	67	25	30	49	43	51	35	150	254
3	24	25	20	47	34	29	48	51	103	31	128	125
4	25	25	19	41	67	32	60	54	69	48	134	83
5	26	29	19	43	34	117	117	191	56	113	117	66
6	24	27	20	39	30	61	65	77	50	95	70	58
7	23	26	20	34	28	44	105	92	47	374	71	54
8	23	24	21	38	27	110	82	68	49	513	69	51
9	23	24	20	45	26	114	66	309	48	414	54	48
10	23	77	19	42	25	59	59	203	45	156	50	47
11	23	84	21	34	24	54	55	154	120	112	75	44
12	23	40	21	32	24	73	52	111	78	90	58	43
13	22	32	22	29	24	271	50	92	157	77	52	42
14	22	28	22	30	24	120	49	82	141	70	50	42
15	22	27	22	26	23	132	47	93	79	68	48	42
16	22	27	22	26	23	132	43	94	61	64	45	40
17	22	26	19	28	24	105	45	80	56	61	43	39
18	22	25	23	28	23	82	47	74	53	58	41	38
19	25	25	138	28	23	71	44	68	50	55	41	38
20	24	24	118	28	24	69	46	72	46	53	38	38
21	24	24	50	27	24	84	48	67	44	102	37	36
22	24	27	39	26	52	69	44	61	44	98	37	52
23	24	27	32	23	59	59	42	58	43	68	36	43
24	23	28	30	27	43	55	41	56	42	56	35	38
25	28	28	30	27	35	55	42	54	41	50	33	37
26	30	26	27	26	32	64	40	52	43	48	32	60
27	25	26	25	26	30	54	39	51	43	48	34	246
28	24	23	26	26	29	52	38	53	41	47	32	80
29	27	26	26	25	---	90	38	54	40	44	40	59
30	27	31	152	25	---	66	36	51	38	42	69	51
31	25	---	181	25	---	57	---	57	---	41	45	---
TOTAL	750	911	1250	1076	861	2439	1590	2660	1830	3169	1808	2377
MEAN	24.2	30.4	40.3	34.7	30.8	78.7	53.0	85.8	61.0	102	58.3	79.2
MAX	30	84	181	108	67	271	117	309	157	513	150	483
MIN	22	23	19	23	23	29	36	38	38	31	32	36
CFSM	0.66	0.83	1.10	0.95	0.84	2.15	1.45	2.34	1.67	2.79	1.59	2.16
IN.	0.76	0.93	1.27	1.09	0.88	2.48	1.62	2.70	1.86	3.22	1.84	2.42

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2003, BY WATER YEAR (WY)

	2002	1997	1997	1996	1997	1997	2002	1996	1997	2003	2003	2003
MEAN	24.0	24.9	35.7	40.2	41.5	50.3	68.4	68.9	54.9	39.9	28.6	28.8
MAX	39.7	40.9	81.2	70.8	66.6	86.6	133	140	101	102	58.3	79.2
(WY)	2002	1997	1997	1996	1997	1997	2002	1996	1997	2003	2003	2003
MIN	12.4	14.0	14.4	15.9	17.1	27.1	45.4	30.6	22.2	20.6	16.6	12.9
(WY)	2000	1995	2000	1995	1995	2000	1995	1999	1999	1994	1994	1999

SUMMARY STATISTICS

FOR 2002 CALENDAR YEAR

FOR 2003 WATER YEAR

WATER YEARS 1994 - 2003

ANNUAL TOTAL	17705	20721	
ANNUAL MEAN	48.5	56.8	42.7
HIGHEST ANNUAL MEAN			56.8
LOWEST ANNUAL MEAN			28.5
HIGHEST DAILY MEAN	459	Apr 20	704
LOWEST DAILY MEAN	19	Sep 7	7.2
ANNUAL SEVEN-DAY MINIMUM	20	Sep 3	7.7
MAXIMUM PEAK FLOW			1200
MAXIMUM PEAK STAGE			8.43
INSTANTANEOUS LOW FLOW			5.0
ANNUAL RUNOFF (CFSM)	1.33	1.55	1.17
ANNUAL RUNOFF (INCHES)	18.00	21.06	15.87
10 PERCENT EXCEEDS	86	105	75
50 PERCENT EXCEEDS	33	43	31
90 PERCENT EXCEEDS	22	24	15

**SURFACE-WATER RECORDS
Great Miami River Basin**

03267000 MAD RIVER NEAR URBANA, OHIO

LOCATION.—Latitude 40°06'27", longitude 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, Ohio, and at mile 39.7.

DRAINAGE AREA.—162 mi².

PERIOD OF RECORD.—September 1925 to September 1931, August 1939 to September 1998, October 1998 to September 2002, recording crest-stage gage; October 2002 to September 2003.

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 except for periods of estimated record, which are poor. Sediment data collected at this site.

COOPERATION.—Gage-height record and eight discharge measurements furnished by Miami Conservancy District.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	117	97	105	418	113	130	204	168	198	152	172	e1100
2	111	95	102	296	113	134	191	179	189	153	307	e700
3	108	93	99	232	114	136	185	171	251	147	667	511
4	108	92	96	204	192	136	187	179	253	149	469	392
5	110	94	97	193	138	434	390	459	220	283	466	333
6	104	100	95	182	129	335	265	347	205	247	307	305
7	102	95	95	169	124	224	285	352	199	723	280	286
8	101	95	95	170	117	263	308	316	196	893	348	274
9	101	95	92	193	116	623	254	883	e210	1970	264	263
10	101	112	92	186	117	303	232	580	e190	689	240	254
11	100	349	94	162	112	244	e225	581	e500	484	247	244
12	98	177	93	152	109	249	e220	394	e300	394	239	239
13	96	144	94	148	108	517	e210	338	e1000	345	215	234
14	93	129	96	144	107	394	e200	307	e800	307	205	230
15	93	121	95	139	107	347	e195	322	e400	e280	205	228
16	93	118	95	137	99	366	e190	370	e300	e270	204	222
17	91	116	93	136	105	328	e190	314	e280	e250	197	218
18	90	113	94	132	105	289	e200	297	e260	e240	188	214
19	93	112	166	133	103	254	e210	280	e240	228	183	214
20	90	108	453	131	103	249	e200	288	e210	221	178	211
21	88	108	222	129	102	264	e195	301	e200	231	170	205
22	88	111	174	126	138	254	e230	265	e190	304	165	229
23	87	110	151	121	299	225	e210	252	e180	251	161	229
24	87	112	141	120	202	210	e200	239	e170	224	157	210
25	92	121	139	122	155	202	e190	231	165	207	154	194
26	112	114	129	122	143	221	e185	223	164	199	150	190
27	101	111	124	114	136	207	e180	215	170	192	147	792
28	97	107	122	116	132	196	e175	210	162	192	144	345
29	96	107	122	117	---	251	e175	206	155	183	146	262
30	101	112	225	113	---	240	e170	202	153	179	324	230
31	98	---	524	114	---	212	---	209	---	175	e220	---
TOTAL	3047	3568	4414	4971	3638	8437	6451	9678	8110	10762	7519	9558
MEAN	98.3	119	142	160	130	272	215	312	270	347	243	319
MAX	117	349	524	418	299	623	390	883	1000	1970	667	1100
MIN	87	92	92	113	99	130	170	168	153	147	144	190
CFSM	0.61	0.73	0.88	0.99	0.80	1.68	1.33	1.93	1.67	2.14	1.50	1.97
IN.	0.70	0.82	1.01	1.14	0.84	1.94	1.48	2.22	1.86	2.47	1.73	2.19

	STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1926 - 2003, BY WATER YEAR (WY)												
	MEAN	84.8	101	130	175	201	225	222	190	165	138	105	89.6
MAX		355	315	473	730	523	567	486	620	507	454	302	319
(WY)		1987	1973	1991	1950	1950	1963	1948	1996	1947	1993	1995	2003
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 2003 WATER YEAR		WATER YEARS 1926 - 2003	
	ANNUAL TOTAL	ANNUAL MEAN	HIGHEST ANNUAL MEAN	DATE	VALUE	DATE	VALUE
ANNUAL TOTAL		80153					
ANNUAL MEAN		220					152
HIGHEST ANNUAL MEAN							245
LOWEST ANNUAL MEAN							58.1
HIGHEST DAILY MEAN			1970	Jul 9	5740	Mar 5	1963
LOWEST DAILY MEAN			87	Oct 23	24	Feb 2	1945
ANNUAL SEVEN-DAY MINIMUM			89	Oct 18	25	Feb 1	1945
MAXIMUM PEAK FLOW		2680		Jul 9	8000	Jan 22	1959
MAXIMUM PEAK STAGE		7.35		Jul 9	12.05	Jan 22	1959
INSTANTANEOUS LOW FLOW					24	Feb 2	1945
ANNUAL RUNOFF (CFSM)		1.36			0.94		
ANNUAL RUNOFF (INCHES)		18.41			12.76		
10 PERCENT EXCEEDS		347			271		
50 PERCENT EXCEEDS		190			110		
90 PERCENT EXCEEDS		97			52		

e Estimated.

SURFACE-WATER RECORDS

Great Miami River Basin

03267900 MAD RIVER AT ST. PARIS PIKE AT EAGLE CITY, OHIO

LOCATION.—Latitude 39°57'51", longitude 83°49'54", in W ½ sec. 1, R.10, T.4, Clark County, Hydrologic Unit 05080001, on left bank at downstream side of bridge on St. Paris Pike, 0.8 mi southeast of Eagle City, Ohio, 1.1 mi downstream from Moore Run, 3.1 mi upstream from Buck Creek, 3.3 mi south of Tremont City, Ohio, and at mile 29.5.

DRAINAGE AREA.—310 mi².

WATER-DISCHARGE RECORDS

PERIOD OF RECORD.—October 1965 to September 1996, October 1998 to current year.

GAGE.—Water-stage recorder. Datum of gage is 904.66 ft above sea level.

REMARKS.—Records fair except for periods of estimated record, which are poor. Recharge to well field largely by induced infiltration from Mad River and Moore Run. Pumpage averaging 18.5 ft³/s in 2003, is returned as sewage 1.4 mi upstream from gaging station near Springfield (station 03269500).

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

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood in Mar. 1913, reached a stage of 19.8 ft, from data furnished by Miami Conservancy District. Flood of Jan. 21, 1959, reached a stage of 15.7 ft.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003 DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	213	177	203	1110	208	e285	370	245	351	276	318	e1610
2	201	172	197	692	205	e280	340	259	335	274	536	e2500
3	193	169	190	492	214	e280	323	250	457	263	890	e1730
4	195	167	184	407	425	277	321	254	482	257	798	e1010
5	194	173	186	374	284	1060	771	772	e412	458	813	e769
6	185	186	182	347	249	839	468	553	377	710	512	524
7	180	177	179	322	237	489	533	634	358	2150	470	469
8	176	173	179	327	218	597	595	539	364	2150	563	434
9	174	170	175	394	218	1630	461	1110	411	4590	436	411
10	171	387	174	364	215	670	412	903	357	1630	392	389
11	169	1070	180	e309	208	512	379	1010	408	1070	375	373
12	168	447	176	e290	202	552	350	669	410	773	384	361
13	166	331	177	274	198	1140	325	560	505	636	346	348
14	163	285	189	265	197	902	311	495	739	555	332	339
15	163	261	183	250	200	713	302	744	556	520	325	336
16	163	254	186	243	187	718	297	972	468	534	319	324
17	162	244	183	242	195	609	292	626	419	500	310	314
18	159	232	183	233	195	509	333	581	394	467	298	306
19	167	225	474	232	192	450	301	522	371	441	290	302
20	160	215	1190	230	189	459	302	538	349	e410	283	296
21	158	212	521	224	189	530	347	591	333	e410	275	288
22	157	222	376	217	353	500	312	480	320	e530	272	392
23	154	221	312	213	760	422	291	443	310	e500	266	379
24	152	228	282	209	468	386	278	419	302	445	259	325
25	189	248	275	209	337	364	278	400	295	403	254	308
26	227	230	249	209	301	409	278	418	293	379	249	301
27	194	220	236	200	e290	379	261	385	319	369	e344	1930
28	183	210	232	e200	e285	349	255	378	289	372	e275	841
29	184	209	228	e200	---	501	253	370	281	347	e309	583
30	188	212	591	199	---	469	246	354	277	328	e1660	484
31	182	---	1280	201	---	398	---	379	---	329	e975	---
TOTAL	5490	7727	9552	9678	7419	17678	10585	16853	11542	23076	14128	18976
MEAN	177	258	308	312	265	570	353	544	385	744	456	633
MAX	227	1070	1280	1110	760	1630	771	1110	739	4590	1660	2500
MIN	152	167	174	199	187	277	246	245	277	257	249	288

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1966 - 2003, BY WATER YEAR (WY)

MEAN	181	234	325	326	395	434	454	399	329	300	220	182
MAX	765	689	1020	781	946	778	837	781	788	863	712	633
(WY)	1987	1973	1991	1974	1975	1978	2002	1990	1980	1993	1995	2003
MIN	82.3	111	106	89.8	133	157	196	146	132	93.3	88.1	88.8
(WY)	1989	1995	1977	1977	1992	1983	1971	1988	1988	1988	1988	1988

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1966 - 2003	
ANNUAL TOTAL	136987		152704			
ANNUAL MEAN	375		418		315	
HIGHEST ANNUAL MEAN					468	
LOWEST ANNUAL MEAN					166	
HIGHEST DAILY MEAN	2600		4590		6000	
LOWEST DAILY MEAN	133		152		60	
ANNUAL SEVEN-DAY MINIMUM	141		158		62	
MAXIMUM PEAK FLOW			5880		9700	
MAXIMUM PEAK STAGE			14.34		16.68	
INSTANTANEOUS LOW FLOW			159		60	
10 PERCENT EXCEEDS	672		726		563	
50 PERCENT EXCEEDS	261		320		226	
90 PERCENT EXCEEDS	159		183		120	

e Estimated.

**SURFACE-WATER RECORDS
Great Miami River Basin**

03267900 MAD RIVER AT ST. PARIS PIKE AT EAGLE CITY, OHIO—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—June 2002 to current year.

PERIOD OF DAILY RECORD—

SPECIFIC CONDUCTANCE: June 2002 to current year.

pH: June 2002 to current year.

WATER TEMPERATURE: June 2002 to current year.

DISSOLVED OXYGEN: June 2002 to current year.

TURBIDITY: June 2002 to current year

INSTRUMENTATION.—Water-quality monitor. Electronic data logger. Set for 1-hour interval. Satellite telemeter at station.

REMARKS.—Interruptions in water-quality record are due to malfunction of the instrument. Water temperature records are good except Oct. 1, 15, Nov. 26, Dec. 20, 30, Jan. 11, 12, 21, 28, 29, Feb. 4, Mar. 7-May 9, June 19, July 16, Aug. 15, Sept. 11, and 24, which are fair. Specific conductance records are good except Oct. 1-15, Feb. 23, 24, Apr. 23-May 9, June 19, July 23-Aug. 15, Sept. 24-30, which are fair and Dec. 21-25, which are poor. pH records are good except Oct. 1, Nov. 12-26, Jan. 7-21, July 16-23, May 7-9, and Sept. 11-24, which are fair. Dissolved oxygen records are fair except Oct. 1-31, Nov. 26-Dec. 10, Dec. 26-Apr. 23, May 4-6, Aug. 26-Sept. 11, and Sept. 18-21, which are poor. Turbidity records are fair except Oct. 1-15, Nov. 10-26, Mar. 7-June 19, and Sept. 24-30, which are poor. Additional water-quality data for this station are published under "Results from selected sites in the White, Great Miami, and Little Miami River Basin" in volume 2 of this report.

EXTREMES FOR PERIOD OF RECORD.—

SPECIFIC CONDUCTANCE: Maximum, 869 microsiemens, Dec. 12, 2002; minimum, 290 microsiemens, Sept. 27, 2003.

pH: Maximum, 8.8 units, Feb. 2 and Aug. 27, 2003; minimum, 7.0 units, Dec. 27, 2002.

WATER TEMPERATURE: Maximum, 25.0°C, Aug. 27, 2003; minimum, 0.0°C, Jan. 27, 2002.

DISSOLVED OXYGEN: Maximum, 19.9 mg/L, Apr. 28, 2003; minimum, 1.1 mg/L, July 6, 2003.

TURBIDITY: Maximum, 930 NTU, Sept. 27, 2003; minimum, 0.0 NTU, Nov. 7 and 8, 2002 and Jan. 21-Feb. 1, 2003.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum, 869 microsiemens, Dec. 12; minimum, 290 microsiemens, Sept. 27.

pH: Maximum, 8.8 units, Feb. 2 and Aug. 27; minimum, 7.0 units, Dec. 27.

WATER TEMPERATURE: Maximum, 25.0°C, Aug. 27; minimum, 0.0°C, Jan. 27.

DISSOLVED OXYGEN: Maximum, 19.9 mg/L, Apr. 28; minimum, 1.1 mg/L, July 6.

TURBIDITY: Maximum, 930 NTU, Sept. 27; minimum, 0.0 NTU, Nov. 7, 8, and Jan. 21-Feb. 1.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
		OCTOBER			NOVEMBER			DECEMBER			JANUARY	
1	759	739	750	743	729	739	723	710	718	---	---	---
2	760	753	757	762	728	742	726	710	720	---	---	---
3	757	746	753	779	725	744	729	712	723	---	---	---
4	752	721	744	743	729	737	731	715	725	---	---	---
5	744	697	724	744	721	735	730	704	723	---	---	---
6	746	740	743	733	700	717	737	710	726	---	---	---
7	745	738	742	742	727	736	729	712	723	---	---	---
8	743	737	740	746	723	737	730	698	720	724	718	720
9	741	733	738	747	734	741	726	700	717	719	684	698
10	740	730	736	747	344	670	730	701	721	698	686	690
11	739	729	735	597	351	479	782	693	719	712	698	706
12	739	727	734	696	597	658	869	728	788	721	714	718
13	737	723	731	725	696	713	739	722	733	725	719	723
14	732	723	728	735	725	730	796	727	755	731	723	727
15	732	718	727	738	729	736	749	709	733	747	725	733
16	733	718	727	733	724	729	729	697	719	738	721	729
17	731	716	726	734	730	732	728	720	725	735	723	729
18	734	714	728	735	729	732	735	705	726	736	725	731
19	736	708	720	737	732	735	729	457	662	730	718	725
20	727	710	717	738	733	735	540	426	464	728	717	723
21	730	712	725	737	730	734	684	540	605	738	722	722
22	733	713	726	740	711	721	705	648	670	736	720	728
23	735	710	727	807	724	748	754	691	707	730	719	726
24	736	705	726	729	717	724	751	712	720	732	719	727
25	741	491	697	723	712	717	734	705	710	727	713	722
26	728	544	666	724	714	719	---	---	---	725	703	716
27	742	728	736	732	715	724	737	724	729	721	710	714
28	746	726	739	731	715	725	731	726	728	727	720	724
29	747	728	740	727	714	722	731	722	727	737	720	729
30	740	723	730	726	713	722	---	---	---	777	718	743
31	745	731	740	---	---	---	---	---	---	735	707	724
MONTH	760	491	731	807	344	718	869	426	708	777	684	722

**SURFACE-WATER RECORDS
Great Miami River Basin**

03267900 MAD RIVER AT ST. PARIS PIKE AT EAGLE CITY, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER		MAX	NOVEMBER		MAX	DECEMBER		MAX	JANUARY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	7.8	7.4	7.7	7.9	7.6	7.7	7.6	7.3	7.4	---	---	---
2	7.6	7.4	7.5	7.8	7.6	7.7	7.7	7.3	7.5	---	---	---
3	7.7	7.5	7.6	7.9	7.6	7.7	7.7	7.3	7.4	---	---	---
4	7.7	7.6	7.6	8.0	7.8	7.9	7.6	7.3	7.4	---	---	---
5	7.7	7.6	7.6	8.0	7.8	7.9	7.7	7.3	7.5	---	---	---
6	7.7	7.6	7.6	8.0	7.8	7.9	7.7	7.3	7.5	---	---	---
7	7.7	7.6	7.6	8.2	7.9	8.0	7.6	7.3	7.4	---	---	---
8	7.7	7.5	7.6	8.3	7.9	8.1	7.9	7.4	7.6	8.0	7.9	8.0
9	7.7	7.5	7.6	8.2	8.0	8.0	7.8	7.4	7.5	8.2	7.9	8.0
10	7.7	7.6	7.6	8.1	7.9	8.0	8.0	7.4	7.7	8.1	8.0	8.0
11	7.8	7.6	7.7	7.9	7.8	7.8	8.0	7.5	7.7	8.1	8.0	8.0
12	7.8	7.6	7.7	8.2	7.7	7.9	8.0	7.5	7.7	8.1	8.0	8.1
13	7.8	7.6	7.7	8.0	7.8	7.9	7.8	7.6	7.7	8.1	7.9	8.0
14	7.7	7.5	7.6	7.9	7.8	7.9	7.9	7.5	7.7	8.2	8.0	8.1
15	7.7	7.5	7.6	7.9	7.8	7.8	8.0	7.6	7.7	8.2	8.0	8.1
16	7.6	7.3	7.4	7.8	7.8	7.8	8.0	7.6	7.7	8.2	8.0	8.1
17	7.6	7.3	7.4	7.9	7.7	7.8	7.8	7.5	7.6	8.2	8.0	8.1
18	7.7	7.3	7.5	7.8	7.7	7.7	8.0	7.5	7.7	8.3	8.0	8.1
19	7.6	7.4	7.5	7.9	7.7	7.8	7.7	7.4	7.6	8.3	8.1	8.2
20	7.7	7.3	7.5	7.9	7.8	7.8	7.4	7.2	7.3	8.3	8.1	8.2
21	7.8	7.4	7.5	8.0	7.7	7.8	---	---	---	8.4	8.0	8.2
22	7.7	7.3	7.5	7.9	7.7	7.8	---	---	---	8.5	8.2	8.3
23	7.7	7.4	7.5	7.8	7.7	7.7	---	---	---	8.5	8.2	8.3
24	7.8	7.4	7.5	7.9	7.7	7.8	---	---	---	8.6	8.2	8.3
25	7.5	7.3	7.4	7.9	7.6	7.8	---	---	---	8.6	8.2	8.4
26	7.5	7.3	7.4	7.8	7.4	7.6	---	---	---	8.6	8.2	8.4
27	7.6	7.4	7.5	7.6	7.3	7.4	7.1	7.0	7.0	8.5	8.1	8.3
28	7.8	7.4	7.5	7.5	7.3	7.4	7.3	7.1	7.2	8.4	8.1	8.2
29	7.6	7.4	7.5	7.6	7.3	7.4	7.4	7.2	7.3	8.6	8.1	8.3
30	7.6	7.4	7.5	7.6	7.4	7.5	7.3	7.2	7.3	8.7	8.1	8.3
31	7.8	7.4	7.6	---	---	---	---	---	---	8.6	8.0	8.2
MONTH	7.8	7.3	7.5	8.3	7.3	7.8	8.0	7.0	7.5	8.7	7.9	8.2

DAY	MAX	FEBRUARY		MAX	MARCH		MAX	APRIL		MAX	MAY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	8.4	8.0	8.2	---	---	---	---	---	---	8.5	7.8	8.1
2	8.8	8.0	8.3	---	---	---	---	---	---	8.4	7.7	8.0
3	8.4	8.0	8.2	---	---	---	8.5	8.0	8.2	8.5	7.8	8.1
4	8.1	7.8	8.0	---	---	---	8.4	8.0	8.2	8.6	7.9	8.2
5	8.2	7.8	7.9	---	---	---	---	---	---	8.1	7.9	8.0
6	8.2	7.8	8.0	---	---	---	---	---	---	7.9	7.7	7.8
7	8.4	7.8	8.0	8.3	8.1	8.2	---	---	---	7.7	7.5	7.6
8	8.3	7.8	8.0	8.3	8.1	8.2	---	---	---	7.6	7.5	7.6
9	8.4	7.8	8.0	8.1	8.0	8.0	---	---	---	7.6	7.5	7.6
10	8.4	7.8	8.0	8.2	8.0	8.1	---	---	---	---	---	---
11	8.4	7.8	8.0	8.2	8.1	8.2	---	---	---	---	---	---
12	8.4	7.8	8.0	8.2	8.1	8.2	---	---	---	---	---	---
13	8.4	7.8	8.0	---	---	---	---	---	---	---	---	---
14	8.4	7.8	8.0	---	---	---	---	---	---	---	---	---
15	8.5	7.8	8.1	---	---	---	---	---	---	---	---	---
16	8.4	7.8	8.0	---	---	---	---	---	---	---	---	---
17	8.4	7.8	8.1	---	---	---	---	---	---	---	---	---
18	8.5	7.8	8.1	---	---	---	---	---	---	---	---	---
19	8.5	7.8	8.1	---	---	---	---	---	---	---	---	---
20	8.5	7.8	8.1	---	---	---	---	---	---	---	---	---
21	8.4	7.8	8.1	8.1	7.9	8.0	---	---	---	---	---	---
22	8.2	7.8	7.9	8.2	7.9	8.1	---	---	---	---	---	---
23	7.9	7.6	7.7	---	---	---	---	---	---	---	---	---
24	7.6	7.4	7.5	---	---	---	8.6	7.8	8.1	---	---	---
25	---	---	---	---	---	---	8.4	7.9	8.1	---	---	---
26	---	---	---	---	---	---	8.7	7.9	8.2	---	---	---
27	---	---	---	---	---	---	8.6	7.8	8.1	---	---	---
28	---	---	---	---	---	---	8.6	7.8	8.1	---	---	---
29	---	---	---	---	---	---	8.6	7.8	8.1	---	---	---
30	---	---	---	---	---	---	8.6	7.8	8.1	---	---	---
31	---	---	---	---	---	---	---	---	---	---	---	---
MONTH	8.8	7.4	8.0	8.3	7.9	8.1	8.7	7.8	8.1	8.6	7.5	7.9

SURFACE-WATER RECORDS
Great Miami River Basin

03267900 MAD RIVER AT ST. PARIS PIKE AT EAGLE CITY, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003—Continued

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	---	---	---	7.8	7.7	7.8	8.4	8.1	8.2	8.0	7.7	8.0
2	---	---	---	7.8	7.7	7.8	8.1	7.9	8.0	8.0	7.7	7.8
3	---	---	---	7.8	7.7	7.7	8.0	7.8	7.9	8.0	7.9	7.9
4	---	---	---	7.8	7.7	7.7	8.0	7.8	7.9	8.0	8.0	8.0
5	---	---	---	7.7	7.6	7.6	8.0	7.9	7.9	8.1	8.0	8.0
6	7.8	7.7	7.7	7.7	7.6	7.6	8.0	7.9	8.0	8.1	8.1	8.1
7	7.8	7.7	7.8	7.9	7.7	7.8	8.0	7.9	8.0	8.1	8.1	8.1
8	7.8	7.7	7.8	8.0	7.9	7.9	8.0	7.9	7.9	8.1	8.1	8.1
9	8.0	7.8	7.8	7.9	7.8	7.9	8.0	7.9	7.9	8.2	8.1	8.1
10	7.9	7.9	7.9	7.9	7.8	7.9	8.0	7.9	8.0	8.2	8.1	8.1
11	7.9	7.8	7.9	7.9	7.9	7.9	8.1	7.9	8.0	8.2	8.1	8.2
12	7.8	7.8	7.8	8.0	7.9	7.9	8.0	7.9	8.0	8.2	8.1	8.2
13	7.8	7.8	7.8	8.0	7.9	8.0	8.1	7.9	8.0	8.2	8.2	8.2
14	7.8	7.6	7.7	8.0	8.0	8.0	8.1	7.9	8.0	8.2	8.2	8.2
15	7.7	7.6	7.6	8.0	8.0	8.0	8.0	7.7	7.9	8.3	8.2	8.2
16	7.7	7.7	7.7	8.3	7.9	8.0	7.9	7.6	7.7	8.3	8.2	8.2
17	7.7	7.7	7.7	8.4	8.0	8.2	7.9	7.6	7.7	8.3	8.2	8.2
18	7.8	7.7	7.7	8.4	8.0	8.2	7.9	7.6	7.7	8.4	8.2	8.3
19	7.8	7.7	7.8	8.4	8.3	8.4	8.0	7.6	7.7	8.4	8.2	8.3
20	7.7	7.7	7.7	---	---	---	---	---	---	8.4	8.2	8.3
21	7.7	7.7	7.7	---	---	---	---	---	---	8.5	8.2	8.3
22	7.7	7.7	7.7	---	---	---	---	---	---	8.2	8.1	8.2
23	7.8	7.7	7.7	---	---	---	---	---	---	8.3	8.1	8.2
24	7.8	7.7	7.7	8.2	8.2	8.2	---	---	---	8.2	8.0	8.2
25	7.8	7.7	7.7	8.2	8.2	8.2	---	---	---	8.2	8.0	8.1
26	7.8	7.7	7.7	8.3	8.2	8.2	---	---	---	8.2	8.0	8.1
27	7.9	7.7	7.8	8.3	8.1	8.2	8.8	8.1	8.3	8.0	7.8	7.9
28	7.8	7.7	7.8	8.3	8.1	8.2	8.5	8.1	8.2	7.9	7.8	7.8
29	8.0	7.7	7.8	8.4	8.2	8.2	8.5	8.1	8.2	7.9	7.9	7.9
30	7.9	7.8	7.8	8.4	8.1	8.3	8.1	7.9	8.0	8.0	7.9	7.9
31	---	---	---	8.3	8.0	8.2	8.0	7.9	8.0	---	---	---
MONTH	8.0	7.6	7.8	8.4	7.6	8.0	8.8	7.6	8.0	8.5	7.7	8.1
YEAR	8.8	7.0	7.9									

TEMPERATURE, WATER, DEGREES CELSIUS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	18.5	16.5	17.5	10.0	8.0	8.5	5.0	3.0	4.0	---	---	---
2	18.5	17.0	17.5	9.0	6.5	7.5	6.0	3.5	4.5	---	---	---
3	19.0	17.0	18.0	9.0	6.5	8.0	5.5	3.0	4.0	---	---	---
4	18.0	17.0	17.5	9.5	8.5	9.0	4.0	2.5	3.0	---	---	---
5	17.5	15.0	16.0	9.5	9.0	9.0	5.0	3.5	4.0	---	---	---
6	16.0	13.0	14.5	9.5	9.0	9.0	4.5	3.0	4.0	---	---	---
7	15.0	13.0	14.0	10.5	8.5	9.5	4.0	2.5	3.0	---	---	---
8	13.5	11.0	12.0	---	---	---	6.0	3.5	4.5	7.0	4.5	5.5
9	13.0	11.0	12.0	---	---	---	4.5	2.5	3.5	7.0	5.5	6.5
10	13.5	12.0	13.0	---	---	---	5.5	3.0	4.0	6.0	4.0	5.5
11	16.5	13.5	14.5	---	---	---	5.5	5.0	5.5	4.0	2.0	3.0
12	16.0	14.5	15.5	---	---	---	6.5	5.5	6.0	3.5	1.5	2.5
13	15.5	13.5	15.0	11.5	10.0	10.5	6.5	6.0	6.5	4.0	2.5	3.0
14	13.5	10.0	11.5	11.0	10.0	10.5	6.0	5.5	6.0	4.5	3.5	4.0
15	12.0	10.0	11.0	10.5	9.5	10.0	6.5	5.5	6.0	3.5	1.5	2.0
16	12.0	11.0	11.5	9.5	7.5	8.5	6.5	5.0	6.0	3.0	1.5	2.0
17	11.5	9.5	10.5	7.5	7.0	7.5	5.0	4.0	4.5	3.5	2.0	2.5
18	12.5	10.0	11.0	7.5	6.0	6.5	8.0	5.0	6.5	2.5	0.5	1.5
19	13.0	11.5	12.0	10.0	7.0	8.5	8.5	7.5	8.0	2.5	1.0	2.0
20	12.0	9.5	10.5	10.0	7.5	9.0	9.0	5.5	7.5	4.5	2.5	3.5
21	12.0	9.0	10.5	10.5	9.0	9.5	---	---	---	4.0	2.0	3.5
22	12.5	9.0	10.5	9.5	7.0	8.0	---	---	---	3.0	1.5	2.0
23	11.5	10.0	11.0	7.0	6.0	6.5	---	---	---	2.5	0.5	1.5
24	11.5	10.0	10.5	8.5	6.0	7.0	---	---	---	2.5	0.5	1.5
25	10.5	9.5	10.0	7.5	6.5	7.5	---	---	---	3.5	1.5	2.5
26	11.5	10.5	11.0	6.5	5.5	6.0	---	---	---	3.5	2.0	3.0
27	11.5	11.0	11.0	6.5	5.0	5.5	5.0	3.5	4.0	2.0	0.0	1.0
28	12.0	10.5	11.0	5.5	4.5	5.0	6.0	4.0	5.0	3.5	1.5	2.0
29	11.0	9.0	9.5	7.0	4.0	5.5	7.0	5.0	6.0	5.5	4.5	5.0
30	9.0	8.5	9.0	7.0	5.0	6.5	7.0	5.0	6.0	5.0	2.5	3.5
31	9.0	8.0	8.5	---	---	---	---	---	---	5.5	3.0	4.5
MONTH	19.0	8.0	12.5	11.5	4.0	8.0	9.0	2.5	5.0	7.0	0.0	3.0

SURFACE-WATER RECORDS
Great Miami River Basin

03267900 MAD RIVER AT ST. PARIS PIKE AT EAGLE CITY, OHIO—Continued

WATER-QUALITY RECORDS—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER			NOVEMBER			DECEMBER			MAX	JANUARY	
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX		MIN	MEAN
1	9.0	8.0	8.4	14.8	10.6	11.9	16.9	12.7	14.3	---	---	---	
2	9.0	8.1	8.5	14.9	10.8	12.2	16.9	12.3	14.1	---	---	---	
3	8.9	8.0	8.3	15.1	10.8	12.5	17.3	12.3	14.2	---	---	---	
4	8.8	7.7	8.2	14.2	12.3	12.9	17.6	13.2	14.7	---	---	---	
5	9.2	7.6	8.4	13.2	11.1	12.3	18.4	12.6	14.7	---	---	---	
6	9.8	8.6	9.1	12.5	10.7	11.5	18.8	12.8	15.0	---	---	---	
7	10.0	8.5	9.1	14.3	11.2	12.3	18.0	13.4	15.0	---	---	---	
8	10.7	9.2	9.8	13.9	10.2	11.7	19.3	12.7	15.0	12.7	11.4	12.2	
9	10.6	9.4	9.9	11.9	9.7	10.6	19.1	13.4	15.4	12.4	11.3	11.8	
10	10.7	9.0	9.7	10.5	8.9	9.5	19.5	13.0	15.1	13.0	11.5	12.2	
11	10.5	8.6	9.3	9.9	8.3	9.4	18.6	12.3	14.4	14.4	12.8	13.6	
12	11.0	8.3	9.3	12.8	9.7	11.1	17.8	12.2	14.0	14.5	13.5	14.1	
13	11.2	8.2	9.4	12.2	11.2	11.7	15.3	11.7	12.9	14.2	13.0	13.5	
14	12.4	9.2	10.4	12.2	11.1	11.5	17.3	11.8	13.5	14.0	12.6	13.1	
15	14.4	10.2	11.9	11.8	10.9	11.2	18.8	12.1	14.1	15.0	13.0	14.0	
16	15.0	11.1	12.2	12.5	11.1	11.7	19.3	12.0	14.4	14.8	13.5	14.2	
17	15.7	11.5	12.9	13.3	11.9	12.4	17.1	12.8	14.1	15.0	13.1	13.9	
18	15.8	11.4	12.7	13.7	12.2	12.8	18.8	11.6	14.1	15.3	13.8	14.5	
19	14.9	10.5	11.8	13.0	11.5	12.1	12.7	10.9	11.7	15.4	13.6	14.4	
20	16.4	10.6	12.7	13.3	11.7	12.5	12.5	10.3	11.5	14.8	12.8	13.7	
21	16.3	11.3	12.7	13.1	11.4	12.0	---	---	---	13.5	12.5	13.0	
22	16.8	11.3	13.0	14.6	11.4	12.8	---	---	---	14.5	12.3	13.2	
23	17.2	11.7	13.5	14.6	12.6	13.4	---	---	---	15.3	12.4	13.7	
24	17.9	11.8	13.8	14.8	12.7	13.4	---	---	---	15.4	13.2	14.0	
25	14.0	10.8	12.4	14.2	12.3	13.1	---	---	---	14.8	12.6	13.4	
26	12.7	10.2	11.2	14.0	12.7	13.2	---	---	---	15.2	11.9	13.2	
27	14.3	10.4	11.8	15.7	12.6	13.7	13.3	12.2	12.7	16.0	12.8	14.3	
28	16.2	10.5	12.4	15.9	13.0	13.9	12.9	11.7	12.3	14.9	12.6	13.2	
29	14.0	10.8	11.9	15.8	12.0	13.6	12.8	11.4	12.0	15.0	10.9	12.7	
30	14.4	11.1	12.3	14.8	11.5	12.8	12.0	11.1	11.4	16.3	11.6	13.5	
31	13.7	10.7	11.9	---	---	---	---	---	---	16.3	11.4	13.2	
MONTH	17.9	7.6	10.9	15.9	8.3	12.2	19.5	10.3	13.8	16.3	10.9	13.4	

DAY	MAX	FEBRUARY			MARCH			APRIL			MAX	MAY	
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX		MIN	MEAN
1	14.6	10.6	12.1	---	---	---	---	---	---	18.7	7.1	11.3	
2	17.0	10.7	12.9	---	---	---	---	---	---	13.7	6.6	9.2	
3	13.5	10.1	11.3	---	---	---	14.9	8.7	11.1	14.0	8.2	10.5	
4	12.2	10.1	11.2	---	---	---	13.0	8.2	10	15.4	9.0	11.5	
5	15.8	11.6	13.3	---	---	---	---	---	---	9.1	7.9	8.4	
6	15.6	11.8	13.3	---	---	---	---	---	---	8.8	7.3	8.2	
7	16.3	11.3	13.2	13.6	12.2	12.9	---	---	---	7.4	6.1	6.6	
8	16.6	12.3	14.0	13.3	11.9	12.4	---	---	---	6.2	5.2	5.7	
9	16.5	11.7	13.4	13.3	12.4	13.1	---	---	---	6.0	4.5	5.0	
10	15.9	11.0	13.0	13.8	12.6	13.3	---	---	---	---	---	---	
11	17.4	11.7	13.7	13.3	11.7	12.8	---	---	---	---	---	---	
12	18.0	11.6	14.2	12.5	11.6	11.9	---	---	---	---	---	---	
13	18.1	12.5	14.6	12.0	11.5	11.7	---	---	---	---	---	---	
14	17.2	11.6	13.5	---	---	---	---	---	---	---	---	---	
15	18.9	11.2	14.0	---	---	---	---	---	---	---	---	---	
16	18.6	11.9	14.4	---	---	---	---	---	---	---	---	---	
17	17.8	12.2	14.3	---	---	---	---	---	---	---	---	---	
18	18.4	11.3	13.7	---	---	---	---	---	---	---	---	---	
19	18.0	10.3	13.4	---	---	---	---	---	---	---	---	---	
20	18.3	10.7	13.5	---	---	---	---	---	---	---	---	---	
21	17.3	10.6	13.1	11.1	9.6	10.3	---	---	---	---	---	---	
22	13.2	9.1	10.9	12.2	10.4	11.2	---	---	---	---	---	---	
23	11.9	9.1	10.5	---	---	---	---	---	---	---	---	---	
24	9.4	6.3	7.8	---	---	---	17.4	10.1	13.1	---	---	---	
25	---	---	---	---	---	---	14.5	9.8	11.5	---	---	---	
26	---	---	---	---	---	---	18.8	10.0	13.2	---	---	---	
27	---	---	---	---	---	---	19.6	8.9	12.9	---	---	---	
28	---	---	---	---	---	---	19.9	8.5	12.7	---	---	---	
29	---	---	---	---	---	---	19.8	7.4	11.9	---	---	---	
30	---	---	---	---	---	---	18.6	7.3	11.7	---	---	---	
31	---	---	---	---	---	---	---	---	---	---	---	---	
MONTH	18.9	6.3	12.9	13.8	9.6	12.2	19.9	7.3	12.0	18.7	4.5	8.5	

**SURFACE-WATER RECORDS
Great Miami River Basin**

03267900 MAD RIVER AT ST. PARIS PIKE AT EAGLE CITY, OHIO—Continued

WATER-QUALITY RECORDS—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003—Continued

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	---	---	---	8.2	5.5	6.6	---	---	---	8.9	8.0	8.8
2	---	---	---	8.0	5.0	6.2	---	---	---	---	---	---
3	---	---	---	8.0	4.5	5.8	---	---	---	8.7	8.4	8.5
4	---	---	---	7.2	4.1	5.2	---	---	---	8.9	8.4	8.7
5	---	---	---	4.2	1.7	2.8	---	---	---	9.4	8.8	9.2
6	8.2	5.9	6.7	6.6	1.1	1.8	---	---	---	9.6	9.1	9.4
7	8.1	5.4	6.5	9.6	5.6	8.1	---	---	---	9.6	9.1	9.4
8	7.4	5.8	6.4	9.2	7.7	8.7	---	---	---	9.5	9.1	9.3
9	9.7	5.4	6.7	9.0	7.8	8.5	---	---	---	9.3	8.9	9.2
10	8.7	6.2	7.2	10.1	8.3	9.3	---	---	---	9.3	8.8	9.1
11	8.4	5.1	6.4	10.5	9.8	10.2	---	---	---	9.4	8.7	9.1
12	5.2	4.4	4.7	11.1	10.3	10.7	---	---	---	9.6	8.9	9.2
13	5.4	4.3	4.8	11.1	10.0	10.5	---	---	---	9.8	8.9	9.2
14	4.9	2.2	2.9	10.7	9.5	10.0	---	---	---	9.6	8.6	9.0
15	3.6	2.6	3.1	10.0	9.3	9.7	---	---	---	9.5	8.4	8.8
16	4.0	3.0	3.4	---	---	---	11.9	8.6	9.8	9.7	8.3	8.8
17	3.9	3.4	3.6	---	---	---	11.6	8.2	9.4	9.4	7.7	8.4
18	5.5	3.8	4.2	---	---	---	12.6	8.8	10.1	9.1	7.1	7.9
19	5.4	3.6	4.6	---	---	---	13.3	8.9	10.3	8.1	6.3	7.0
20	6.0	5.0	5.5	---	---	---	---	---	---	7.3	5.5	6.3
21	6.0	5.1	5.4	---	---	---	---	---	---	6.3	5.1	5.5
22	6.0	4.9	5.3	---	---	---	---	---	---	---	---	---
23	6.6	4.7	5.3	---	---	---	---	---	---	---	---	---
24	6.5	4.9	5.4	---	---	---	---	---	---	---	---	---
25	6.8	4.8	5.5	---	---	---	---	---	---	11.6	8.5	9.4
26	6.6	4.6	5.3	---	---	---	---	---	---	11.2	8.8	9.7
27	9.0	4.2	5.8	---	---	---	10.0	7.6	8.3	9.1	7.4	8.4
28	8.2	5.6	6.5	---	---	---	12.7	8.0	9.6	8.4	7.6	8.1
29	9.7	5.4	6.7	---	---	---	12.2	7.9	9.1	9.0	8.2	8.6
30	9.4	6.1	7.3	---	---	---	8.2	7.7	8.0	9.4	8.9	9.1
31	---	---	---	---	---	---	8.9	8.0	8.6	---	---	---
MONTH YEAR	9.7 19.9	2.2 1.1	5.4 10.7	11.1	1.1	7.6	13.3	7.6	9.2	11.6	5.1	8.6

TURBIDITY, WATER, UNFILTERED, NEPHELOMETRIC TURBIDITY UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	30	8.9	18	3.0	1.0	1.7	8.0	7.0	7.2	---	---	---
2	22	7.7	15	3.0	1.0	1.9	10	7.0	7.5	---	---	---
3	21	7.6	14	12	1.0	3.0	10	7.0	8.6	---	---	---
4	30	8.4	17	21	4.0	8.4	12	8.0	8.9	---	---	---
5	27	7.2	15	16	2.0	7.1	16	8.0	10	---	---	---
6	17	6.2	11	13	1.0	3.1	16	7.0	9.1	---	---	---
7	15	6.0	9.4	2.0	0.0	1.1	13	8.0	9.1	---	---	---
8	11	5.1	7.9	3.0	0.0	1.1	11	7.0	8.9	7.0	3.0	5.2
9	9.2	4.9	6.9	4.0	1.0	1.7	15	8.0	9.9	13	6.0	10
10	9.0	4.8	6.7	780	3.0	72	11	5.0	7.9	13	7.0	9.7
11	9.5	4.7	6.7	600	35	190	6.0	4.0	4.8	7.0	4.0	5.6
12	14	7.7	10	210	16	65	6.0	4.0	4.9	5.0	2.0	3.7
13	14	6.7	9.8	140	27	58	6.0	4.0	4.9	5.0	1.0	3.2
14	14	6.6	9.4	72	27	55	13	4.0	6.8	4.0	2.0	2.8
15	14	2.0	5.6	27	17	20	6.0	3.0	4.6	5.0	2.0	3.5
16	7.0	1.0	3.7	22	17	19	7.0	4.0	5.1	4.0	2.0	3.3
17	6.0	2.0	3.7	20	16	18	8.0	5.0	5.6	6.0	3.0	3.5
18	7.0	3.0	4.3	18	15	17	13	4.0	5.3	4.0	2.0	3.3
19	8.0	5.0	6.3	29	16	18	610	4.0	120	5.0	2.0	3.1
20	9.0	4.0	6.3	32	17	19	540	71	250	4.0	2.0	2.6
21	8.0	2.0	5.4	23	16	18	---	---	---	3.0	0.0	1.3
22	6.0	3.0	4.5	19	15	17	---	---	---	2.0	0.0	0.7
23	6.0	3.0	4.7	20	15	17	---	---	---	1.0	0.0	0.2
24	6.0	3.0	4.6	29	15	18	---	---	---	1.0	0.0	0.2
25	670	4.0	61	20	16	18	---	---	---	1.0	0.0	0.1
26	79	12	28	18	5.0	11	---	---	---	1.0	0.0	0.4
27	42	8.0	15	6.0	4.0	5.6	7.0	3.0	4.7	1.0	0.0	0.3
28	34	7.0	13	7.0	5.0	6.1	5.0	2.0	3.4	---	---	---
29	---	---	---	7.0	5.0	5.9	4.0	2.0	3.1	---	---	---
30	---	---	---	7.0	5.0	6.4	---	---	---	3.0	0.0	0.8
31	---	---	---	---	---	---	---	---	---	1.0	0.0	0.6
MONTH	670	1.0	12	780	0.0	23	610	2.0	22	13	0.0	2.9

SURFACE-WATER RECORDS
Great Miami River Basin

03269500 MAD RIVER NEAR SPRINGFIELD, OHIO

LOCATION.—Latitude 39°55'23", longitude 83°52'13", in NW ¼ 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, Ohio, and at mile 24.1.

DRAINAGE AREA.—490 mi².

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 National Geodetic Vertical Datum of 1912. Jan. 1, 1904-Mar. 31, 1906, nonrecording gage at site 0.3 mi downstream at different datum; Feb. 1, 1914-Feb. 29, 1924, nonrecording gage at site 1.8 mi upstream at datum 6.39 ft higher; Mar. 1, 1924-July 31, 1925, nonrecording gage at site 300 ft upstream at same datum.

REMARKS.—Records excellent except for periods of estimated record, which are poor. 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 formerly collected at this site.

COOPERATION.—Gage-height record and eight discharge measurements furnished by Miami Conservancy District.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 30,500 ft³/s Jan. 21, 1959, gage height, 15.76 ft, from rating curve extended above 14,000 ft³/s on basis of slope-area and contracted opening measurements of peak flow; minimum daily discharge, 30 ft³/s Sept. 15, 1904.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Mar. 25, 1913, reached a stage of 16.9 ft, present datum; discharge, 55,400 ft³/s computed by Miami Conservancy District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	519	329	273	1750	312	604	604	406	536	e430	491	2220
2	435	290	269	1240	318	523	520	446	505	e420	875	3960
3	373	260	291	972	366	548	487	436	765	e410	1080	2820
4	385	262	300	829	715	541	469	436	781	e400	1600	1560
5	334	313	326	782	567	1470	1020	1250	644	e540	1530	1280
6	309	354	341	687	504	1440	710	973	e560	e800	962	1010
7	287	347	291	549	405	1000	914	1070	e560	e1600	1020	736
8	273	333	275	545	377	1020	981	1040	e540	e2000	1000	680
9	266	308	263	645	367	2250	768	1780	e660	e3000	760	655
10	254	765	262	603	359	1330	688	1630	e600	e2700	621	647
11	263	1780	294	513	342	1140	623	1740	e680	e1700	578	578
12	280	962	275	464	320	1020	573	1320	e740	e1300	582	525
13	276	858	302	449	312	1680	531	933	e700	e1000	524	543
14	272	604	384	432	312	1520	509	755	e1300	e860	500	526
15	271	486	353	408	317	1220	493	1010	e1000	e800	438	521
16	262	482	354	396	292	1170	483	1290	e1300	e760	467	506
17	255	468	350	392	306	1030	479	950	e1000	e700	514	498
18	256	446	341	375	313	906	597	961	e800	e660	435	503
19	282	430	783	375	308	754	506	857	e700	e620	360	497
20	259	416	1830	371	303	771	545	796	e600	e600	340	474
21	256	411	989	360	303	895	787	961	e560	e580	333	426
22	254	439	815	352	679	833	591	833	e500	e700	360	863
23	251	417	657	342	1320	699	509	666	e480	e640	414	672
24	252	414	501	332	895	629	470	620	e480	e560	420	591
25	458	429	489	317	700	589	461	590	e460	525	360	637
26	515	403	437	316	623	720	452	609	e450	495	326	575
27	398	363	412	300	620	668	418	565	e470	492	457	2660
28	421	346	401	310	660	613	406	557	e460	673	372	1440
29	489	322	393	310	---	880	402	552	e450	486	411	1200
30	398	289	857	300	---	804	392	543	e440	452	2760	914
31	369	---	1760	301	---	688	---	604	---	540	1310	---
TOTAL	10172	14326	15868	16317	13215	29955	17388	27179	19721	27443	22200	30717
MEAN	328	478	512	526	472	966	580	877	657	885	716	1024
MAX	519	1780	1830	1750	1320	2250	1020	1780	1300	3000	2760	3960
MIN	251	260	262	300	292	523	392	406	440	400	326	426
CFSM	0.67	0.97	1.04	1.07	0.96	1.97	1.18	1.79	1.34	1.81	1.46	2.09
IN.	0.77	1.09	1.20	1.24	1.00	2.27	1.32	2.06	1.50	2.08	1.69	2.33
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2003, BY WATER YEAR (WY)												
MEAN	357	419	538	566	659	698	720	694	594	496	361	346
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	190	188	189	235	251	312	240	174	189	162	177
(WY)	1989	2000	1977	1977	1992	1983	1976	1988	1988	1988	1988	1977
SUMMARY STATISTICS FOR 2002 CALENDAR YEAR FOR 2003 WATER YEAR WATER YEARS 1974 - 2003												
ANNUAL TOTAL	206338			244501								
ANNUAL MEAN	565			670						537		
HIGHEST ANNUAL MEAN										792		
LOWEST ANNUAL MEAN										279		
HIGHEST DAILY MEAN				3590	May 13		3960	Sep 2		8200	Jan 31	1982
LOWEST DAILY MEAN				165	Sep 12		251	Oct 23		100	Jan 26	1977
ANNUAL SEVEN-DAY MINIMUM				169	Sep 7		259	Oct 18		103	Jan 24	1977
MAXIMUM PEAK FLOW							5500	Sep 2		12200	Jun 29	1980
MAXIMUM PEAK STAGE							8.41	Sep 2		11.88	Jun 29	1980
INSTANTANEOUS LOW FLOW							232	Oct 17		100	Jan 26	1977
ANNUAL RUNOFF (CFSM)	1.15			1.37						1.10		
ANNUAL RUNOFF (INCHES)	15.66			18.56						14.88		
10 PERCENT EXCEEDS	1060			1240						992		
50 PERCENT EXCEEDS	429			523						389		
90 PERCENT EXCEEDS	240			302						217		

e Estimated.

SURFACE-WATER RECORDS
Great Miami River Basin

03270000 MAD RIVER NEAR DAYTON, OHIO

LOCATION.—Latitude 39°47'50", longitude 84°05'19", in SW ¼ 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, Ohio, and at mile 6.1.

DRAINAGE AREA.—635 mi².

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, National Geodetic Vertical Datum of 1912. Jan. 21, 1959-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. Water-quality data was formerly collected on left bank 900 ft downstream.

COOPERATION.—Gage-height record and seven discharge measurements furnished by Miami Conservancy District.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 21,200 ft³/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 ft³/s Aug. 6, 1934, but may have been less during 1921-1924.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Mar. 25, 1913, reached a stage of 14.0 ft, original site and datum; discharge 75,700 ft³/s, computed by Miami Conservancy District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	632	457	413	3200	439	943	881	516	783	543	743	2020
2	569	419	394	2280	440	854	746	575	714	586	1190	5400
3	483	375	405	1650	496	917	681	568	996	515	1250	4310
4	488	363	413	1300	1010	874	642	550	1160	501	1890	2310
5	477	396	428	1180	838	2040	1250	1620	943	812	2130	1720
6	419	481	460	1100	780	2650	1090	1670	828	853	1280	1410
7	394	464	417	869	596	1750	1230	1480	772	2150	1120	992
8	374	441	397	843	538	1680	1530	1620	841	2590	1450	890
9	366	424	379	985	532	3400	1150	2250	956	4310	1060	825
10	348	750	374	949	517	1940	1000	2900	830	3930	832	810
11	343	3150	415	811	495	1650	888	2970	1080	2320	776	756
12	363	1510	412	716	465	1360	810	2070	1020	1800	757	666
13	363	1250	417	693	440	2000	739	1480	1090	1510	699	669
14	360	882	575	660	451	2460	693	1170	1950	1040	670	654
15	368	703	533	613	458	1720	664	1400	1440	946	586	640
16	361	676	520	593	425	1620	642	1820	1950	989	591	619
17	345	645	510	583	434	1400	630	1400	1370	886	665	596
18	332	608	516	541	441	1290	761	1390	1020	794	606	600
19	361	575	975	548	434	1040	691	1270	858	748	510	592
20	353	552	3160	534	433	1060	669	1150	765	704	480	580
21	337	541	1680	520	436	1210	1090	1390	699	790	464	534
22	328	589	1210	501	891	1250	864	1240	660	982	461	910
23	322	574	997	496	2410	990	715	992	632	863	500	906
24	316	563	746	476	1650	875	631	915	609	770	522	710
25	476	570	722	460	1170	800	605	852	589	692	482	730
26	859	553	640	457	1000	1000	609	867	585	644	441	705
27	565	513	586	437	922	937	556	823	614	619	611	2420
28	508	486	567	442	973	839	532	798	559	909	580	2160
29	627	471	557	443	---	1290	525	808	531	674	542	1500
30	553	433	1120	430	---	1270	513	767	516	607	2870	1190
31	507	---	2770	427	---	1010	---	855	---	666	2020	---
TOTAL	13497	20414	23708	25737	20114	44119	24027	40176	27360	36743	28778	38824
MEAN	435	680	765	830	718	1423	801	1296	912	1185	928	1294
MAX	859	3150	3160	3200	2410	3400	1530	2970	1950	4310	2870	5400
MIN	316	363	374	427	425	800	513	516	516	501	441	534
CFSM	0.69	1.07	1.20	1.31	1.13	2.24	1.26	2.04	1.44	1.87	1.46	2.04
IN.	0.79	1.20	1.39	1.51	1.18	2.58	1.41	2.35	1.60	2.15	1.69	2.27
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2003, BY WATER YEAR (WY)												
MEAN	432	525	703	742	871	938	962	922	765	623	449	422
MAX	1425	1175	2027	1559	1839	1637	1609	2885	1745	1525	1235	1528
(WY)	1987	1986	1991	1991	1975	1978	2002	1996	1981	1993	1979	1979
MIN	198	188	208	239	287	344	444	268	192	211	172	178
(WY)	2000	2000	2000	1977	1992	1983	1976	1988	1988	1988	1988	1999
SUMMARY STATISTICS												
ANNUAL TOTAL				FOR 2002 CALENDAR YEAR			FOR 2003 WATER YEAR			WATER YEARS 1974 - 2003		
ANNUAL MEAN				293334			343497					
HIGHEST ANNUAL MEAN				804			941			695		
LOWEST ANNUAL MEAN										1029		
HIGHEST DAILY MEAN				4760			May 13			336		
LOWEST DAILY MEAN				174			Sep 12			10300		
ANNUAL SEVEN-DAY MINIMUM				181			Sep 7			112		
MAXIMUM PEAK FLOW							5400			Sep 2		
MAXIMUM PEAK STAGE							316			Oct 24		
INSTANTANEOUS LOW FLOW							336			Oct 18		
ANNUAL RUNOFF (CFSM)				1.27			1.48			11400		
ANNUAL RUNOFF (INCHES)				17.18			20.12			19.01		
10 PERCENT EXCEEDS				1570			1730			Feb 24		
50 PERCENT EXCEEDS				590			710			Feb 24		
90 PERCENT EXCEEDS				279			426			1975		

SURFACE-WATER RECORDS
Great Miami River Basin

03270500 GREAT MIAMI RIVER AT DAYTON, OHIO

LOCATION.—Latitude 39°45'55", longitude 84°11'51", in sec. 10, R.7, T.1, Montgomery County, Hydrologic Unit 05080002, on left bank 1,000 ft downstream from Main Street bridge in Dayton, Ohio, 0.7 mi upstream from Wolf Creek, 0.8 mi downstream from Mad River, and at mile 80.

DRAINAGE AREA.—2,511 mi².

PERIOD OF RECORD.—April to September 1905, January to September 1906, January 1907 to December 1909 (gage heights only), April 1913 to current year. Monthly discharge only for October 1919 to September 1921, published in WSP 1305. Gage-height records collected at Main Street bridge since January 1892 are contained in reports of National Weather Service. Prior to October 1962, published as Miami River at Dayton.

REVISED RECORDS.—WSP 1385: 1917. WSP 1908: Drainage area.

GAGE.—Water-stage recorder. Datum of gage is 700 ft, National Geodetic Vertical Datum of 1912 (as requested by cooperator, 699.71 ft adjustment of 1929). Prior to Oct. 1, 1921, nonrecording gage at Main Street bridge at datum 23.73 ft higher; Oct. 1, 1921-July 24, 1931, nonrecording gage at Main Street bridge at datum 21.00 ft higher.

REMARKS.—Records poor. Flood flow regulated by four retarding basins upstream from station beginning in 1920 on Mad River 6.5 mi upstream, on Stillwater River 10.5 mi upstream, on Great Miami River 11.5 mi upstream, and on Loramie Creek 40 mi upstream. Also see REMARKS for stations 03261500, 03261950, and 03269500. Much of the flow is diverted to the Little Miami River Basin through the Dayton sewer systems. Sediment data formerly collected at this site. U.S. Army Corps of Engineers satellite telemeter at station.

COOPERATION.—Gage-height record and nine discharge measurements furnished by Miami Conservancy District.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 60,900 ft³/s Jan. 22, 1959, gage height, 36 ft Jan. 22, 1959; minimum discharge 109 ft³/s Aug. 8, 1934.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Mar. 26, 1913, reached a stage of 29.0 ft, site and datum then in use; discharge, 250,000 ft³/s, computed by Miami Conservancy District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	850	576	677	14300	e680	e2100	3340	1030	1550	1160	1680	7090
2	684	531	e620	11600	e680	e2000	2800	1210	1550	1500	2990	24100
3	562	496	e580	6900	e900	e2000	2370	1470	1950	1770	5300	27500
4	590	481	e540	4570	1910	e2000	2150	1640	2640	1770	10400	21600
5	611	517	e520	3560	2930	5090	4240	4000	2780	2900	11300	15000
6	502	618	e500	3030	2340	11100	5860	6480	2220	6710	8730	10500
7	470	600	e480	2460	1870	6880	4780	5790	1870	14200	5280	5360
8	455	569	e470	2270	1390	5030	5960	5620	1970	21700	4180	3400
9	449	558	e460	2830	1360	13500	5280	6180	2210	27300	3140	2740
10	450	1460	452	3910	1320	12600	4180	10700	2060	34400	2360	2340
11	449	5810	510	3140	1140	8040	3440	12800	2490	32200	2110	2080
12	e440	3650	539	2180	1010	6510	2880	12000	2600	27300	1920	1860
13	e440	2450	530	1800	e900	8810	2430	7500	4140	21800	1970	1740
14	e430	1720	779	e1500	e800	15000	2110	5260	8090	12500	2140	1670
15	e430	1330	841	e1300	e780	12800	1910	4810	6970	5780	2080	1660
16	e420	1190	762	e1200	e760	10300	1810	4760	6810	4250	1710	1610
17	e410	1040	751	e1100	e740	8410	1690	4000	4200	3300	1580	1550
18	e410	966	818	e1000	e720	6730	1720	3500	3370	2670	1470	1480
19	e450	893	1720	e940	e680	5270	1630	3010	3450	2230	1340	1450
20	e440	823	7740	e900	e660	5030	1630	2930	2780	2020	1240	1420
21	e430	767	6170	e860	e650	7870	2060	4650	2140	2340	1190	1370
22	e420	925	3710	e840	1900	11100	1780	3840	1770	4580	1180	1840
23	e410	960	2530	e800	5870	7870	1590	2920	1530	7330	1180	1940
24	e420	957	1870	e780	6220	4770	1430	2380	1380	5600	1190	1850
25	771	967	1700	e760	4260	3800	1350	2070	1240	3440	1170	1730
26	1250	971	1450	e740	3160	4470	1370	1970	1170	2460	1160	1630
27	843	964	1270	e720	e2500	4830	1300	1810	1290	2020	1350	6860
28	667	930	1170	e700	e2300	3880	1220	1790	1130	2350	1280	8800
29	818	833	1120	e700	---	4440	1090	1700	998	1940	1300	5140
30	820	745	2070	e700	---	5070	1040	1540	964	1780	7130	3460
31	635	---	9460	e680	---	4040	---	1690	---	1680	6480	---
TOTAL	17426	35297	52809	78770	50430	211340	76440	131050	79312	262980	97530	170770
MEAN	562	1177	1704	2541	1801	6817	2548	4227	2644	8483	3146	5692
MAX	1250	5810	9460	14300	6220	15000	5960	12800	8090	34400	11300	27500
MIN	410	481	452	680	650	2000	1040	1030	964	1160	1160	1370
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1974 - 2003, BY WATER YEAR (WY)												
MEAN	1057	1659	2665	2898	3566	4151	4021	3158	2637	2202	1200	954
MAX	5792	6233	9210	7217	8926	10140	8184	11030	7357	8483	5727	5692
(WY)	1987	1994	1991	1996	1975	1978	2002	1996	1981	2003	1979	2003
MIN	232	236	296	270	636	890	1069	583	259	299	196	175
(WY)	2000	2000	1977	1977	1992	1992	1976	1988	1988	1977	1988	1999
SUMMARY STATISTICS												
ANNUAL TOTAL				FOR 2002 CALENDAR YEAR				FOR 2003 WATER YEAR			WATER YEARS 1974 - 2003	
ANNUAL MEAN				944696				1264154				
HIGHEST ANNUAL MEAN				2588				3463			2508	
LOWEST ANNUAL MEAN											3765	
HIGHEST DAILY MEAN				22600				Apr 15			39700	
LOWEST DAILY MEAN				204				Sep 11			111	
ANNUAL SEVEN-DAY MINIMUM				222				Sep 8			125	
MAXIMUM PEAK FLOW								36500			43800	
MAXIMUM PEAK STAGE								32.71			33.15	
INSTANTANEOUS LOW FLOW											111	
10 PERCENT EXCEEDS				6890				7790			5860	
50 PERCENT EXCEEDS				1300				1810			1300	
90 PERCENT EXCEEDS				419				573			375	

e Estimated.

SURFACE-WATER RECORDS
Great Miami River Basin

03271000 WOLF CREEK AT DAYTON, OHIO

LOCATION.—Latitude 39°46'00", longitude 84°14'10", Montgomery County, Hydrologic Unit 05080002, on right bank at West Riverview Avenue bridge in Dayton, Ohio, and 1.8 mi upstream from mouth.

DRAINAGE AREA.—68.7 mi².

PERIOD OF RECORD.—September 1938 to September 1950, October 1953 to September 1973 (low-flow partial-records site), October 1986 to September 1996, October 1997 to September 2002 (recording crest-stage gage), October 2002 to September 2003.

REVISED RECORDS.—WRD Ohio 1990: 1989 (p).

GAGE.—Water-stage recorder. Datum of gage is 739.83 ft above sea level. Prior to 1950, recording gage at same location at datum 39.83 ft lower.

REMARKS.—Records good except for periods of estimated record, which are poor.

COOPERATION.—Gage-height tapes and seven discharge measurements furnished by Miami Conservancy District.

EXTREMES OUTSIDE PERIOD OF RECORD.—Maximum discharge during flood in January 1959, about 12,800 ft³/s at gage height 13.1 ft, computed by Miami Conservancy District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17	24	22	622	e12	70	74	27	36	115	35	369
2	14	20	20	264	e12	111	64	41	28	29	628	339
3	14	18	21	147	e12	111	56	34	115	21	134	170
4	34	18	19	100	e76	105	e53	27	71	39	97	74
5	27	32	19	93	e45	481	e64	551	47	291	62	48
6	16	36	18	88	e35	260	e70	133	35	81	51	37
7	13	24	16	75	e29	153	e80	164	30	927	66	30
8	e12	21	17	91	e26	403	113	131	80	480	55	26
9	e10	21	15	141	e24	524	80	595	47	926	39	24
10	e9.0	697	16	86	e22	175	65	1280	29	527	35	21
11	e8.2	543	34	60	e20	116	58	552	230	213	32	19
12	e8.0	121	29	e42	e18	132	51	191	201	119	29	18
13	e7.6	68	48	e38	e17	395	45	109	146	79	27	17
14	e7.2	49	88	e35	e16	230	42	78	606	59	24	18
15	e7.0	43	70	e31	e15	152	40	149	435	64	23	22
16	e6.8	51	75	e29	e14	121	38	94	672	58	23	18
17	e7.2	39	59	e27	e14	99	36	90	208	41	21	16
18	e7.8	32	114	e25	e13	83	35	116	126	38	20	14
19	e8.0	29	633	e24	e12	91	32	72	85	34	20	14
20	e8.0	26	582	e22	e12	109	64	204	62	31	21	14
21	e8.0	28	161	e21	e11	251	72	123	49	233	20	14
22	e7.6	55	94	e20	e200	148	40	67	41	389	18	63
23	e7.4	49	67	e18	410	98	34	53	36	284	17	28
24	e20	41	57	e17	183	79	32	45	31	108	16	20
25	e80	35	63	e16	110	78	38	39	27	63	16	17
26	e34	30	47	e15	88	133	38	37	41	49	15	18
27	e27	28	41	e15	76	84	29	32	35	43	66	155
28	e66	26	42	e14	69	69	28	39	26	148	29	98
29	e50	24	42	e13	---	268	28	48	22	64	57	57
30	e37	25	484	e13	---	129	27	30	19	45	145	42
31	31	---	503	e13	---	89	---	70	---	38	30	---
TOTAL	609.8	2253	3516	2215	1591	5347	1526	5221	3616	5636	1871	1820
MEAN	19.7	75.1	113	71.5	56.8	172	50.9	168	121	182	60.4	60.7
MAX	80	697	633	622	410	524	113	1280	672	927	628	369
MIN	6.8	18	15	13	11	69	27	27	19	21	15	14

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1939 - 2003, BY WATER YEAR (WY)

MEAN	17.3	34.8	65.3	90.7	97.0	105	121	94.6	77.5	43.4	24.5	18.6
MAX	116	115	367	365	251	280	313	345	299	182	155	98.1
(WY)	1987	1994	1991	1950	1990	1945	1996	1996	1945	2003	1995	1950
MIN	2.42	2.23	1.98	3.03	14.7	12.6	15.3	5.95	8.18	3.35	3.56	2.04
(WY)	1945	1945	1945	1945	1944	1941	1941	1941	1988	1944	1948	1944

SUMMARY STATISTICS

	FOR 2003 WATER YEAR	WATER YEARS 1939 - 2003
ANNUAL TOTAL	35221.8	
ANNUAL MEAN	96.5	66.5
HIGHEST ANNUAL MEAN		123 1996
LOWEST ANNUAL MEAN		16.1 1941
HIGHEST DAILY MEAN	1280 May 10	3530 Apr 29 1996
LOWEST DAILY MEAN	6.8 Oct 16	1.1 Sep 18 1944
ANNUAL SEVEN-DAY MINIMUM	7.4 Oct 12	1.4 Aug 31 1948
MAXIMUM PEAK FLOW	4720 May 10a	9950 Mar 19 1943
MAXIMUM PEAK STAGE	8.37 May 10	53.50 Mar 19 1943
INSTANTANEOUS LOW FLOW		0.80 Sep 18 1948
10 PERCENT EXCEEDS	220	131
50 PERCENT EXCEEDS	41	22
90 PERCENT EXCEEDS	15	5.3

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**

03271300 HOLES CREEK NEAR KETTERING, OHIO

LOCATION.—Latitude 39°39'15", longitude 84°11'45", Montgomery County, Hydrologic Unit 05080001, on upstream left bank of Mad River Road bridge, 200 ft south of Alexandria-Bellbrook Road, and 2.8 mi southwest of Kettering, Ohio.
DRAINAGE AREA.—18.7 mi².

WATER DISCHARGE RECORDS

PERIOD OF RECORD.—Partial-record site and miscellaneous measurement 1965-2002, October 2002 to September 2003.
GAGE.—Elevation of gage is 890 ft (from topographic map).
REMARKS.—Records fair except for periods of estimated record, which are poor.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	5.3	10	8.7	252	e4.3	30	17	9.5	9.6	3.7	4.9	332
2	3.9	9.3	e5.5	63	e8.0	46	14	12	6.9	3.7	146	296
3	13	9.7	e4.8	36	e16	40	12	8.4	45	3.4	14	84
4	46	8.7	5.8	25	e46	e43	13	9.7	17	4.9	9.0	20
5	21	45	e4.5	27	e15	e98	64	344	10	106	7.5	12
6	6.6	37	e4.2	32	e10	e45	16	41	7.9	12	6.8	8.1
7	3.9	14	e4.0	23	e8.6	e30	153	118	6.8	98	24	6.2
8	3.2	12	e3.9	25	e7.6	e90	41	31	72	33	12	5.9
9	2.7	12	e3.8	28	e6.6	e58	25	80	27	215	6.0	5.7
10	2.7	310	e3.7	19	e6.0	e40	19	78	16	68	6.5	5.1
11	4.6	e169	44	13	e5.6	e28	16	52	206	22	4.3	5.6
12	4.1	e26	26	e10	e5.2	e22	13	21	98	31	4.1	4.6
13	3.2	e19	58	e10	e4.9	e230	11	14	59	11	4.1	3.1
14	2.7	e18	74	e9.4	e4.7	e103	11	13	173	7.5	3.4	3.0
15	2.7	e28	29	e8.9	e4.5	e64	11	68	35	68	3.4	4.5
16	2.7	e24	20	e8.4	e4.3	e42	9.6	35	42	62	3.4	4.2
17	2.7	14	33	e7.8	e4.2	e27	9.0	78	130	12	4.0	3.4
18	2.7	11	40	e7.4	e4.1	e16	8.3	62	35	7.5	2.9	3.4
19	18	9.2	374	e7.0	e5.2	e32	6.6	21	18	6.0	2.7	3.3
20	9.3	11	208	e6.6	e7.0	30	46	37	13	5.0	2.4	3.1
21	4.1	16	37	e6.3	e11	48	42	34	11	18	2.7	3.4
22	3.2	39	24	e6.0	260	26	12	16	8.6	10	3.0	e19
23	2.7	19	18	e5.8	165	18	9.1	12	8.0	417	2.7	e11
24	2.9	13	17	e5.4	55	15	7.5	9.8	6.3	78	2.4	7.0
25	195	11	26	e5.2	41	21	8.3	9.0	5.5	17	2.7	4.5
26	72	10	19	e5.0	25	57	10	8.8	19	11	2.2	11
27	14	11	15	e4.8	22	21	6.6	10	17	8.8	18	217
28	8.9	9.7	14	e4.6	23	16	5.6	15	6.3	11	6.5	20
29	74	9.5	15	e4.5	---	127	6.3	18	4.3	7.6	18	11
30	28	9.5	172	e4.4	---	31	8.6	9.6	3.7	5.6	68	8.5
31	13	---	157	e4.3	---	20	---	21	---	4.7	16	---
TOTAL	578.8	944.6	1468.9	674.8	779.8	1514	631.5	1295.8	1116.9	1368.4	413.6	1125.6
MEAN	18.7	31.5	47.4	21.8	27.9	48.8	21.1	41.8	37.2	44.1	13.3	37.5
MAX	195	310	374	252	260	230	153	344	206	417	146	332
MIN	2.7	8.7	3.7	4.3	4.1	15	5.6	8.4	3.7	3.4	2.2	3.0

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1999 - 2003, BY WATER YEAR (WY)

	1999	2000	2001	2002	2003
MEAN	17.3	27.3	34.7	26.1	29.7
MAX	38.2	64.6	58.5	64.9	40.6
(WY)	2002	2002	2002	1999	2000
MIN	1.88	4.07	9.85	9.40	16.3
(WY)	2000	2000	2000	2000	2001

SUMMARY STATISTICS

FOR 2003 WATER YEAR

WATER YEARS 1999 - 2003

ANNUAL TOTAL	11912.7
ANNUAL MEAN	32.6
HIGHEST ANNUAL MEAN	32.6
LOWEST ANNUAL MEAN	15.9
HIGHEST DAILY MEAN	417
LOWEST DAILY MEAN	2.2
ANNUAL SEVEN-DAY MINIMUM	2.6
MAXIMUM PEAK FLOW	1320
MAXIMUM PEAK STAGE	6.06
10 PERCENT EXCEEDS	74
50 PERCENT EXCEEDS	12
90 PERCENT EXCEEDS	3.8

e Estimated.

SURFACE-WATER RECORDS
Great Miami River Basin

03271300 HOLES CREEK NEAR KETTERING, OHIO—Continued

WATER-QUALITY RECORDS

PERIOD OF RECORD.—October 2002 to September 2003.

PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: October 2002 to September 2003.

pH: October 2002 to September 2003.

WATER TEMPERATURE: October 2002 to September 2003.

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

REMARKS.—Interruptions in the water-quality monitor record were due to malfunction of instrument. Records good except for pH, Dec. 5-18, which are poor and Apr. 3-23, which are fair, and specific conductance records are fair except Feb. 11-Mar. 12 and July 3-29, which are poor.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum, 4,880 microsiemens, Feb. 21, 2003; minimum, 169 microsiemens, Sept. 1, 2003.

pH: Maximum, 9.0 units, Dec. 8-10, 2002; minimum, 7.4 units, July 16, 2003.

WATER TEMPERATURE: Maximum, 26.5°C, July 8, 2003; minimum, 0.0°C, Feb. 8 and 12, 2003.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum, 4,880 microsiemens, Feb. 21; minimum, 169 microsiemens, Sept. 1.

pH: Maximum, 9.0 units, Dec. 8-10; minimum, 7.4 units, July 16.

WATER TEMPERATURE: Maximum, 26.5°C, July 8; minimum, 0.0°C, Feb. 8 and 12.

SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	---	---	---	---	---	---	809	798	807	616	479	542	
2	---	---	---	---	---	---	861	809	839	715	561	654	
3	---	---	---	---	---	---	872	861	870	912	714	820	
4	---	---	---	---	---	---	---	---	---	930	909	919	
5	---	---	---	---	---	---	---	---	---	2800	920	1460	
6	---	---	---	---	---	---	1600	1260	1460	2850	2130	2460	
7	---	---	---	---	---	---	1520	1390	1470	2820	2060	2390	
8	---	---	---	662	630	638	1390	1200	1280	2060	1790	1930	
9	---	---	---	694	662	677	1200	1130	1150	1790	1570	1680	
10	---	---	---	704	235	442	1140	1100	1120	1570	1480	1520	
11	---	---	---	457	275	358	3160	1090	1720	1480	1390	1430	
12	---	---	---	559	457	511	1840	1500	1670	1400	1370	1380	
13	---	---	---	610	559	582	1500	1110	1340	1370	1330	1340	
14	---	---	---	662	610	636	1150	998	1050	1920	1300	1500	
15	---	---	---	673	653	663	1010	942	975	2410	1910	2160	
16	---	---	---	664	584	628	943	928	936	2350	1760	1920	
17	---	---	---	707	645	672	933	796	898	2540	1970	2300	
18	---	---	---	718	707	711	920	759	848	2760	2360	2590	
19	---	---	---	740	718	732	769	340	562	2650	2090	2300	
20	---	---	---	762	740	753	540	340	444	2100	2010	2070	
21	---	---	---	762	693	742	660	540	610	2170	2080	2120	
22	---	---	---	693	573	629	706	660	681	2180	2020	2090	
23	---	---	---	666	645	658	753	706	738	2020	1900	1980	
24	---	---	---	708	666	691	779	750	767	1900	1750	1830	
25	---	---	---	740	708	722	2150	779	1460	1750	1700	1730	
26	---	---	---	761	740	749	2290	1880	2040	1840	1720	1750	
27	---	---	---	783	761	772	1880	1690	1820	2010	1840	1900	
28	---	---	---	794	783	792	1690	1590	1620	2110	1890	1990	
29	---	---	---	796	785	792	1590	1490	1530	2630	2060	2240	
30	---	---	---	798	786	792	1490	832	1210	3530	2630	3300	
31	---	---	---	---	---	---	832	610	735	3250	2620	2870	
MONTH	---	---	---	798	235	667	3160	340	1130	3530	479	1840	

**SURFACE-WATER RECORDS
Great Miami River Basin**

03271300 HOLES CREEK NEAR KETTERING, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	---	---	---	---	---	---	8.4	8.3	8.4	8.2	8.1	8.1
2	---	---	---	---	---	---	8.4	8.4	8.4	8.1	8.0	8.1
3	---	---	---	---	---	---	8.5	8.4	8.4	8.1	8.0	8.1
4	---	---	---	---	---	---	---	---	---	8.1	8.0	8.1
5	---	---	---	---	---	---	---	---	---	8.1	8.1	8.1
6	---	---	---	---	---	---	8.9	8.7	8.8	8.2	8.1	8.2
7	---	---	---	---	---	---	8.9	8.8	8.8	8.3	8.2	8.2
8	---	---	---	8.2	8.1	8.2	9.0	8.8	8.9	8.4	8.2	8.3
9	---	---	---	8.2	8.0	8.1	9.0	8.8	8.9	8.4	8.3	8.4
10	---	---	---	8.1	7.7	7.9	9.0	8.8	8.8	8.4	8.3	8.3
11	---	---	---	7.9	7.7	7.8	8.8	8.6	8.7	8.4	8.2	8.3
12	---	---	---	8.0	7.9	7.9	8.7	8.6	8.6	8.3	8.2	8.3
13	---	---	---	8.0	7.9	8.0	8.8	8.4	8.6	8.3	8.2	8.3
14	---	---	---	8.1	8.0	8.1	8.6	8.5	8.5	8.4	8.2	8.3
15	---	---	---	8.2	8.1	8.1	8.8	8.5	8.6	8.3	8.2	8.3
16	---	---	---	8.1	8.0	8.1	8.9	8.6	8.7	8.3	8.2	8.2
17	---	---	---	8.2	8.1	8.2	8.9	8.5	8.7	8.3	8.2	8.2
18	---	---	---	8.3	8.2	8.2	---	---	---	8.3	8.2	8.2
19	---	---	---	8.2	8.2	8.2	8.3	8.0	8.2	8.3	8.2	8.2
20	---	---	---	8.3	8.2	8.2	8.1	8.0	8.1	8.3	8.2	8.2
21	---	---	---	8.3	8.2	8.2	8.2	8.0	8.1	8.3	8.2	8.2
22	---	---	---	8.2	8.0	8.1	8.2	8.2	8.2	8.3	8.2	8.2
23	---	---	---	8.2	8.1	8.2	8.2	8.0	8.0	8.2	8.2	8.2
24	---	---	---	8.3	8.2	8.2	8.2	8.0	8.1	8.2	8.2	8.2
25	---	---	---	8.3	8.2	8.2	8.4	8.2	8.3	8.2	8.2	8.2
26	---	---	---	8.3	8.2	8.3	8.3	8.3	8.3	8.3	8.1	8.2
27	---	---	---	8.4	8.3	8.3	8.4	8.2	8.3	8.2	8.1	8.2
28	---	---	---	8.4	8.3	8.3	8.4	8.2	8.2	8.2	8.2	8.2
29	---	---	---	8.4	8.3	8.3	8.3	8.2	8.3	8.4	8.2	8.2
30	---	---	---	8.3	8.3	8.3	8.3	8.2	8.2	8.3	8.1	8.2
31	---	---	---	---	---	---	8.2	8.1	8.1	8.3	8.2	8.2
MONTH	---	---	---	8.4	7.7	8.1	9.0	8.0	8.4	8.4	8.0	8.2

DAY	MAX	MIN FEBRUARY	MEAN	MAX	MIN MARCH	MEAN	MAX	MIN APRIL	MEAN	MAX	MIN MAY	MEAN
1	8.3	8.2	8.2	8.4	8.2	8.3	7.7	7.7	7.7	8.4	8.1	8.2
2	8.4	8.1	8.2	8.4	8.2	8.3	7.7	7.6	7.7	8.4	8.1	8.3
3	8.4	8.2	8.2	8.5	8.2	8.3	---	---	---	8.3	8.1	8.2
4	8.2	8.0	8.1	8.6	8.2	8.3	8.6	8.2	8.4	8.4	8.2	8.3
5	8.0	7.9	8.0	8.2	8.1	8.1	8.3	8.2	8.2	8.2	8.0	8.0
6	8.0	7.9	8.0	8.3	8.1	8.2	8.6	8.2	8.4	8.1	8.0	8.0
7	8.4	8.0	8.3	8.4	8.1	8.2	8.4	8.1	8.2	8.1	7.9	8.0
8	8.4	8.2	8.3	8.5	8.1	8.2	8.2	8.0	8.1	8.3	8.1	8.2
9	8.3	8.1	8.1	8.2	8.0	8.1	8.3	8.1	8.2	8.2	8.0	8.1
10	8.4	8.1	8.2	8.4	8.1	8.2	8.4	8.2	8.3	8.1	7.9	8.0
11	---	---	---	8.5	8.1	8.3	8.4	8.2	8.3	8.1	7.9	8.1
12	8.4	8.2	8.3	---	---	---	8.4	8.3	8.3	8.1	7.9	8.0
13	8.5	8.3	8.4	8.4	8.2	8.2	8.4	8.2	8.3	8.2	8.0	8.1
14	8.5	8.3	8.4	8.4	8.1	8.2	8.4	8.2	8.3	8.2	8.0	8.1
15	8.5	8.2	8.4	8.5	8.1	8.3	8.5	8.2	8.3	8.2	7.9	8.1
16	8.4	8.2	8.3	8.6	8.1	8.3	8.4	8.3	8.3	8.1	8.0	8.1
17	8.3	8.2	8.3	8.6	8.1	8.3	8.4	8.3	8.4	8.1	7.8	8.0
18	8.5	8.2	8.3	8.6	8.1	8.4	8.7	8.4	8.5	8.1	7.9	8.0
19	8.5	8.2	8.3	8.5	8.0	8.3	8.8	8.6	8.6	8.2	8.1	8.1
20	8.5	8.2	8.3	8.4	8.0	8.2	8.8	8.4	8.6	8.1	7.9	8.1
21	8.4	8.1	8.3	8.2	8.0	8.1	8.4	8.3	8.3	8.2	7.9	8.1
22	8.3	8.0	8.1	8.3	8.0	8.1	8.4	8.3	8.4	8.2	8.1	8.1
23	8.2	8.0	8.1	8.4	8.0	8.2	8.4	8.4	8.4	8.2	8.1	8.2
24	8.3	8.1	8.2	8.3	8.0	8.2	---	---	---	8.2	8.1	8.2
25	8.3	8.1	8.2	8.2	8.0	8.1	8.6	8.3	8.4	8.2	8.1	8.1
26	8.4	8.2	8.3	8.1	7.9	8.0	8.6	8.3	8.4	8.2	8.0	8.1
27	8.4	8.2	8.3	8.1	7.8	8.0	8.6	8.3	8.4	8.2	8.0	8.1
28	8.4	8.2	8.3	8.1	7.9	8.0	8.5	8.2	8.4	8.3	8.1	8.2
29	---	---	---	8.1	7.8	7.9	8.4	8.2	8.3	8.2	8.0	8.1
30	---	---	---	7.8	7.8	7.8	8.4	8.1	8.2	8.2	8.0	8.1
31	---	---	---	7.8	7.7	7.7	---	---	---	8.1	7.9	8.0
MONTH	8.5	7.9	8.2	8.6	7.7	8.2	8.8	7.6	8.3	8.4	7.8	8.1

SURFACE-WATER RECORDS
Great Miami River Basin

03271300 HOLES CREEK NEAR KETTERING, OHIO—Continued

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003—Continued

DAY	MAX	MIN JUNE	MEAN	MAX	MIN JULY	MEAN	MAX	MIN AUGUST	MEAN	MAX	MIN SEPTEMBER	MEAN
1	8.2	8.0	8.1	8.2	8.1	8.2	8.2	8.0	8.1	8.3	8.0	8.1
2	8.2	7.9	8.1	8.3	8.1	8.2	8.1	7.8	7.9	8.1	8.0	8.0
3	8.0	7.8	7.9	8.1	7.9	8.1	8.2	7.9	8.0	8.2	8.0	8.1
4	8.0	7.8	8.0	8.1	7.7	8.0	8.2	8.0	8.1	8.3	8.2	8.2
5	8.2	8.0	8.1	7.9	7.5	7.7	8.2	8.0	8.1	8.3	8.2	8.3
6	8.1	8.0	8.0	8.2	7.6	7.9	8.2	8.0	8.1	8.3	8.2	8.2
7	8.2	8.0	8.0	7.9	7.5	7.7	8.1	7.7	7.9	8.3	8.2	8.2
8	8.2	7.7	7.9	8.0	7.6	7.8	8.1	7.7	7.9	8.3	8.1	8.2
9	8.0	7.7	7.8	7.7	7.5	7.6	8.1	7.9	8.0	8.3	8.2	8.2
10	7.9	7.6	7.7	7.8	7.6	7.7	8.2	7.9	8.1	8.3	8.2	8.3
11	7.9	7.7	7.8	7.9	7.8	7.8	8.1	7.9	8.1	8.4	8.2	8.3
12	8.0	7.7	7.9	7.9	7.7	7.8	8.2	7.8	8.1	8.4	8.2	8.3
13	8.2	7.7	8.0	8.0	7.8	7.9	8.2	7.8	8.1	8.3	8.2	8.3
14	8.1	7.8	7.9	8.0	7.8	7.9	8.2	7.9	8.0	8.3	8.2	8.2
15	8.1	7.9	8.0	8.0	7.5	7.9	8.1	7.8	8.0	8.4	8.2	8.3
16	8.1	8.0	8.1	7.9	7.4	7.7	---	---	---	8.4	8.2	8.3
17	8.1	7.8	8.0	8.0	7.8	7.9	---	---	---	8.3	8.2	8.2
18	8.2	7.9	8.1	8.0	7.8	7.9	8.2	8.0	8.1	8.4	8.2	8.3
19	8.2	8.1	8.2	8.0	7.9	7.9	8.4	8.0	8.2	8.3	8.2	8.3
20	8.3	8.2	8.2	8.0	7.9	7.9	8.4	8.2	8.3	8.3	8.2	8.3
21	8.3	8.2	8.2	7.9	7.6	7.8	8.4	8.1	8.2	8.4	8.2	8.3
22	8.2	8.2	8.2	8.0	7.7	7.8	8.3	8.1	8.2	8.2	8.0	8.1
23	8.3	8.2	8.2	7.8	7.5	7.6	8.3	8.2	8.2	8.3	8.1	8.2
24	8.3	8.2	8.2	7.8	7.5	7.6	8.3	8.2	8.2	8.4	8.2	8.3
25	8.3	8.2	8.2	7.9	7.7	7.8	8.3	8.2	8.2	8.4	8.2	8.2
26	8.3	7.9	8.1	8.0	7.8	7.9	8.3	8.2	8.2	8.3	8.1	8.2
27	8.2	7.9	8.1	8.0	7.8	7.9	8.2	7.8	8.0	8.1	8.0	8.0
28	8.2	8.0	8.1	8.0	7.8	7.9	---	---	---	8.3	8.0	8.2
29	8.2	7.9	8.0	8.2	7.9	8.0	8.4	8.0	8.2	8.3	8.2	8.2
30	8.3	8.0	8.1	8.2	8.1	8.1	8.2	8.0	8.1	8.3	8.2	8.3
31	---	---	---	8.2	8.0	8.1	8.2	8.0	8.1	---	---	---
MONTH	8.3	7.6	8.0	8.3	7.4	7.9	8.4	7.7	8.1	8.4	8.0	8.2
YEAR	9.0	7.4	8.2									

TEMPERATURE, WATER, DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	MIN OCTOBER	MEAN	MAX	MIN NOVEMBER	MEAN	MAX	MIN DECEMBER	MEAN	MAX	MIN JANUARY	MEAN
1	---	---	---	---	---	---	3.5	1.5	2.5	7.0	4.5	5.5
2	---	---	---	---	---	---	3.5	1.5	2.5	4.5	4.0	4.0
3	---	---	---	---	---	---	3.0	0.5	1.5	4.0	2.5	3.0
4	---	---	---	---	---	---	---	---	---	3.0	2.0	2.5
5	---	---	---	---	---	---	---	---	---	3.5	2.5	3.0
6	---	---	---	---	---	---	1.5	0.5	1.0	3.5	2.0	3.0
7	---	---	---	---	---	---	1.5	0.0	0.5	2.5	1.0	2.0
8	---	---	---	9.5	7.5	8.5	2.5	1.0	1.5	4.0	2.5	3.0
9	---	---	---	11.5	9.0	10.0	1.0	0.0	0.5	5.0	3.5	4.0
10	---	---	---	14.5	11.5	13.0	2.0	0.5	1.0	4.0	2.0	3.5
11	---	---	---	14.0	11.5	13.0	2.0	0.5	1.5	2.0	0.0	0.5
12	---	---	---	11.5	10.0	10.5	3.0	1.5	2.0	0.5	0.0	0.5
13	---	---	---	10.0	8.5	9.0	3.5	2.5	3.0	1.5	0.5	1.0
14	---	---	---	10.0	9.0	9.5	3.5	2.5	3.0	1.5	0.5	1.0
15	---	---	---	10.0	9.0	9.5	4.0	2.5	3.5	0.5	0.0	0.0
16	---	---	---	9.0	7.0	8.0	4.0	2.5	3.5	0.5	0.0	0.5
17	---	---	---	7.0	6.0	6.5	3.5	2.5	3.0	0.5	0.0	0.5
18	---	---	---	6.0	4.5	5.5	5.5	3.0	4.0	0.5	0.0	0.0
19	---	---	---	8.0	5.5	7.0	8.0	5.5	6.5	0.5	0.0	0.0
20	---	---	---	8.0	5.5	6.5	7.5	6.0	6.5	1.0	0.5	0.5
21	---	---	---	9.0	7.0	8.0	6.0	4.5	5.0	1.5	0.0	1.0
22	---	---	---	8.0	6.0	6.5	6.0	4.5	5.0	0.5	0.0	0.5
23	---	---	---	6.0	5.0	5.5	4.5	3.0	3.5	0.5	0.0	0.0
24	---	---	---	6.0	4.0	5.0	4.0	3.0	3.5	0.5	0.0	0.0
25	---	---	---	6.0	5.0	5.5	3.0	2.0	2.5	0.5	0.0	0.5
26	---	---	---	5.0	4.0	4.5	2.5	1.5	2.0	0.5	0.0	0.5
27	---	---	---	4.5	3.0	3.5	2.0	1.0	1.5	0.5	0.0	0.0
28	---	---	---	3.5	2.5	3.0	3.0	1.0	2.0	1.0	0.0	0.5
29	---	---	---	5.5	2.5	4.0	3.5	2.0	2.5	2.0	1.0	1.5
30	---	---	---	5.5	3.5	5.0	6.0	2.5	4.0	2.0	0.5	1.0
31	---	---	---	---	---	---	7.5	6.0	7.0	2.5	0.5	1.5
MONTH	---	---	---	14.5	2.5	7.5	8.0	0.0	3.0	7.0	0.0	1.5

**SURFACE-WATER RECORDS
Great Miami River Basin**

03271510 GREAT MIAMI RIVER NEAR LINDEN AVENUE AT MIAMISBURG, OHIO

WATER-QUALITY RECORDS

LOCATION.—Latitude 39°38'14", longitude 84°17'33", Montgomery County, Hydrologic Unit 05080002, on left bank at Miamisburg, 1 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 mi².

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 TEMPERATURE: June 1978 to current year.

DISSOLVED OXYGEN: June 1978 to current year.

INSTRUMENTATION.—Water-quality monitor. Electronic data logger. Set for 1-hour interval. Satellite telemeter at station.

REMARKS.—Interruptions in the water-quality record are 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). Water-quality records are good except for dissolved oxygen, which are poor.

EXTREMES FOR PERIOD OF DAILY RECORD.—

SPECIFIC CONDUCTANCE: Maximum, 2,080 microsiemens, Jan. 13, 1999; minimum, 206 microsiemens, Feb. 18, 1982.

pH: Maximum, 9.8 units, Oct. 12, 1992; minimum, 7 units, July 30, Aug. 30, 1979.

WATER TEMPERATURE: Maximum, 33°C, July 20, 22, 1978; minimum, 0.0°C, on many days during winters.

DISSOLVED OXYGEN: Maximum, >20 mg/L, on several days in water years 1978-1994, 2000, and 2001; minimum, 0.4 mg/L, Aug. 27, 1981 and Aug. 2, 1982.

EXTREMES FOR CURRENT YEAR.—

SPECIFIC CONDUCTANCE: Maximum, 1,270 microsiemens, Feb. 22; minimum, 285 microsiemens, July 9.

pH: Maximum, 8.9 units, Oct. 23, 24, and Dec. 8-10; minimum, 7.3 units, Mar. 16.

WATER TEMPERATURE: Maximum, 28.5°C, July 4; minimum, 0.5°C, Jan. 24 and 27.

DISSOLVED OXYGEN: Maximum, 18.2 mg/L, Feb. 20; minimum, 5.3 mg/L, Oct. 21.

**SPECIFIC CONDUCTANCE, WATER, UNFILTERED, MICROSIEMENS PER CENTIMETER AT 25 DEGREES CELSIUS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003**

DAY	MAX	OCTOBER			MAX	NOVEMBER			MAX	DECEMBER			MAX	JANUARY		
		MIN	MEAN	MEAN		MIN	MEAN	MEAN		MIN	MEAN	MEAN		MIN	MEAN	MEAN
1	741	695	728	728	828	789	814	887	859	870	870	543	487	504		
2	774	731	758	758	866	828	851	890	870	882	882	554	493	518		
3	796	693	754	754	884	845	859	912	881	891	891	633	554	606		
4	819	680	780	780	884	860	867	905	890	898	898	656	633	643		
5	805	733	766	766	882	774	845	991	897	931	931	905	656	756		
6	805	729	775	775	848	792	826	977	904	923	923	917	815	846		
7	842	798	816	816	867	786	828	978	914	939	939	852	824	838		
8	874	832	854	854	867	846	856	915	902	907	907	847	826	837		
9	887	869	877	877	879	850	864	914	865	894	894	831	794	817		
10	890	874	885	885	878	365	718	916	865	896	896	794	762	771		
11	907	871	887	887	582	414	452	1170	916	1030	1030	762	744	750		
12	906	847	881	881	622	464	549	1220	1010	1140	1140	758	744	750		
13	897	866	875	875	699	621	664	1160	956	1060	1060	791	758	770		
14	900	875	886	886	731	697	710	1080	957	1040	1040	825	790	801		
15	893	877	884	884	759	727	746	982	962	972	972	855	811	843		
16	904	874	891	891	781	751	770	971	957	965	965	937	855	880		
17	917	880	902	902	805	767	792	971	927	953	953	967	912	927		
18	917	882	902	902	815	798	807	934	884	911	911	931	918	924		
19	915	863	890	890	837	802	818	885	484	763	763	929	908	917		
20	914	857	878	878	841	816	831	619	534	564	564	919	898	909		
21	886	851	862	862	849	827	839	647	562	624	624	915	898	907		
22	907	881	892	892	841	804	822	669	647	656	656	919	901	913		
23	926	890	905	905	822	800	812	711	669	691	691	931	910	923		
24	929	888	910	910	833	807	817	790	711	726	726	942	921	931		
25	929	351	795	795	831	818	823	991	790	906	906	933	911	924		
26	685	518	589	589	839	818	832	1110	909	1010	1010	986	909	935		
27	699	636	667	667	862	837	851	912	902	906	906	964	919	937		
28	776	658	724	724	872	852	865	904	884	897	897	---	---	---		
29	784	572	740	740	874	848	859	888	876	883	883	982	942	962		
30	741	693	716	716	870	847	859	901	767	839	839	996	951	976		
31	793	722	768	768	---	---	---	767	543	655	655	970	946	957		
MONTH	929	351	821	821	884	365	795	1220	484	878	878	996	487	832		

SURFACE-WATER RECORDS
Great Miami River Basin

03271510 GREAT MIAMI RIVER NEAR LINDEN AVENUE AT MIAMISBURG, OHIO—CONTINUED

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER		MAX	NOVEMBER		MAX	DECEMBER		MAX	JANUARY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	8.7	8.3	8.5	8.6	8.3	8.5	8.7	8.4	8.6	8.2	8.2	8.2
2	8.7	8.4	8.5	8.6	8.4	8.5	8.8	8.5	8.6	8.3	8.2	8.2
3	8.6	8.3	8.5	8.6	8.5	8.6	8.8	8.5	8.6	8.3	8.3	8.3
4	8.5	8.3	8.4	8.6	8.4	8.5	8.7	8.5	8.6	8.4	8.3	8.4
5	8.5	8.3	8.4	8.5	8.4	8.5	8.8	8.5	8.6	8.4	8.4	8.4
6	8.5	8.2	8.3	8.5	8.4	8.4	8.8	8.5	8.6	8.4	8.4	8.4
7	8.5	8.3	8.4	8.6	8.3	8.4	8.8	8.5	8.7	8.5	8.4	8.4
8	8.5	8.3	8.4	8.7	8.4	8.5	8.9	8.5	8.7	8.5	8.4	8.5
9	8.5	8.3	8.4	8.6	8.4	8.5	8.9	8.5	8.7	8.5	8.4	8.5
10	8.5	8.3	8.4	8.6	8.2	8.4	8.9	8.5	8.7	8.5	8.5	8.5
11	8.5	8.3	8.4	8.2	8.0	8.0	8.7	8.5	8.6	---	---	---
12	8.5	8.3	8.4	8.2	8.0	8.1	8.6	8.5	8.5	---	---	---
13	8.6	8.3	8.4	8.3	8.2	8.3	8.6	8.4	8.5	---	---	---
14	8.6	8.4	8.5	8.3	8.2	8.3	8.5	8.3	8.4	8.4	8.2	8.3
15	8.7	8.4	8.5	8.3	8.2	8.3	8.6	8.3	8.4	8.5	8.3	8.4
16	8.7	8.4	8.5	8.3	8.2	8.3	8.8	8.3	8.5	8.4	8.3	8.4
17	8.7	8.4	8.5	8.4	8.3	8.3	8.7	8.5	8.6	8.5	8.4	8.4
18	8.7	8.3	8.5	8.4	8.3	8.3	8.7	8.4	8.5	8.5	8.2	8.3
19	8.7	8.4	8.5	8.4	8.3	8.3	8.6	8.4	8.5	8.4	7.8	8.3
20	8.7	8.5	8.6	8.5	8.3	8.4	8.4	8.2	8.3	8.4	7.6	8.3
21	8.7	8.3	8.5	8.4	8.3	8.3	8.3	8.2	8.3	8.5	8.3	8.4
22	8.8	8.5	8.6	8.4	8.3	8.3	8.3	8.3	8.3	8.4	8.3	8.4
23	8.9	8.4	8.6	8.5	8.3	8.4	8.4	8.3	8.4	8.4	8.1	8.3
24	8.9	8.5	8.7	8.6	8.3	8.4	8.4	8.4	8.4	8.3	8.2	8.3
25	8.7	8.5	8.6	8.5	8.3	8.4	8.5	8.4	8.4	8.3	8.2	8.3
26	8.6	8.3	8.4	8.5	8.4	8.4	8.5	8.4	8.5	8.3	8.2	8.2
27	8.3	8.2	8.2	8.6	8.4	8.5	8.5	8.4	8.4	8.3	8.1	8.3
28	8.5	8.2	8.3	8.6	8.4	8.5	8.6	8.4	8.5	8.2	8.0	8.1
29	8.5	8.3	8.4	8.7	8.4	8.6	8.6	8.4	8.5	8.2	7.8	8.0
30	8.4	8.4	8.4	8.7	8.4	8.5	8.5	8.4	8.5	---	---	---
31	8.5	8.3	8.4	---	---	---	8.4	8.2	8.3	---	---	---
MONTH	8.9	8.2	8.5	8.7	8.0	8.4	8.9	8.2	8.5	8.5	7.6	8.3

DAY	MAX	FEBRUARY		MAX	MARCH		MAX	APRIL		MAX	MAY	
		MIN	MEAN		MIN	MEAN		MIN	MEAN		MIN	MEAN
1	---	---	---	8.2	8.0	8.1	8.2	7.9	8.0	8.2	7.8	8.0
2	---	---	---	8.2	7.8	8.1	8.2	7.9	8.0	8.3	8.0	8.1
3	---	---	---	8.3	7.9	8.2	8.2	8.0	8.1	8.0	7.8	8.0
4	---	---	---	8.4	8.0	8.2	8.3	8.0	8.2	8.0	7.8	7.9
5	---	---	---	8.3	7.8	8.1	8.6	8.0	8.2	8.0	7.5	7.8
6	---	---	---	8.1	7.6	7.9	8.3	7.9	8.2	7.7	7.5	7.6
7	---	---	---	8.0	7.7	7.9	8.3	7.9	8.1	7.7	7.5	7.6
8	---	---	---	8.0	7.6	7.8	8.3	7.9	8.2	7.7	7.6	7.6
9	---	---	---	8.1	7.4	7.8	8.3	8.0	8.2	7.8	7.5	7.7
10	---	---	---	7.8	7.4	7.7	8.3	8.0	8.2	7.6	7.4	7.6
11	---	---	---	8.0	7.6	7.8	8.3	8.0	8.3	7.6	7.4	7.5
12	---	---	---	8.0	7.6	7.9	8.4	8.1	8.3	7.6	7.5	7.6
13	---	---	---	8.0	7.7	7.9	8.4	8.0	8.3	7.9	7.5	7.7
14	---	---	---	7.9	7.4	7.7	8.4	8.0	8.3	8.0	7.8	7.9
15	---	---	---	7.8	7.4	7.6	8.5	8.3	8.3	8.0	7.9	7.9
16	---	---	---	7.8	7.3	7.6	8.5	8.3	8.4	8.0	7.8	7.9
17	---	---	---	7.9	7.5	7.7	8.4	8.0	8.2	8.0	7.8	7.9
18	---	---	---	8.0	7.6	7.8	8.1	7.9	8.0	8.0	7.9	8.0
19	---	---	---	8.0	7.7	7.8	8.1	7.9	8.0	8.0	7.8	8.0
20	---	---	---	8.0	7.8	7.9	8.1	7.8	8.0	8.0	7.9	8.0
21	---	---	---	8.1	7.9	8.0	8.1	7.7	7.9	8.0	8.0	8.0
22	8.3	8.0	8.2	8.1	7.7	7.8	7.8	7.7	7.8	8.1	8.0	8.0
23	8.2	7.8	8.0	8.0	7.6	7.8	7.9	7.7	7.8	8.1	8.0	8.1
24	8.1	7.8	8.0	8.1	7.7	7.9	7.9	7.7	7.8	8.2	8.1	8.1
25	8.1	7.7	8.0	8.1	7.8	8.0	7.8	7.6	7.7	8.2	8.1	8.2
26	8.1	7.9	8.1	8.1	7.9	8.1	7.8	7.6	7.7	8.3	8.1	8.2
27	8.2	8.1	8.2	8.1	7.8	8.0	8.1	7.7	7.9	8.3	8.1	8.2
28	8.2	7.9	8.2	8.1	7.9	8.0	8.2	7.7	7.9	8.3	8.2	8.3
29	---	---	---	8.3	8.0	8.2	8.2	7.8	8.0	8.3	8.2	8.3
30	---	---	---	8.3	7.8	8.2	8.2	7.8	8.0	8.5	8.2	8.3
31	---	---	---	8.3	7.8	8.1	---	---	---	8.4	8.2	8.3
MONTH	8.3	7.7	8.1	8.4	7.3	7.9	8.6	7.6	8.1	8.5	7.4	7.9

SURFACE-WATER RECORDS
Great Miami River Basin

03271510 GREAT MIAMI RIVER NEAR LINDEN AVENUE AT MIAMISBURG, OHIO—CONTINUED

WATER-QUALITY RECORDS—Continued

PH, WATER, UNFILTERED, FIELD, STANDARD UNITS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003—Continued

DAY	OCTOBER 2002			NOVEMBER 2002			DECEMBER 2002			JANUARY 2003		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	8.3	8.2	8.2	8.6	8.3	8.5	8.4	8.1	8.3	8.1	8.0	8.1
2	8.4	8.2	8.3	8.3	8.0	8.2	8.3	8.0	8.2	8.1	7.8	7.9
3	8.3	8.0	8.2	8.5	8.0	8.2	8.3	8.0	8.2	7.8	7.7	7.8
4	8.1	7.9	8.1	8.7	8.3	8.5	8.2	7.9	8.1	7.9	7.8	7.8
5	8.2	7.9	8.1	8.5	8.0	8.3	8.1	7.8	8.0	8.0	7.8	7.9
6	8.2	7.9	8.1	8.1	7.9	8.0	8.0	7.8	7.9	8.0	7.9	8.0
7	8.2	8.0	8.1	8.0	7.6	7.8	8.0	7.9	8.0	8.1	8.0	8.1
8	8.3	8.0	8.2	7.7	7.6	7.7	8.1	7.9	8.0	8.2	8.1	8.2
9	8.2	8.0	8.2	7.8	7.6	7.7	8.1	7.9	8.1	8.3	8.2	8.2
10	8.2	8.0	8.2	7.7	7.7	7.7	8.2	8.1	8.2	8.3	8.2	8.3
11	8.2	7.8	8.1	7.8	7.7	7.7	8.4	8.1	8.3	8.4	8.2	8.3
12	8.0	7.8	7.9	7.8	7.7	7.8	8.4	8.3	8.3	8.5	8.3	8.4
13	8.0	7.8	7.9	7.8	7.7	7.8	8.5	8.3	8.4	8.5	8.3	8.4
14	7.9	7.7	7.8	7.9	7.8	7.9	8.4	8.3	8.4	8.5	8.2	8.4
15	7.8	7.7	7.8	8.1	7.9	8.0	8.4	8.2	8.3	8.5	8.1	8.2
16	8.0	7.7	7.8	8.2	8.0	8.1	8.3	8.1	8.2	8.3	8.0	8.3
17	7.9	7.8	7.9	8.2	8.0	8.1	8.3	8.1	8.2	8.4	8.0	8.2
18	8.0	7.8	7.9	8.3	8.1	8.2	8.4	8.2	8.3	8.3	8.1	8.2
19	8.0	7.9	8.0	8.4	8.2	8.3	8.5	8.3	8.4	8.3	8.1	8.2
20	8.2	8.0	8.1	8.5	8.3	8.4	8.7	8.4	8.5	8.4	8.1	8.3
21	8.2	8.1	8.2	8.5	8.3	8.4	8.7	8.3	8.5	8.4	8.1	8.3
22	8.3	8.1	8.2	8.4	8.1	8.2	8.5	8.2	8.4	8.3	7.9	8.2
23	8.3	8.1	8.2	8.2	7.9	8.1	8.7	8.2	8.4	8.2	7.9	8.1
24	8.5	8.2	8.4	8.1	7.9	8.0	8.7	8.4	8.6	8.2	7.8	8.0
25	8.6	8.4	8.5	8.1	7.9	8.0	8.7	8.4	8.5	8.2	8.0	8.1
26	8.6	8.4	8.4	8.1	7.9	8.1	8.7	8.4	8.5	8.2	8.1	8.2
27	8.5	8.4	8.5	8.3	8.1	8.2	8.5	8.3	8.4	8.1	7.8	8.0
28	8.7	8.4	8.5	8.2	8.1	8.2	8.3	8.1	8.2	7.9	7.8	7.9
29	8.7	8.4	8.5	8.2	8.1	8.2	8.3	8.1	8.2	8.0	7.8	7.9
30	8.6	8.4	8.5	8.3	8.2	8.3	---	---	---	8.0	7.6	7.9
31	---	---	---	8.4	8.2	8.3	8.0	7.9	8.0	---	---	---
MONTH	8.7	7.7	8.2	8.7	7.6	8.1	8.7	7.8	8.3	8.5	7.6	8.1
YEAR	8.9	7.3	8.2									

TEMPERATURE, WATER, DEGREES CELSIUS
 WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN
1	22.5	20.0	21.0	10.5	9.5	10.0	4.5	3.5	4.0	6.0	5.0	5.5
2	23.0	21.0	21.5	10.0	8.5	9.5	4.5	3.0	3.5	5.0	4.0	4.5
3	23.5	21.5	22.5	9.5	8.0	9.0	4.0	2.5	3.5	4.0	3.5	3.5
4	23.0	22.0	22.5	10.0	9.0	9.5	3.5	2.5	3.0	3.5	3.0	3.0
5	22.0	20.5	21.5	9.5	9.5	9.5	3.5	2.0	3.0	3.5	3.0	3.5
6	20.5	19.0	20.0	9.5	9.5	9.5	3.5	2.5	3.0	4.0	3.5	4.0
7	20.0	18.0	19.0	10.5	9.0	9.5	3.0	2.0	2.5	3.5	3.0	3.5
8	18.5	17.0	18.0	11.0	9.0	10.0	3.5	2.0	3.0	4.5	3.5	4.0
9	17.5	16.5	17.0	12.0	10.0	11.0	4.0	2.0	3.0	5.5	4.5	5.0
10	16.5	16.0	16.5	14.0	12.0	13.0	4.0	3.0	3.5	5.0	4.0	4.5
11	18.0	16.0	17.0	14.0	12.5	13.5	4.5	4.0	4.0	4.0	2.0	3.0
12	18.5	17.0	17.5	12.5	11.0	11.5	4.5	4.0	4.5	2.0	1.0	1.5
13	19.0	17.5	18.0	11.0	10.0	10.5	4.5	4.5	4.5	2.0	1.0	1.5
14	17.5	16.0	16.5	10.5	10.0	10.0	5.0	4.5	5.0	2.0	1.5	2.0
15	16.5	15.0	15.5	10.5	10.0	10.0	5.5	4.5	5.0	1.5	1.0	1.0
16	15.5	14.0	14.5	10.0	8.5	9.5	5.5	4.5	5.0	1.5	1.0	1.0
17	14.5	13.0	13.5	8.5	7.5	8.0	5.0	4.5	5.0	1.5	0.5	1.0
18	14.5	12.5	13.5	8.0	7.0	7.5	6.0	4.5	5.5	1.5	0.5	1.0
19	14.5	13.5	14.0	9.0	7.0	8.0	8.5	6.0	7.0	1.0	0.5	1.0
20	14.0	13.0	13.5	9.5	8.0	8.5	8.0	6.0	7.0	2.0	1.0	1.5
21	14.5	12.5	13.5	10.0	8.5	9.5	6.0	5.0	5.5	2.0	1.0	1.5
22	15.0	12.5	14.0	9.0	8.0	8.5	5.5	5.0	5.5	2.0	1.0	1.5
23	14.5	13.0	14.0	8.0	7.0	7.5	5.5	4.5	4.5	1.5	0.5	1.0
24	14.0	12.5	13.0	8.0	6.5	7.0	4.5	4.0	4.5	1.5	0.5	0.5
25	13.0	11.0	12.0	7.5	6.5	7.0	4.0	3.5	4.0	2.0	0.5	1.0
26	12.0	11.5	11.5	6.5	6.0	6.5	3.5	3.0	3.5	1.5	0.5	1.0
27	12.5	11.5	12.0	6.5	5.5	6.0	3.5	3.0	3.0	1.0	0.5	0.5
28	13.0	12.0	12.5	5.5	4.5	5.5	4.0	3.0	3.5	---	---	---
29	12.5	10.0	11.0	5.5	4.0	5.0	4.5	3.5	4.0	2.5	2.0	2.5
30	10.0	9.5	10.0	5.5	4.5	5.0	6.0	4.0	5.0	3.5	2.0	2.5
31	10.5	9.5	10.0	---	---	---	6.5	6.0	6.0	4.0	2.5	3.0
MONTH	23.5	9.5	16.0	14.0	4.0	9.0	8.5	2.0	4.5	6.0	0.5	2.5

SURFACE-WATER RECORDS
Great Miami River Basin

03271510 GREAT MIAMI RIVER NEAR LINDEN AVENUE AT MIAMISBURG, OHIO—CONTINUED

WATER-QUALITY RECORDS—Continued

DISSOLVED OXYGEN, WATER, UNFILTERED, MILLIGRAMS PER LITER
WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	MAX	OCTOBER			NOVEMBER			DECEMBER			JANUARY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	13.2	9.7	11.3	14.5	11.3	12.7	---	---	---	12.2	11.9	12.0	
2	13.1	8.4	10.2	---	---	---	---	---	---	13.0	12.2	12.6	
3	12.0	8.0	9.7	---	---	---	---	---	---	13.8	12.9	13.5	
4	10.7	7.6	8.7	---	---	---	14.9	11.8	13.0	14.1	13.7	13.9	
5	11.0	7.8	8.9	---	---	---	15.9	12.0	13.6	15.5	13.4	14.5	
6	11.5	8.0	9.4	---	---	---	16.1	11.9	13.7	15.7	14.8	15.1	
7	11.9	8.2	9.8	---	---	---	16.0	12.2	13.7	15.3	14.7	15.0	
8	11.8	8.5	10	---	---	---	17.2	12.2	14.3	15.0	14.3	14.7	
9	11.5	8.9	10.1	---	---	---	17.5	12.3	14.3	14.5	13.6	14.0	
10	11.4	9.1	10.1	---	---	---	17.6	11.9	14.2	13.6	12.8	13.2	
11	11.9	9.1	10.3	---	---	---	14.9	11.6	13.1	13.7	12.9	13.3	
12	12.0	8.7	10.2	---	---	---	13.4	11.7	12.4	14.4	13.6	14.0	
13	12.2	8.4	10.0	---	---	---	13.4	11.5	12.2	14.6	13.9	14.1	
14	12.3	8.4	10.1	---	---	---	12.5	11.6	11.9	14.5	13.9	14.1	
15	11.3	8.4	9.8	---	---	---	14.2	11.6	12.5	14.9	14.0	14.3	
16	10.3	8.2	9.1	11.2	10.7	11.0	15.8	11.8	13.2	14.9	14.1	14.4	
17	9.9	8.0	8.9	12.3	11.1	11.7	13.3	11.9	12.5	15.1	14.0	14.4	
18	8.9	7.0	8.1	13.1	11.7	12.3	14.4	12.0	12.8	15.0	14.1	14.4	
19	7.8	6.7	7.1	13.2	12.0	12.5	12.1	10.7	11.5	15.2	14.1	14.4	
20	7.3	6.0	6.5	13.0	11.4	12.1	11.5	10.7	11.0	15.1	13.9	14.3	
21	6.7	5.3	6.0	12.2	10.8	11.5	12.5	11.5	12.2	15.2	13.8	14.3	
22	---	---	---	12.1	10.7	11.3	12.7	12.4	12.6	15.5	13.8	14.3	
23	---	---	---	12.8	11.0	11.8	13.0	12.6	12.8	16.6	13.9	15.1	
24	---	---	---	13.6	11.5	12.2	13.2	12.6	12.9	17.1	14.8	15.7	
25	---	---	---	12.4	11.2	11.7	14.3	12.9	13.6	16.7	15.0	15.6	
26	---	---	---	12.3	11.1	11.6	15.2	14.0	14.7	16.7	14.8	15.4	
27	---	---	---	13.3	10.9	11.8	15.4	14.2	14.7	17.1	14.8	15.6	
28	---	---	---	12.1	10.2	11.1	15.3	14.1	14.6	---	---	---	
29	---	---	---	11.4	10.2	10.5	15.5	14.1	14.6	16.5	14.3	15.2	
30	11.4	10.1	10.7	---	---	---	14.4	13.1	13.8	16.9	14.1	15.2	
31	13.0	10.8	11.8	---	---	---	14.6	12.0	12.6	16.6	14.1	15.0	
MONTH	13.2	5.3	9.4	14.5	10.2	11.7	17.6	10.7	13.2	17.1	11.9	14.4	
DAY	MAX	FEBRUARY			MARCH			APRIL			MAY		
		MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	MAX	MIN	MEAN	
1	15.7	13.7	14.3	13.6	12.3	12.8	7.6	7.0	7.3	---	---	---	
2	17.1	13.3	14.7	13.2	12.0	12.4	7.6	6.7	7.1	12.5	7.2	9.2	
3	14.3	12.6	13.6	14.8	12.2	13.2	7.8	6.5	7.0	9.3	7.0	8.1	
4	13.2	12.4	12.7	14.8	12.5	13.3	7.6	6.2	6.8	12.1	8.1	9.7	
5	15.1	13.1	14.2	12.6	11.5	11.8	---	---	---	9.2	8.1	8.6	
6	15.0	14.3	14.7	12.1	11.5	11.9	---	---	---	8.2	7.8	8.0	
7	15.3	14.2	14.6	12.0	11.9	12.0	---	---	---	8.1	7.8	7.9	
8	15.8	14.3	14.8	11.9	11.3	11.7	---	---	---	8.4	7.9	8.2	
9	16.0	14.3	14.9	11.4	11.0	11.2	---	---	---	8.5	7.6	8.1	
10	15.4	13.9	14.5	11.6	11.3	11.4	---	---	---	8.0	7.5	7.8	
11	16.4	13.8	14.7	11.5	11.2	11.4	---	---	---	8.5	7.4	8.1	
12	17.0	14.0	15.1	11.2	10.5	10.9	---	---	---	9.2	8.5	8.9	
13	17.7	14.2	15.6	10.5	10.1	10.3	---	---	---	9.7	9.2	9.4	
14	16.8	14.0	15.1	10.5	10.2	10.4	---	---	---	9.5	9.3	9.4	
15	17.6	13.5	15.0	10.3	9.9	10.2	12.9	9.4	10.9	9.4	9.2	9.3	
16	17.2	13.8	15.1	9.9	9.1	9.5	15.3	8.9	11.5	9.5	9.1	9.3	
17	17.3	13.8	15.2	9.9	9.1	9.4	14.0	9.3	11.5	9.4	9.1	9.3	
18	17.3	13.4	14.8	9.5	9.1	9.3	15.2	10.2	12.1	9.6	9.2	9.4	
19	17.7	13.7	15.1	9.1	8.8	8.9	16.2	10.4	12.9	9.6	9.0	9.3	
20	18.2	13.3	15.2	8.8	8.6	8.7	14.5	9.8	11.7	9.2	8.7	8.9	
21	16.7	13.2	14.9	8.6	8.4	8.5	11.4	8.7	9.9	9.6	8.8	9.2	
22	13.6	12.5	12.9	8.7	8.5	8.6	12.6	9.2	10.7	9.8	9.1	9.4	
23	13.4	12.7	13.1	8.6	8.5	8.6	15.1	10.3	12.3	9.9	9.2	9.5	
24	13.7	13.3	13.5	8.5	8.2	8.4	14.7	10.5	12.4	10.8	9.4	10.0	
25	14.0	13.5	13.7	8.3	7.9	8.0	12.6	10.3	11.3	11.3	9.6	10.4	
26	14.2	13.6	13.8	8.1	7.6	7.8	14.7	9.9	11.8	12.3	9.7	10.8	
27	14.2	13.3	13.7	7.8	7.5	7.7	11.0	7.8	9.7	12.5	9.5	10.8	
28	14.3	12.9	13.4	7.6	7.3	7.5	---	---	---	12.8	9.4	10.8	
29	---	---	---	7.4	7.1	7.3	---	---	---	12.6	9.2	10.8	
30	---	---	---	7.5	7.2	7.3	---	---	---	13.8	9.3	11.3	
31	---	---	---	7.6	7.2	7.4	---	---	---	10.9	9.3	10	
MONTH	18.2	12.4	14.4	14.8	7.1	9.9	16.2	6.2	10.4	13.8	7.0	9.3	

SURFACE-WATER RECORDS
Great Miami River Basin

03271601 GREAT MIAMI RIVER BELOW MIAMISBURG, OHIO

LOCATION.—Latitude 39°36'24", longitude 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, Ohio corporate boundary, and at mile 63.4.

DRAINAGE AREA.—2,715 mi².

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, Stillwater River 26 mi upstream, Great Miami River 26 mi upstream, and Loramie Creek 55 mi upstream.

COOPERATION.—Gage-height record and nine discharge measurements furnished by Miami Conservancy District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1180	864	998	15800	1090	2730	3940	1290	1920	1440	1220	7240
2	1010	781	927	13400	1100	2660	3330	1420	1860	1410	3590	22400
3	898	720	894	8420	1190	2780	2810	1600	2420	1040	4330	29600
4	937	692	880	5650	2030	2760	2520	1770	2980	915	9500	22800
5	1040	781	847	4430	3270	5730	4110	5290	3300	2710	10400	15100
6	779	970	856	3730	2850	12100	6690	7110	2700	5900	9390	11100
7	707	874	881	3020	2220	8440	5790	6910	2260	13500	5990	6680
8	662	817	819	2770	1700	6450	6510	6530	2340	20400	4800	4100
9	649	791	780	3210	1580	13500	6110	7040	2730	27700	3610	3290
10	645	2280	666	4480	1560	13800	4930	12500	2470	33800	2620	2780
11	597	8470	811	3850	1440	9430	4040	14100	3630	32800	2220	2450
12	618	4770	868	2740	1320	7280	3370	12800	3580	29400	1990	2140
13	621	3070	899	2120	1150	9210	2850	8740	4830	23900	1920	1960
14	613	2190	1370	2150	1170	15200	2500	6080	9530	14300	2080	1870
15	592	1700	1310	1810	1220	13600	2240	5900	9200	7690	2160	1800
16	586	1580	1130	1530	1110	11200	2120	5540	8920	5830	1740	1780
17	561	1380	1090	1580	1030	9370	1960	4830	6100	4240	1510	1710
18	547	1280	1250	1430	1110	7670	1970	4370	4360	3200	1400	1600
19	648	1180	3210	1410	1170	6250	1950	3670	4190	2460	1240	1550
20	634	1130	9470	1430	1210	5810	1900	3660	3530	2150	1090	1500
21	597	1100	7770	1390	1190	8000	2610	5390	2770	1970	1020	1440
22	572	1270	4730	1240	2840	11800	2100	4660	2320	4470	990	2010
23	568	1320	3170	1190	7310	9160	1890	3580	2000	8190	1030	2350
24	558	1260	2350	1110	7410	5760	1720	2900	1750	8420	1020	2010
25	1190	1260	2130	1100	5220	4550	1610	2490	1590	9010	966	1900
26	2110	1270	1840	1130	3860	5080	1660	2340	1530	8220	860	1750
27	1200	1270	1640	1070	3190	5640	1550	2180	1740	5370	1190	6530
28	993	1190	1510	1020	2950	4600	1500	2170	1500	3430	1750	9570
29	1310	1110	1470	1070	---	5460	1380	2140	1370	1980	1260	6270
30	1340	1070	3260	1080	---	5920	1330	1890	1290	1260	5950	4250
31	996	---	9820	1040	---	4820	---	2130	---	1080	7630	---
TOTAL	25958	48440	69646	97400	64490	236760	88990	153020	100710	288185	96466	181530
MEAN	837	1615	2247	3142	2303	7637	2966	4936	3357	9296	3112	6051
MAX	2110	8470	9820	15800	7410	15200	6690	14100	9530	33800	10400	29600
MIN	547	692	666	1020	1030	2660	1330	1290	1290	915	860	1440
CFSM	0.31	0.59	0.83	1.16	0.85	2.81	1.09	1.82	1.24	3.42	1.15	2.23
IN.	0.36	0.66	0.95	1.33	0.88	3.24	1.22	2.10	1.38	3.95	1.32	2.49

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1992 - 2003, BY WATER YEAR (WY)

MEAN	1222	1984	2477	3340	3024	4033	4721	4167	3424	3197	1590	1324
MAX	5359	6603	7690	7884	4820	7637	9141	11920	6770	9296	5404	6051
(WY)	2002	1994	1997	1996	1997	2003	2002	1996	1997	2003	1995	2003
MIN	402	403	553	867	842	1143	2124	1239	978	832	464	298
(WY)	2000	2000	2000	1992	1992	1992	1997	1992	1999	1999	1999	1999

SUMMARY STATISTICS

	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1992 - 2003	
ANNUAL TOTAL	1116334		1451595			
ANNUAL MEAN	3058		3977		2874	
HIGHEST ANNUAL MEAN					4283	
LOWEST ANNUAL MEAN					1742	
HIGHEST DAILY MEAN	24100	Apr 15	33800	Jul 10	33800	Jul 10 2003
LOWEST DAILY MEAN	286	Sep 13	547	Oct 18	250	Sep 27 1999
ANNUAL SEVEN-DAY MINIMUM	368	Sep 8	589	Oct 18	265	Sep 23 1999
MAXIMUM PEAK FLOW			36800	Jul 10	36800	Jul 10 2003
MAXIMUM PEAK STAGE			17.82	Jul 10	17.82	Jul 10 2003
INSTANTANEOUS LOW FLOW			468	Oct 18	122	Aug 25 2000
ANNUAL RUNOFF (CFSM)	1.13		1.46		1.06	
ANNUAL RUNOFF (INCHES)	15.30		19.89		14.38	
10 PERCENT EXCEEDS	8030		9180		6710	
50 PERCENT EXCEEDS	1640		2130		1490	
90 PERCENT EXCEEDS	563		881		522	

**SURFACE-WATER RECORDS
Great Miami River Basin**

03272000 TWIN CREEK NEAR GERMANTOWN, OHIO

LOCATION.—Latitude 39°38'10", longitude 84°23'48", in NW ¼ 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, Ohio, and 3 mi upstream from Little Twin Creek.

DRAINAGE AREA.—275 mi².

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, National Geodetic Vertical Datum of 1912. Prior to Dec. 18, 1926, nonrecording gage at site 1 mi downstream at datum 12.49 ft higher.

REMARKS.—Records good except for periods of estimated record, which are poor. Flood flow regulated by Germantown retarding basin, 0.3 mi upstream, beginning in 1920.

COOPERATION.—Gage-height record and eight discharge measurements furnished by Miami Conservancy District.

EXTREMES FOR PERIOD OF RECORD.—Maximum discharge, 9,390 ft³/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 ft³/s, computed by Miami Conservancy District.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	30	74	72	2960	e42	e190	308	87	150	94	107	331
2	24	57	65	1650	e41	e230	259	87	123	89	1480	3260
3	25	48	60	776	e50	e280	222	88	178	83	862	1370
4	38	44	53	495	e180	e270	201	91	292	77	582	546
5	52	43	e50	397	e160	1510	262	749	212	833	313	306
6	29	59	e47	344	e130	1600	286	613	159	975	215	198
7	23	55	e45	301	e110	809	327	451	141	3390	163	148
8	18	48	e44	326	e100	1240	498	458	144	3930	159	124
9	17	45	e42	616	e90	3150	353	883	150	4090	146	107
10	16	417	e41	457	e82	1240	281	1780	129	3700	144	94
11	16	2770	e50	294	e76	707	241	4100	510	1490	148	84
12	15	576	63	e170	e68	689	208	1190	746	747	118	74
13	15	284	74	e140	e62	1620	176	595	699	471	100	68
14	14	190	160	e120	e56	1640	154	387	1180	327	90	63
15	13	148	166	e110	e52	927	146	415	2920	298	81	63
16	12	137	202	e100	e49	759	142	462	3390	415	73	61
17	13	127	169	e90	e45	599	138	320	1460	224	67	56
18	14	111	307	e84	e42	462	133	427	750	181	61	50
19	15	101	1460	e78	e39	389	125	314	471	161	57	46
20	15	91	3130	e72	e38	758	122	374	338	140	53	45
21	15	87	921	e68	e36	1860	158	516	260	145	50	43
22	14	105	460	e64	e35	1330	133	309	214	1840	46	51
23	14	124	297	e60	1650	682	118	239	180	661	45	82
24	13	117	229	e58	818	467	108	199	155	397	42	95
25	64	109	216	e56	e350	362	107	172	140	242	40	72
26	259	98	167	e54	e300	502	113	159	131	181	39	62
27	99	90	140	e50	e250	450	102	144	141	148	37	1010
28	63	82	134	e48	e210	342	93	135	127	161	48	662
29	142	80	133	e47	---	615	90	147	110	178	42	303
30	208	80	1050	e45	---	552	89	138	99	136	100	193
31	107	---	2240	e43	---	385	---	145	---	116	242	---
TOTAL	1412	6397	12287	10173	5161	26616	5693	16174	15699	25920	5750	9667
MEAN	45.5	213	396	328	184	859	190	522	523	836	185	322
MAX	259	2770	3130	2960	1650	3150	498	4100	3390	4090	1480	3260
MIN	12	43	41	43	35	190	89	87	99	77	37	43
CFSM	0.17	0.78	1.44	1.19	0.67	3.12	0.69	1.90	1.90	3.04	0.67	1.17
IN.	0.19	0.87	1.66	1.38	0.70	3.60	0.77	2.19	2.12	3.51	0.78	1.31
STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1921 - 2003, BY WATER YEAR (WY)												
MEAN	63.1	156	300	438	445	523	485	349	242	138	71.9	47.8
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												
ANNUAL TOTAL				FOR 2002 CALENDAR YEAR			FOR 2003 WATER YEAR			WATER YEARS 1921 - 2003		
ANNUAL MEAN				132542.2			140949					
HIGHEST ANNUAL MEAN				363			386			269		
LOWEST ANNUAL MEAN										493		
HIGHEST DAILY MEAN				6000 May 14			4100 May 11			43.3		
LOWEST DAILY MEAN				7.6 Sep 13			12 Oct 16			2.0 Sep 25 1941		
ANNUAL SEVEN-DAY MINIMUM				8.3 Sep 8			14 Oct 12			2.7 Sep 19 1941		
MAXIMUM PEAK FLOW							5570 Jul 7			8790 Jan 27 1952		
MAXIMUM PEAK STAGE							26.05 Jul 7			29.19 Jan 22 1959		
INSTANTANEOUS LOW FLOW										1.5 Sep 25 1941		
ANNUAL RUNOFF (CFSM)				1.32			1.40			0.98		
ANNUAL RUNOFF (INCHES)				17.93			19.07			13.29		
10 PERCENT EXCEEDS				804			923			600		
50 PERCENT EXCEEDS				128			142			83		
90 PERCENT EXCEEDS				14			42			12		

e Estimated.

SURFACE-WATER RECORDS
Great Miami River Basin

03272100 GREAT MIAMI RIVER AT MIDDLETOWN, OHIO

LOCATION.—Latitude 39°31'12", longitude 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, and on northwest side of city of Middletown, Ohio.

DRAINAGE AREA.—3,134 mi².

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 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 formerly collected at this site.

COOPERATION.—Gage-height record and eight discharge measurements furnished by Miami Conservancy District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1330	1120	1180	21400	1280	3250	5080	1910	2610	1840	2080	7310
2	1140	983	1110	17500	1300	3330	4330	1970	2460	2230	5490	25400
3	1020	901	1070	10800	1400	3480	3650	2240	2900	1760	6220	30400
4	998	863	1050	7110	2280	3380	3300	2430	3620	1670	10600	23700
5	1280	895	1040	5670	3710	7650	4400	7220	4070	3710	11200	15900
6	931	1320	1050	4970	3340	14900	7660	8690	3390	7000	10800	11100
7	829	1100	1030	4050	2600	10700	6950	8400	2900	16300	6940	6840
8	768	1000	978	3590	2030	8600	7590	8120	2860	26000	5760	3600
9	745	947	960	4270	1840	17700	7240	8020	3520	32400	4500	2710
10	745	2540	857	5520	1820	17100	5960	14100	3090	38000	3190	2180
11	715	13300	972	4910	1700	11400	5060	21000	4750	35100	2680	1830
12	699	6490	1180	3450	1540	8600	4260	15700	4410	30600	2410	1540
13	713	4000	1130	2670	1350	11000	3630	10500	6540	25000	2210	1360
14	693	2770	1990	2610	1340	18100	3230	7320	11500	16000	2380	1290
15	677	2140	1800	2280	1360	16000	2950	7010	13100	8670	2540	1240
16	666	1930	1660	1930	1280	13100	2830	6920	14300	6970	2200	1190
17	643	1710	1530	1900	1200	10900	2670	5930	9810	5110	1870	1120
18	618	1560	1950	1780	1250	8950	2570	5760	6270	4010	1780	1030
19	689	1440	5210	1720	1320	7290	2610	4780	5410	3270	1620	988
20	732	1370	14800	1760	1370	7080	2480	4370	4630	2820	1450	946
21	678	1320	10100	1710	1350	9760	3370	6650	3660	2770	1370	919
22	654	1520	6180	1520	3140	14300	2850	5750	3100	6800	1320	1360
23	636	1600	4260	1460	10000	11000	2580	4540	2720	10000	1300	1850
24	630	1540	3050	1360	9280	7100	2410	3670	2490	8140	1300	1500
25	1120	1520	2720	1350	6600	5590	2290	3210	2310	5360	1260	1400
26	3210	1500	2380	1370	4970	6140	2340	2990	2170	3590	1180	1270
27	1540	1500	2070	1290	4000	6730	2220	2860	2420	2760	1340	5880
28	1210	1410	1900	1220	3500	5700	2170	2800	2140	3010	1710	10400
29	1500	1300	1850	1290	---	6800	2050	2800	1960	2640	1350	6580
30	2020	1280	4490	1310	---	7250	1970	2560	1890	2300	5080	4000
31	1320	---	12400	1260	---	6020	---	2730	---	2010	8810	---
TOTAL	31149	62869	93947	125030	78150	288900	112700	192950	137000	317840	113940	176833
MEAN	1005	2096	3031	4033	2791	9319	3757	6224	4567	10250	3675	5894
MAX	3210	13300	14800	21400	10000	18100	7660	21000	14300	38000	11200	30400
MIN	618	863	857	1220	1200	3250	1970	1910	1890	1670	1180	919
CFSM	0.32	0.67	0.97	1.29	0.89	2.97	1.20	1.99	1.46	3.27	1.17	1.88
IN.	0.37	0.75	1.12	1.48	0.93	3.43	1.34	2.29	1.63	3.77	1.35	2.10

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1994 - 2003, BY WATER YEAR (WY)

MEAN	1540	1431	3069	3763	3707	5011	5568	6022	4588	2892	1760	1458
MAX	6589	2890	8508	8581	5289	9319	11390	13960	7424	10250	5726	5894
(WY)	2002	2002	1997	1996	1999	2003	2002	1996	1997	2003	1995	2003
MIN	352	369	560	1220	1370	1739	2306	1637	1168	918	456	282
(WY)	2000	2000	2000	2000	1995	2001	1997	1999	1999	1999	1999	1999

SUMMARY STATISTICS	FOR 2002 CALENDAR YEAR		FOR 2003 WATER YEAR		WATER YEARS 1994 - 2003	
	VALUE	DATE	VALUE	DATE	VALUE	DATE
ANNUAL TOTAL	1412082		1731308			
ANNUAL MEAN	3869		4743		3419	
HIGHEST ANNUAL MEAN					4869	2002
LOWEST ANNUAL MEAN					1958	2000
HIGHEST DAILY MEAN	31900	May 14	38000	Jul 10	38000	Jul 10 2003
LOWEST DAILY MEAN	303	Sep 14	618	Oct 18	220	Sep 16 1999
ANNUAL SEVEN-DAY MINIMUM	338	Sep 8	662	Oct 18	236	Sep 15 1999
MAXIMUM PEAK FLOW			40200	Jul 10	40200	Jul 10 2003
MAXIMUM PEAK STAGE			12.47	Jul 10	12.72	Apr 30 1996
INSTANTANEOUS LOW FLOW			553	Oct 18	110	Oct 8 1999
ANNUAL RUNOFF (CFSM)	1.23		1.51		1.09	
ANNUAL RUNOFF (INCHES)	16.76		20.55		14.82	
10 PERCENT EXCEEDS	10100		10800		8340	
50 PERCENT EXCEEDS	1990		2640		1770	
90 PERCENT EXCEEDS	640		1040		550	

**SURFACE-WATER RECORDS
Great Miami River Basin**

225

03272700 SEVENMILE CREEK AT CAMDEN, OHIO

LOCATION.—Latitude 39°37'45", longitude 84°38'40", Preble County, Hydrologic Unit 05080002, on downstream right bank of bridge on State Highway 725 in Camden, Ohio, 0.3 mi downstream from Beasley Run, and at mile 16.2.

DRAINAGE AREA.—69.0mi².

PERIOD OF RECORD.—December 1970 to September 2000, October 2000 to September 2002 (recording crest-stage gage), October 2002 to September 2003.

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, datum 3.02 ft higher.

REMARKS.—Records fair except for periods of estimated record, which are poor. Water-quality data formerly collected at this site.

COOPERATION.—Gage-height record and eight discharge measurements furnished by Miami Conservancy District.

**DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	6.2	12	38	866	e27	60	84	40	52	24	23	181
2	5.9	10	38	393	e27	72	74	40	48	25	206	441
3	6.6	10	37	185	e26	73	70	39	78	22	106	123
4	7.1	9.7	36	120	e70	75	66	38	70	21	76	68
5	9.7	10	37	100	e50	475	83	351	54	344	53	44
6	6.5	13	36	86	e45	357	68	134	46	143	38	33
7	5.9	11	36	79	e40	200	105	260	44	1560	31	27
8	5.7	10	36	87	e35	525	108	191	44	446	39	24
9	5.7	10	35	128	e33	779	86	243	48	1270	26	22
10	5.7	555	35	91	e31	282	76	721	40	680	24	21
11	5.7	564	38	69	e30	171	70	775	181	286	21	19
12	5.6	135	39	e54	e29	193	65	274	226	158	19	18
13	5.7	80	43	e48	e28	467	59	145	209	86	18	17
14	5.5	63	60	e45	e27	329	56	100	422	62	17	17
15	5.6	56	61	e43	e27	212	54	169	2720	72	15	20
16	5.7	54	73	e41	e26	173	53	136	1420	85	15	17
17	5.6	50	63	e39	e25	136	52	118	683	56	15	16
18	5.7	46	106	e38	e24	109	49	138	299	62	13	15
19	6.1	45	705	e36	e24	163	47	98	149	55	13	15
20	7.5	43	730	e35	e24	231	50	149	94	39	12	15
21	6.1	43	218	e34	e24	593	61	150	71	72	12	14
22	5.9	49	121	e34	225	300	50	96	57	434	11	29
23	5.8	48	84	e33	375	162	46	79	48	136	11	26
24	5.6	47	73	e32	162	115	44	69	42	104	10	19
25	37	46	71	e32	92	96	46	63	37	65	10	16
26	34	44	57	e31	78	138	46	60	36	47	9.7	16
27	13	42	53	e30	69	108	42	56	44	40	14	341
28	9.6	41	53	e29	63	90	41	54	32	41	19	107
29	40	41	52	e29	---	167	41	60	28	34	15	54
30	30	41	462	e28	---	123	40	53	26	28	55	37
31	15	---	626	e27	---	94	---	60	---	24	23	---
TOTAL	325.7	2228.7	4152	2922	1736	7068	1832	4959	7348	6521	969.7	1812
MEAN	10.5	74.3	134	94.3	62.0	228	61.1	160	245	210	31.3	60.4
MAX	40	564	730	866	375	779	108	775	2720	1560	206	441
MIN	5.5	9.7	35	27	24	60	40	38	26	21	9.7	14
CFSM	0.15	1.08	1.94	1.37	0.90	3.30	0.89	2.32	3.55	3.05	0.45	0.88
IN.	0.18	1.20	2.24	1.58	0.94	3.81	0.99	2.67	3.96	3.52	0.52	0.98

STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1971 - 2003, 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	1999	2000	2001	2002	2003			
MEAN	17.4	54.4	85.2	87.3	110	139	127	111	66.4	39.7	18.4	10.8	126	266	281	265	276	344	323	421	269	210	91.6	60.4	1987	1986	1991	1982	1975	1978	1976	1989	1998	2003	1979	2003
MAX	1987	1986	1991	1982	1975	1978	1996	1989	1998	2003	1979	2003	1997	1986	1991	1982	1975	1978	1992	1976	1989	1998	1975	1991	1987	1986	1991	1982	1975	1978	1992	1976	1989	1998	1975	1991
(WY)	1987	1986	1991	1982	1975	1978	1996	1989	1998	2003	1979	2003	1997	1986	1991	1982	1975	1978	1992	1976	1989	1998	1975	1991	1987	1986	1991	1982	1975	1978	1992	1976	1989	1998	1975	1991
MIN	3.31	3.77	4.58	3.46	19.2	24.9	25.2	11.3	3.84	4.27	2.95	1.68	3.31	3.77	4.58	3.46	19.2	24.9	25.2	11.3	3.84	4.27	2.95	1.68	3.31	3.77	4.58	3.46	19.2	24.9	25.2	11.3	3.84	4.27	2.95	1.68
(WY)	1998	2000	1977	1977	1978	1992	1976	1976	1988	1975	1975	1991	1998	2000	1977	1977	1978	1992	1976	1976	1988	1975	1975	1991	1998	2000	1977	1977	1978	1992	1976	1976	1988	1975	1975	1991

SUMMARY STATISTICS

	FOR 2003 WATER YEAR	WATER YEARS 1971 - 2003
ANNUAL TOTAL	41874.1	
ANNUAL MEAN	115	72.6
HIGHEST ANNUAL MEAN		117 1996
LOWEST ANNUAL MEAN		28.0 1988
HIGHEST DAILY MEAN	2720 Jun 15	5520 May 26 1989
LOWEST DAILY MEAN	5.5 Oct 14	0.81 Sep 9 1991
ANNUAL SEVEN-DAY MINIMUM	5.6 Oct 11	1.1 Sep 6 1991
MAXIMUM PEAK FLOW	8860 Jun 15a	20200 May 26 1989
MAXIMUM PEAK STAGE	14.03 Jun 15	18.67 May 26 1989
INSTANTANEOUS LOW FLOW		1.2 Sep 6 1999
ANNUAL RUNOFF (CFSM)	1.66	1.05
ANNUAL RUNOFF (INCHES)	22.58	14.29
10 PERCENT EXCEEDS	266	160
50 PERCENT EXCEEDS	47	26
90 PERCENT EXCEEDS	11	3.8

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

SURFACE-WATER RECORDS
Great Miami River Basin

03274000 GREAT MIAMI RIVER AT HAMILTON, OHIO

LOCATION.—Latitude 39°23'28", longitude 84°34'20", in NE ¼ 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, Ohio, 3 mi downstream from Four Mile Creek, 4.3 mi upstream from Pleasant Run, and at mile 34.8.

DRAINAGE AREA.—3,630 mi².

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, National Geodetic Vertical Datum of 1912. Prior to Apr. 12, 1927, nonrecording gage at site 0.7 mi upstream at datum 64.65 ft higher.

REMARKS.—Records good. 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-temperature data formerly collected at this site.

COOPERATION.—Gage-height record and nine discharge measurements furnished by Miami Conservancy District.

EXTREMES OUTSIDE PERIOD OF RECORD.—Flood of Mar. 26, 1913, reached a stage of 38.5 ft, site and datum then in use; discharge, 352,000 ft³/s, computed by Miami Conservancy District.

DISCHARGE, CUBIC FEET PER SECOND, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MEAN VALUES

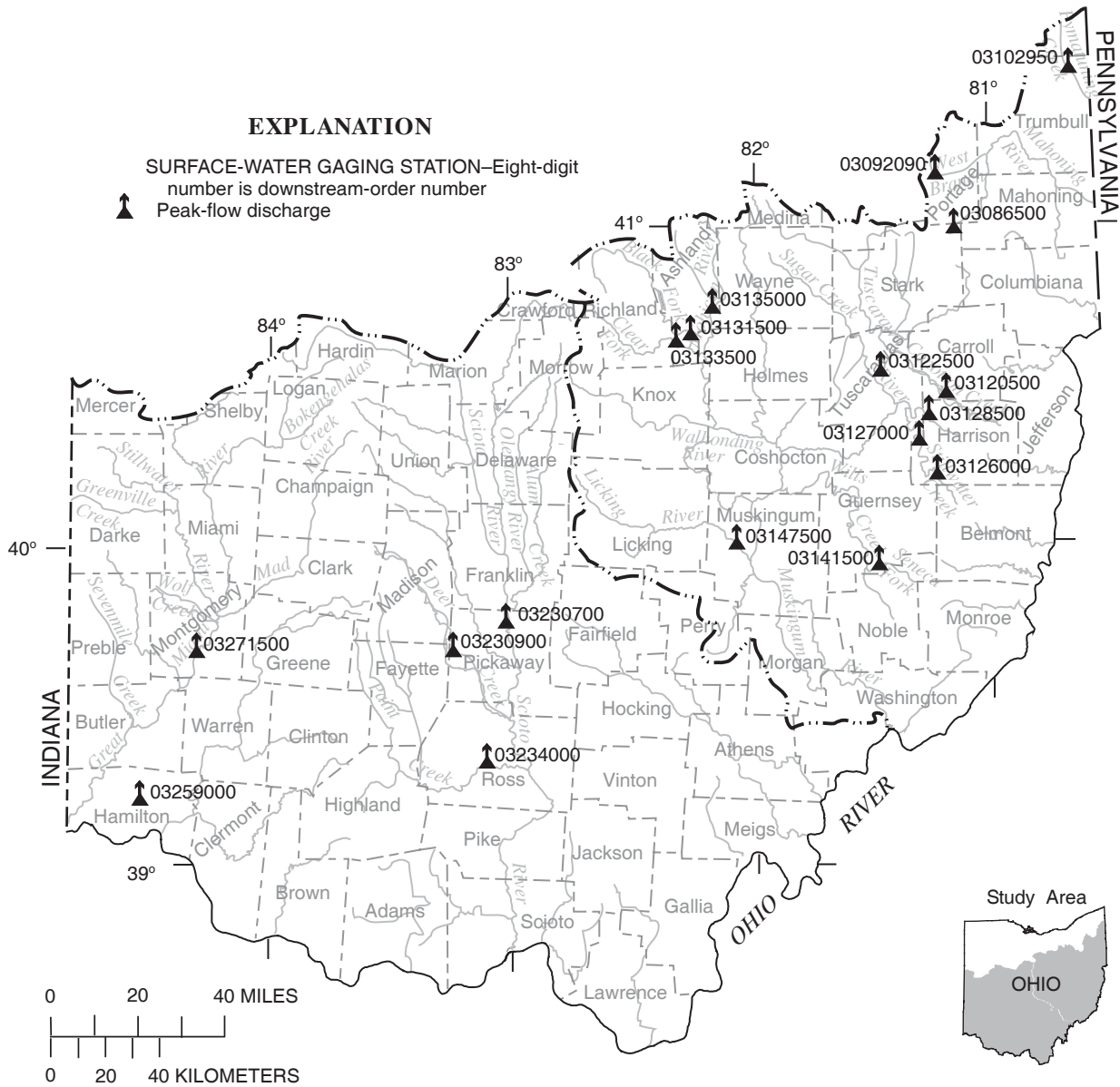
DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	1470	1350	1370	23400	1380	3660	5090	1760	2460	1660	2360	7250
2	1240	1180	1270	18700	1430	4040	4340	1750	2190	2090	4640	24400
3	1120	1060	1210	11700	1620	4010	3640	1940	2690	1580	6130	30100
4	1130	997	1180	7700	2610	3960	3260	2070	3500	1440	9810	24400
5	1390	1060	1170	5990	3640	8800	4300	8920	3810	3650	10800	17600
6	1070	1620	1170	5230	3480	15300	7170	9280	3280	6630	10800	12900
7	898	1340	1170	4390	2770	11600	7250	10000	2730	19000	7070	8940
8	837	1190	1110	3910	2240	9550	7640	9430	2680	25000	5950	5420
9	805	1110	1090	4310	1910	18600	7390	7770	3480	29500	5080	4360
10	807	3510	1010	5290	1940	17200	6030	14200	2920	35200	3730	3810
11	807	15500	1110	4920	1850	11900	4980	22400	4270	32700	2970	3190
12	753	7440	1500	3680	1660	8850	4170	16300	3950	28700	2690	2910
13	752	4490	1450	2900	1490	10900	3560	11300	6910	24000	2440	2690
14	739	3250	2770	2760	1440	17400	3130	7760	12100	16500	2560	2610
15	739	2510	2350	2520	1560	15600	2840	7570	21200	9410	2780	2430
16	724	2290	2130	2120	1490	12900	2690	7470	20600	7780	2470	2200
17	720	2050	1980	2040	1360	10900	2560	6380	12900	5430	2140	2080
18	702	1850	2480	1980	1380	9050	2420	6430	7840	4330	1940	1950
19	740	1690	7030	1850	1470	7570	2460	5140	5860	3580	1790	1870
20	835	1600	18200	1850	1550	7630	2370	4590	4890	3100	1620	1790
21	763	1530	11300	1820	1570	9920	3390	7120	3810	3080	1540	1740
22	743	1790	6880	1650	4610	14300	2830	6020	3120	6440	1480	2180
23	717	1870	4730	1550	12000	11400	2450	4700	2690	9720	1410	2920
24	716	1760	3570	1430	10100	7470	2240	3810	2390	8590	1410	2360
25	1220	1690	3190	1430	7140	5670	2110	3180	2180	5740	1430	2200
26	3920	1680	2800	1440	5190	6510	2130	2880	2010	3980	1390	2080
27	1910	1660	2370	1380	4310	6830	2020	2750	2210	3100	1290	6010
28	1400	1580	2200	1350	3750	5730	1940	2610	2000	3260	1930	10900
29	1690	1480	2140	1390	---	7290	1840	2610	1810	3070	1470	7570
30	2670	1450	5420	1430	---	7540	1790	2440	1700	2620	3610	4980
31	1690	---	13400	1370	---	6190	---	2540	---	2320	8980	---
TOTAL	35717	73577	110750	133480	86940	298270	110030	203120	154180	313200	115710	205840
MEAN	1152	2453	3573	4306	3105	9622	3668	6552	5139	10100	3733	6861
MAX	3920	15500	18200	23400	12000	18600	7640	22400	21200	35200	10800	30100
MIN	702	997	1010	1350	1360	3660	1790	1750	1700	1440	1290	1740
CFSM	0.32	0.68	0.98	1.19	0.86	2.65	1.01	1.81	1.42	2.78	1.03	1.89
IN.	0.37	0.75	1.13	1.37	0.89	3.06	1.13	2.08	1.58	3.21	1.19	2.11

		STATISTICS OF MONTHLY MEAN DATA FOR WATER YEARS 1927 - 2003, BY WATER YEAR (WY)														
		FOR 2002			CALENDAR YEAR			FOR 2003			WATER YEAR			WATER YEARS 1927 - 2003		
SUMMARY STATISTICS		FOR 2002			CALENDAR YEAR			FOR 2003			WATER YEAR			WATER YEARS 1927 - 2003		
ANNUAL TOTAL		1524804						1840814								
ANNUAL MEAN		4178						5043						3379		
HIGHEST ANNUAL MEAN														5778		
LOWEST ANNUAL MEAN														931		
HIGHEST DAILY MEAN		32600			May 14			35200			Jul 10			73900		
LOWEST DAILY MEAN		359			Sep 14			702			Oct 18			155		
ANNUAL SEVEN-DAY MINIMUM		396			Sep 9			731			Oct 13			201		
MAXIMUM PEAK FLOW								42800			Jun 15			108000		
MAXIMUM PEAK STAGE								71.97			Jun 15			79.47		
INSTANTANEOUS LOW FLOW														155		
ANNUAL RUNOFF (CFSM)		1.15						1.39						0.93		
ANNUAL RUNOFF (INCHES)		15.63						18.86						12.65		
10 PERCENT EXCEEDS		11200						11500						7780		
50 PERCENT EXCEEDS		2230						2760						1640		
90 PERCENT EXCEEDS		717						1220						510		

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 USGS 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 for special studies are given in separate tables in Volume 2 of this report.



**DISCHARGE AT PARTIAL-RECORD STATIONS
AND MISCELLANEOUS SITES**

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.

MEASUREMENTS OF DISCHARGE AT MISCELLANEOUS SITES

[MP², square miles; FT, feet, FT³/S, cubic feet per second; ≠, operated as a continuous-record gaging station; --, no data.]

LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	WATER YEAR 2003 MAXIMUM			PERIOD OF RECORD MAXIMUM		
			DATE	GAGE HEIGHT (FT)	DISCHARGE (FT ³ /S)	DATE	GAGE HEIGHT (FT)	DISCHARGE (FT ³ /S)
OHIO RIVER BASIN								
Beaver River Basin								
<u>03086500 MAHONING RIVER AT ALLIANCE, OHIO</u>								
Latitude 40°55'58", longitude 81°05'41", 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≠ 1994-03	07/28/03	6.29	4250	01/21/59	9.11	9740
<u>03092090 WEST BRANCH MAHONING RIVER NR RAVENNA, OHIO</u>								
Latitude 41°09'41", longitude 81°11'50", 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≠ 1994-03	07/22/03	10.76	4810	07/22/03	10.76	4810
<u>03102950 PYMATUNING CREEK AT KINSMAN, OHIO</u>								
Latitude 41°26'34", longitude 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≠ 1995-03	07/23/03	11.08	1210	11/06/85	12.40	2740
Muskingum River Basin								
<u>03120500 MCGUIRE CREEK BELOW LEESVILLE DAM, NEAR LEESVILLE, OHIO</u>								
Latitude 40°28'13", longitude 81°11'48", 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≠ 1992-03	01/03/03	4.36	261	03/04/40	7.88	740
<u>03122500 TUSCARAWAS RIVER BELOW DOVER DAM, NEAR DOVER, OHIO</u>								
Latitude 40°31'47", longitude 81°25'48", 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.	1405	1923-91≠ 1992-03	03/21/03	7.29	5800	01/26/37	15.51	26400
<u>03126000 STILLWATER CREEK AT PIEDMONT, OHIO</u>								
Latitude 40°11'41", longitude 81°12'56", 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≠ 1992-03	09/19/03	7.54	766	12/04/50	11.44	1470

**DISCHARGE AT PARTIAL-RECORD STATIONS
AND MISCELLANEOUS SITES**

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MEASUREMENTS OF DISCHARGE AT MISCELLANEOUS SITES—Continued

[MP², square miles; FT, feet, FT³/S, cubic feet per second; †, operated as a continuous-record gaging station; --, no data.]

LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	WATER YEAR 2003 MAXIMUM			PERIOD OF RECORD MAXIMUM		
			DATE	GAGE HEIGHT (FT)	DISCHARGE (FT ³ /S)	DATE	GAGE HEIGHT (FT)	DISCHARGE (FT ³ /S)
Muskingum River Basin—Continued								
<u>03127000 STILLWATER CREEK AT TIPPECANOE, OHIO</u>								
Latitude 40°16'13", longitude 81°17'26", 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† 1992-03	05/10/03	11.94	1340	03/05/63	17.29	4410
<u>03131500 BLACK FORK AT LOUDONVILLE, OHIO</u>								
Latitude 40°38'09", longitude 82°14'22", 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† 1992-03	09/27/03	9.59	2770	07/05/69	14.11	8460
<u>03133500 CLEAR FORK BELOW PLEASANT HILL DAM, NEAR PERRYSVILLE, OHIO</u>								
Latitude 40°37'13", longitude 82°19'28", Ashland County, Hydrologic Unit 05040002, on left 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† 1992-03	09/29/03	3.76	1430	01/23/59	4.89	2340
<u>03135000 LAKE FORK BELOW MOHICANVILLE DAM, NEAR MOHICANVILLE, OHIO</u>								
Latitude 40°43'24", longitude 82°09'18", 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† 1994-03	03/14/03	9.49	1450	07/05/69	14.32	5490
<u>03141500 SENECA FORK BELOW SENECAVILLE DAM, NEAR SENECAVILLE, OHIO</u>								
Latitude 39°55'28", longitude 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† 1992-03	09/22/03	8.49	798	08/24/80	9.69	985
<u>03147500 LICKING RIVER BELOW DILLON DAM, NEAR DILLON FALLS, OHIO</u>								
Latitude 39°59'18", longitude 82°04'50", 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† 1992-03	09/03/03	9.79	5300	01/22/59	32.46	47000
Scioto River Basin								
<u>03230700 SCIOTO RIVER AT CIRCLEVILLE, OHIO</u>								
Latitude 39°36'05", longitude 82°57'19", Pickaway County, Hydrologic Unit 05060002, on right bank 100 ft upstream from U.S. Highway 22 bridge, 1,400 ft downstream from Hargus Creek, and 1.0 mi downstream from Big Darby Creek.	3217	1974-79† 2000-03	09/04/03	16.30	24400	02/25/75	21.95	61500

**DISCHARGE AT PARTIAL-RECORD STATIONS
AND MISCELLANEOUS SITES**

MEASUREMENTS OF DISCHARGE AT MISCELLANEOUS SITES—Continued

[MI², square miles; FT, feet, FT³/S, cubic feet per second; ≠, operated as a continuous-record gaging station; --, no data.]

LOCATION	DRAINAGE AREA (MI ²)	PERIOD OF RECORD	WATER YEAR 2003 MAXIMUM			PERIOD OF RECORD MAXIMUM		
			DATE	GAGE HEIGHT (FT)	DISCHARGE (FT ³ /S)	DATE	GAGE HEIGHT (FT)	DISCHARGE (FT ³ /S)
Scioto River Basin—Continued								
<u>03230900 DEER CREEK NEAR PANCOASTBURG, OHIO</u>								
Latitude 39°37'14", longitude 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≠ 1998-03	01/02/03	6.08	2430	03/10/64	12.93	19500
<u>03234000 PAINT CREEK NEAR BOURNEVILLE, OHIO</u>								
Latitude 39°15'49", longitude 83°10'01", Ross County, Hydrologic Unit 05060001, on upstream side of left abutment of highway bridge, 0.2 mi downstream from Sulfer Lick, 1.2 mi southwest of Bourneville.	807	1921-37 1938-98≠ 1999-03	03/05/03	9.36	6850	03/10/64	20.50	56900
Mill Creek Basin								
<u>03259000 MILL CREEK AT CARTHAGE, OHIO</u>								
Latitude 39°12'07", longitude 84°28'06", Hamilton County, Hydrologic Unit 05090203, on right bank at Anthony Wayne Avenue bridge in Carthage, Ohio, 1 mi downstream from West Fork Mill Creek and 11 mi upstream from mouth.	115	1946-02≠ 2003	05/10/03	14.81	4990	09/14/79	21.82	9030
Great Miami River Basin								
<u>03271500 GREAT MIAMI RIVER AT MIAMISBURG, OHIO</u>								
Latitude 39°38'40", longitude 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.	2711	1916-20≠ 1924-35≠ 1952-95≠ 1996-03	07/10/03	15.41	35200	01/21/59	21.30	61800

**PEAK DISCHARGE AND STAGE 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.

PEAK DISCHARGES EQUAL TO OR GREATER THAN BASE DISCHARGES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002

[ft³/s, cubic feet per second; *, maximum peak discharge and gage height; --, no data; e, estimated; c, backwater]

DATE	TIME	DISCHARGE (FT ³ /S)	GAGE HEIGHT (FEET)	DATE	TIME	DISCHARGE (FT ³ /S)	GAGE HEIGHT (FEET)
OHIO RIVER BASIN							
Beaver River Basin							
<u>03093000 EAGLE CREEK AT PHALANK STATION, OHIO</u> (Base discharge: 1,300 ft ³ /s)							
Apr. 6	0000	1840	11.43	July 28	2100	1330	10.48
June 1	1100	2010	11.68	Sept. 28	0700	2230	11.97
July 22	1400	*4760	*13.50				
Little Beaver Creek Basin							
<u>03109500 LITTLE BEAVER CREEK NEAR EAST LIVERPOOL, OHIO</u> (Base discharge: 5,000 ft ³ /s)							
July 8	1500	5200	8.78	July 28	0600	*8010	*10.55
Yellow Creek Basin							
<u>03110000 YELLOW CREEK NEAR HAMMONDSVILLE, OHIO</u> (Base discharge: 2,000 ft ³ /s)							
May 10	2000	*2630	*6.77	No other peaks above base			
Short Creek Basin							
<u>03111500 SHORT CREEK NEAR DILLONVALE, OHIO</u> (Base discharge: 1,200 ft ³ /s)							
May 9	1630	1500	5.91	Aug. 15	2230	1220	5.32
Aug. 9	2330	*2180	*7.14				
Wheeling Creek Basin							
<u>03111548 WHEELING CREEK BELOW BLAINE, OHIO</u> (Base discharge: 1,500 ft ³ /s)							
Mar. 9	0600	*1560	*4.57	No other peaks above base			
Little Muskingum River Basin							
<u>03115400 LITTLE MUSKINGUM RIVER AT BLOOMFIELD, OHIO</u> (Base discharge: 3,000 ft ³ /s)							
Jan. 2	0030	4490	17.28	July 19	0500	3130	14.33
Feb. 4	1530	3350	14.87	July 24	0730	7720	21.80
Feb. 23	1330	*7760	21.84	Aug. 4	0130	4110	16.51
May 21	1000	3260	14.66	Sept. 19	1830	4450	17.20
June 4	1230	5380	18.77				
Muskingum River Basin							
<u>03115973 SCHOCALOG RUN AT COPLEY JUNCTION, OHIO</u> (Base discharge: 90 ft ³ /s)							
July 8	1005	121	12.56	July 28	0015	172	12.95
July 22	0345	*275	*13.64	Sept. 27	1135	110	12.46
<u>03117500 SANDY CREEK AT WAYNESBURG, OHIO</u> (Base discharge: 1,800 ft ³ /s)							
July 9	1500	2610	5.89	Sept. 2	1200	2600	5.87
July 11	0600	3100	6.51	Sept. 20	0000	2350	5.55
July 28	1500	*5280	*8.19	Sept. 28	--	2800e	--

**PEAK DISCHARGE AND STAGE AT
CONTINUOUS-RECORD SURFACE DISCHARGE STATIONS**

PEAK DISCHARGES EQUAL TO OR GREATER THAN BASE DISCHARGES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002—Continued

[ft³/s, cubic feet per second; *, maximum peak discharge and gage height; --, no data; e, estimated; c, backwater]

DATE	TIME	DISCHARGE (FT ³ /S)	GAGE HEIGHT (FEET)	DATE	TIME	DISCHARGE (FT ³ /S)	GAGE HEIGHT (FEET)
Muskingum River Basin—Continued							
<u>03118000 MIDDLE BRANCH NIMISHILLEN CREEK AT CANTON, OHIO</u> (Base discharge: 400 ft ³ /s)							
May 16	1730	676	5.72	July 23	0900	522	5.18
July 9	0400	496	5.07	July 28	0130	*1630	*6.63
<u>031118500 NIMISHILLEN CREEK AT NORTH INDUSTRY, OHIO</u> (Base discharge; 400 ft ³ /s)							
Nov. 10	2235	2260	6.56	July 23	0035	3130	7.50
Feb. 22	2135	2120	6.31	July 28	0635	*9310	*14.18
May 16	0935	3690	8.24	Sept. 1	2135	2590	6.77
July 1	2335	2240	6.24	Sept. 19	1235	2480	6.61
July 8	2135	3640	8.17	Sept. 27	1435	2620	6.82
<u>03121850 HUFF RUN AT MINERAL CITY, OHIO</u> (Base discharge: 100 ft ³ /s)							
May 16	0400	*839	*4.63	Aug. 6	0500	586	4.22
May 21	0400	128	2.94	Sept. 2	--	240e	--
July 22	1000	104	2.81	Sept. 19	1700	302	3.58
Aug. 4	2245	124	2.92				
<u>03139000 KILLBUCK CREEK AT KILLBUCK, OHIO</u> (Base discharge: 2,000 ft ³ /s)							
May 10	1200	2230	15.47	Sept. 3	0000	*2500	*15.92
May 16	1800	2320	15.63				
<u>03140000 MILL CREEK NEAR COSHOCTON, OHIO</u> (Base discharge: 700 ft ³ /s)							
May 9	1400	765	8.75	Sept. 2	0200	1340	10.49
Aug. 30	1045	*2630	*12.28				
<u>03141870 LEATHERWOOD CREEK NEAR KIPLING, OHIO</u> (Base discharge: 950 ft ³ /s)							
Jan. 2	0000	1030	11.29	Aug. 16	1100	1060	11.40
Feb. 23	1100	965	11.02	Sept. 20	0300	*1230	*11.89
<u>03144000 WAKATOMIKA CREEK NEAR FRAZEYSBURG, OHIO</u> (Base discharge: 1,600 ft ³ /s)							
Feb. 23	1200	2030	5.39	May 21	0700	1730	4.98
May 9	2100	1630	4.84	Sept. 3	1600	2230	5.66
May 16	1300	*2530	*6.04	Sept. 27	2200	2380	5.85
<u>03146500 LICKING RIVER NEAR NEWARK, OHIO</u> (Base discharge: 6,500 ft ³ /s)							
Sept. 3	1800	*7180	*9.99	Sept. 27	1900	6980	9.88
Hocking River Basin							
<u>03157000 CLEAR CREEK NEAR ROCKBRIDGE, OHIO</u> (Base discharge: 1,900 ft ³ /s)							
July 8	2100	*2010	*6.93	No other peaks above base			
<u>03157500 HOCKING RIVER AT ENTERPRISE, OHIO</u> (Base discharge: 3,500 ft ³ /s)							
Mar. 6	0000	*4200	*9.78	No other peaks above base			

**PEAK DISCHARGE AND STAGE AT
CONTINUOUS-RECORD SURFACE DISCHARGE STATIONS**

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PEAK DISCHARGES EQUAL TO OR GREATER THAN BASE DISCHARGES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002—Continued

[ft³/s, cubic feet per second; *, maximum peak discharge and gage height; --, no data; e, estimated; c, backwater]

DATE	TIME	DISCHARGE (FT ³ /S)	GAGE HEIGHT (FEET)	DATE	TIME	DISCHARGE (FT ³ /S)	GAGE HEIGHT (FEET)
Hocking River Basin—Continued							
<u>03158200 MONDAY CREEK AT DOANVILLE, OHIO</u> (Base discharge: 600 ft ³ /s)							
Dec. 20	1730	646	8.59	June 17	0645	*1380	12.76
Jan. 2	0230	773	9.32	Aug. 23	0200	737	9.12
Feb. 23	0715	1360	12.66	Sept. 2	1000	1280	12.21
Mar. 6	0900	1170	11.54	Sept. 3	0115	--	*13.47c
Mar. 9	1545	821	9.58	Sept. 19	1745	791	9.42
May 10	0245	938	10.23	Sept. 23	0500	788	9.40
May 21	1545	800	9.47				
Shade River Basin							
<u>03159540 SHADE RIVER NEAR CHESTER, OHIO</u> (Base discharge: 2,400 ft ³ /s)							
Feb. 23	0400	*3770	*19.36	May 21	1600	2650	16.19
May 11	0300	3160	17.77	June 4	1300	3680	19.18
Raccoon Creek Basin							
<u>03201902 RACCOON CREEK NEAR BOLIN MILLS, OHIO</u> (Base discharge: 1,500 ft ³ /s)							
Dec. 15	0130	1790	13.20	May 12	0230	1840	13.42
Feb. 24	0530	*2530	*14.91	June 17	0330	1790	13.21
<u>03201980 LITTLE RACCOON CREEK AT EWINGTOWN, OHIO</u> (Base discharge: 860 ft ³ /s)							
Feb. 24	0215	*2310	*13.40	July 12	1000	1060	11.48
May 11	0000	1540	12.34				
<u>03202000 RACCOON CREEK NEAR ADAMSVILLE, OHIO</u> (Base discharge: 3,000 ft ³ /s)							
Feb. 25	1800	*5530	*17.94	June 4	1100	3300	13.67
May 11	0300	4750	17.66	June 20	0400	3520	14.13
<u>03205470 SYMMES CREEK AT AID, OHIO</u> (Base discharge: 2,900 ft ³ /s)							
Feb. 17	1045	3140	17.03	May 13	2230	3430	*18.45
Feb. 25	0800	*3510	17.81	June 18	1245	3110	17.85
Scioto River Basin							
<u>03219500 SCIOTO RIVER NEAR PROSPECT, OHIO</u> (Base discharge: 3,600 ft ³ /s)							
Jan. 2	1800	4280	9.76	July 12	0700	4610	10.18
Mar. 15	2000	4710	10.30	Sept. 4	1300	4450	9.98
May 12	0400	*5300	*11.01				
<u>03220000 MILL CREEK NEAR BELLEPOINT, OHIO</u> (Base discharge: 2,500 ft ³ /s)							
Dec. 20	0400	2570	6.57	June 14	0900	4350	8.17
Dec. 31	2200	2650	6.66	July 9	1300	3840	7.76
May 7	2300	2690	6.70	Sept. 2	0000	3820	7.74
May 9	1300	*4560	8.33				
<u>03223425 WHETSTONE CREEK AT MT. GILEAD, OHIO</u> (Base discharge: 615 ft ³ /s)							
Apr. 5	0905	889	6.82	July 9	0435	1050	7.20
May 9	1550	1280	7.72	Sept. 27	1235	*1400	*7.97
June 11	1205	629	6.10				

**PEAK DISCHARGE AND STAGE AT
CONTINUOUS-RECORD SURFACE DISCHARGE STATIONS**

PEAK DISCHARGES EQUAL TO OR GREATER THAN BASE DISCHARGES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002—Continued

[ft³/s, cubic feet per second; *, maximum peak discharge and gage height; --, no data; e, estimated; c, backwater]

DATE	TIME	DISCHARGE (FT ³ /S)	GAGE HEIGHT (FEET)	DATE	TIME	DISCHARGE (FT ³ /S)	GAGE HEIGHT (FEET)
Scioto River Basin—Continued							
<u>03228300 BIG WALNUT CREEK AT SUNBURY, OHIO</u> (Base discharge: 2,200 ft ³ /s)							
May 9	2030	3370	9.34	Sept. 2	0330	2910	9.01
May 21	0230	2230	8.39	Sept. 27	1200	*4920	*10.44
Aug. 30	1600	2230	8.39				
<u>03228750 ALUM CREEK NEAR KILBOURNE, OHIO</u> (Base discharge: 1000 ft ³ /s)							
Mar. 5	1100	1900	8.10	May 20	2100	1030	6.22
Mar. 9	0000	1370	7.01	June 11	1500	1590	7.48
Mar. 13	1700	1260	6.76	Aug. 30	0700	1280	6.81
May 9	1200	*3170	*10.16	Sept. 1	2000	2850	9.69
May 16	0200	1710	7.72	Sept. 27	0900	2950	9.84
<u>03230310 LITTLE DARBY CREEK AT WEST JEFFERSON, OHIO</u> (Base discharge: 1000 ft ³ /s)							
Nov. 12	0100	1300	9.45	May 10	2200	1150	9.04
Dec. 20	2000	1310	9.48	July 10	1700	1130	8.99
Jan. 1	2300	1190	9.15	Sept. 3	0800	*2150	*11.10
Feb. 24	0000	1010	8.70	Sept. 28	1200	1440	9.74
Mar. 10	0100	1480	9.84				
<u>03230450 HELLBRANCH RUN NEAR HARRISBURG, OHIO</u> (Base discharge: 300 ft ³ /s)							
Dec. 20	0245	389	6.52	Aug. 30	1900	744	7.21
Jan. 1	1530	423	6.60	Sept. 2	0445	*1010	*7.60
Feb. 23	0045	389	6.52	Sept. 27	1200	665	7.08
Mar. 9	0245	511	6.79				
<u>03230500 BIG DARBY CREEK AT DARBYVILLE, OHIO</u> (Base discharge: 4,500 ft ³ /s)							
May 11	0500	4890	8.89	Sept. 3	2300	*6150	*9.79
<u>03230800 DEER CREEK AT MOUNT STERLING, OHIO</u> (Base discharge: 1,900 ft ³ /s)							
Dec. 20	1200	2120	8.28	Sept. 2	2100	*3670	*9.36
Jan. 2	0000	2220	8.37	Sept. 28	0000	2670	8.62
Mar. 9	1000	2460	8.51				
<u>03232000 PAINT CREEK NEAR GREENFIELD, OHIO</u> (Base discharge: 2,000 ft ³ /s)							
Dec. 21	0630	2150	6.26	May 6	1600	2290	6.67
Jan. 1	1930	2900	7.23	May 10	1930	3670	8.22
Mar. 5	1800	2240	6.38	June 14	2000	2530	6.98
Mar. 10	0000	2790	7.10	Sept. 4	0200	*5050	*9.44
Upper Twin Creek Basin							
<u>03237280 UPPER TWIN CREEK AT MCGAW, OHIO</u> (Base discharge: 666 ft ³ /s)							
Feb. 22	1830	2600	8.58	June 7	0600	1260	6.80
May 5	1530	1190	6.67	June 16	1800	1700	7.47
May 10	1015	*4650	*10.52	Sept. 2	1100	851	6.04
May 21	0000	905	6.15				
Ohio Brush Creek Basin							
<u>03237500 OHIO BRUSH CREEK NEAR WEST UNION, OHIO</u> (Base discharge: 11,000 ft ³ /s)							
May 10	2330	33300	22.47	Aug. 22	2330	*34300	*22.73
May 21	0515	13100	15.56	Sept. 2	1615	19600	18.22

**PEAK DISCHARGE AND STAGE AT
CONTINUOUS-RECORD SURFACE DISCHARGE STATIONS**

PEAK DISCHARGES EQUAL TO OR GREATER THAN BASE DISCHARGES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002—Continued

[ft³/s, cubic feet per second; *, maximum peak discharge and gage height; --, no data; e, estimated; c, backwater]

DATE	TIME	DISCHARGE (FT ³ /S)	GAGE HEIGHT (FEET)	DATE	TIME	DISCHARGE (FT ³ /S)	GAGE HEIGHT (FEET)
White Oak Creek Basin							
<u>03238500 WHITE OAK CREEK NEAR GEORGETOWN, OHIO</u>							
(Base discharge: 5,500 ft ³ /s)							
Dec. 20	0830	6310	6.39	May 11	0600	*12600	*8.71
Jan. 1	1630	7230	6.91	May 20	2030	6810	6.56
Feb. 23	0530	9250	7.63	July 10	1700	6960	6.92
May 5	2200	6990	6.62	Sept. 2	1030	8680	7.46
Little Miami River Basin							
<u>03240000 LITTLE MIAMI RIVER NEAR OLDTOWN, OHIO</u>							
(Base discharge: 800 ft ³ /s)							
Dec. 20	1630	1020	5.01	July 9	1030	1680	6.32
Jan. 2	0230	806	4.47	Aug. 5	1530	1350	5.72
Mar. 9	1500	1140	5.28	Aug. 7	2330	994	4.95
May 10	2030	933	4.80	Sept. 2	1900	*2290	*7.30
July 1	1900	855	4.60	Sept. 27	1100	1120	5.25
<u>03241500 MASSIES CREEK AT WILBERFORCE, OHIO</u>							
(Base discharge: 600 ft ³ /s)							
Dec. 20	0030	680	5.44	June 16	1130	1240	6.97
Jan. 1	1000	643	5.33	July 9	1300	*1700	*8.01
Mar. 9	0130	759	5.68	Aug. 11	1830	866	5.99
May 5	1100	954	6.24	Sept. 1	2130	1050	6.51
<u>03245500 LITTLE MIAMI RIVER AT MILFORD, OHIO</u>							
(Base discharge: 15,000 ft ³ /s)							
Dec. 20	0200	21600	15.48	May 10	1900	19400	14.72
Jan. 1	1400	15900	13.42	Sept. 2	2200	*26500	*17.66
Great Miami River Basin							
<u>03260706 BOKENGEHALAS AT DEGRAFF, OHIO</u>							
(Base discharge: 350 ft ³ /s)							
Mar. 9	0300	364	3.95	May 11	0200	405	4.18
Mar. 13	1900	359	3.93	July 9	1400	*925	*6.80
May 5	1500	357	3.92	Sept. 2	1000	693	5.72
May 9	1800	422	4.28				
<u>03261500 GREAT MIAMI RIVER AT SIDNEY, OHIO</u>							
(Base discharge: 4,000 ft ³ /s)							
May 11	1200	4150	7.76	Sept. 1	2330	7060	10.47
Aug. 5	0200	4510	8.13	Sept. 9	1000	*11600	*14.32
<u>03261950 LORAMIE CREEK NEAR NEWPORT, OHIO</u>							
(Base discharge: 1,500 ft ³ /s)							
Mar. 14	0230	2100	11.00	July 22	1900	1970	10.61
Mar. 21	2030	1550	9.85	Aug. 5	0430	1650	10.04
July 9	0030	*6450	*15.51	Sept. 2	1730	3450	12.66
<u>03264000 GREENVILLE CREEK NEAR BRADFORD, OHIO</u>							
(Base discharge: 1,500 ft ³ /s)							
Mar. 9	1730	1520	5.01	Sept. 2	2130	*4660	*8.79
July 9	0900	3450	7.56				
<u>03265000 STILLWATER RIVER AT PLEASANT HILL, OHIO</u>							
(Base discharge: 5,000 ft ³ /s)							
Mar. 9	0830	5030	8.56	July 9	2230	*1130	*13.72
Mar. 13	2230	5330	8.88	Sept. 2	1230	11100	13.59
Mar. 21	1500	5350	8.90				

**PEAK DISCHARGE AND STAGE AT
CONTINUOUS-RECORD SURFACE DISCHARGE STATIONS**

PEAK DISCHARGES EQUAL TO OR GREATER THAN BASE DISCHARGES, WATER YEAR OCTOBER 2001 TO SEPTEMBER 2002—Continued

[ft³/s, cubic feet per second; *, maximum peak discharge and gage height; --, no data; e, estimated; c, backwater]

DATE	TIME	DISCHARGE (FT ³ /S)	GAGE HEIGHT (FEET)	DATE	TIME	DISCHARGE (FT ³ /S)	GAGE HEIGHT (FEET)
Great Miami River Basin—Continued							
<u>03267000 MAD RIVER NEAR URBANA, OHIO</u> (Base discharge: 1,400 ft ³ /s)							
May 9	1614	2100	6.59	July 27	0900	1570	5.77
July 9	0600	*2680	*7.35				
<u>03271000 WOLF CREEK AT DAYTON, OHIO</u> (Base discharge: 1,400 ft ³ /s)							
Nov. 10	2145	3730	7.41	June 16	0800	1810	5.54
Dec. 19	2100	1720	5.44	July 7	0930	2060	5.81
May 5	0945	1610	5.31	July 8	2145	1700	5.41
May 9	1345	1930	5.67	July 22	0015	1850	5.58
May 10	1845	*4720	*8.37	Aug. 2	0645	1920	5.66
<u>03272700 SEVENMILE CREEK AT CAMDEN, OHIO</u> (Base discharge: 1,500 ft ³ /s)							
Nov. 10	2030	3250	9.53	June 15	1315	*8860	*14.03
Dec. 19	2215	1680	7.37	July 7	0830	5250	11.67
May 10	2230	2020	7.89	July 9	1245	1750	7.48

GROUND-WATER RECORDS
Ashland County

405303082170700. LOCAL NUMBER, AS-2

LOCATION.—Latitude 40°53'03", longitude 82°17'07", Hydrologic Unit 05040002, 2 mi northeast of Ashland, Ohio. Owner: City of Ashland.

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.

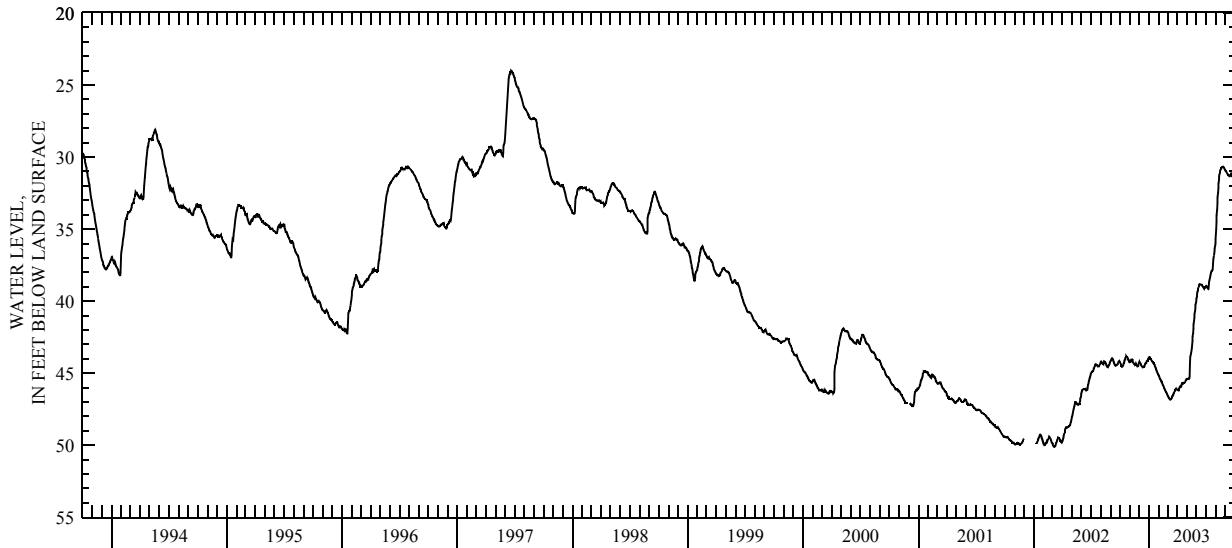
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—March 1964 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 50.12 ft below land-surface datum, Mar. 6 and 7, 2002; minimum daily low, 11.56 ft below land-surface datum, Jan. 1, 1991.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	44.25	44.26	44.31	43.93	45.17	46.52	46.15	45.42	39.84	38.94	35.71	30.94
2	44.29	44.26	44.24	43.88	45.22	46.61	46.15	45.43	39.69	38.94	35.04	30.99
3	44.35	44.23	44.30	43.86	45.23	46.63	46.14	45.43	39.54	38.98	34.51	31.00
4	44.38	44.20	44.31	43.93	45.35	46.65	46.13	45.42	39.39	39.02	34.07	31.06
5	44.49	44.18	44.32	43.96	45.38	46.74	46.21	45.39	39.28	39.08	33.63	31.10
6	44.49	44.07	44.37	44.04	45.42	46.77	46.21	45.41	39.18	39.11	33.20	31.14
7	44.56	44.07	44.41	44.04	45.47	46.82	46.10	45.41	39.06	39.13	32.82	31.18
8	44.56	44.02	44.51	44.02	45.49	46.82	46.03	45.40	38.97	39.16	32.46	31.22
9	44.53	44.05	44.52	44.09	45.54	46.86	45.97	45.39	38.87	39.12	32.14	31.24
10	44.50	44.08	44.54	44.16	45.60	46.83	45.92	45.20	38.84	38.89	31.85	31.26
11	44.44	44.24	44.57	44.19	45.62	46.82	45.89	44.34	38.83	38.63	31.58	31.28
12	44.38	44.27	44.61	44.22	45.70	46.79	45.92	43.86	38.83	38.53	31.36	31.31
13	44.32	44.29	44.61	44.21	45.76	46.76	45.93	43.77	38.83	38.43	31.17	31.34
14	44.30	44.32	44.59	44.24	45.80	46.74	45.89	43.67	38.85	38.33	31.07	31.35
15	44.21	44.36	44.59	44.30	45.88	46.65	45.79	43.55	38.86	38.21	30.96	31.28
16	44.12	44.37	44.54	44.30	45.89	46.62	45.71	43.41	38.87	38.09	30.87	31.24
17	44.08	44.41	44.54	44.37	45.95	46.57	45.71	43.22	38.87	38.04	30.80	31.19
18	44.03	44.45	44.50	44.39	46.03	46.53	45.73	42.99	38.87	37.92	30.79	31.13
19	43.95	44.44	44.43	44.44	46.09	46.50	45.73	42.76	38.94	37.92	30.78	31.21
20	43.91	44.43	44.34	44.52	46.12	46.44	45.70	42.47	38.97	37.91	30.75	31.31
21	43.86	44.36	44.33	44.57	46.16	46.37	45.68	42.21	39.00	37.88	30.70	31.34
22	43.84	44.43	44.31	44.63	46.19	46.35	45.69	41.90	39.03	37.82	30.68	31.33
23	43.89	44.45	44.29	44.70	46.30	46.30	45.69	41.62	39.08	37.44	30.69	31.35
24	43.91	44.49	44.25	44.73	46.33	46.25	45.68	41.35	39.11	37.10	30.70	31.33
25	43.91	44.53	44.18	44.77	46.35	46.17	45.64	41.12	39.13	36.97	30.68	31.20
26	43.99	44.55	44.18	44.87	46.39	46.13	45.59	40.90	39.08	36.84	30.69	31.18
27	44.04	44.54	44.17	44.91	46.44	46.07	45.55	40.70	39.10	36.67	30.74	31.06
28	44.08	44.52	44.10	44.94	46.49	46.07	45.46	40.48	39.08	36.50	30.78	30.91
29	44.11	44.42	44.04	45.03	---	46.14	45.44	40.27	39.02	36.34	30.81	30.63
30	44.18	44.31	44.02	45.07	---	46.14	45.43	40.12	38.99	36.15	30.89	30.53
31	44.23	---	43.96	45.10	---	46.15	---	39.94	---	35.95	30.93	---
MAX	44.56	44.55	44.61	45.10	46.49	46.86	46.21	45.43	39.84	39.16	35.71	31.35
CAL YR 2002		LOW 50.12										
WTR YR 2003		LOW 46.86										



GROUND-WATER RECORDS
Ashland County

405425082173000. LOCAL NUMBER, AS-3

LOCATION.—Latitude 40°54'25", longitude 82°17'30", Hydrologic Unit 05040002, along Jerome Fork near Ashland, Ohio.

Owner: City of Ashland.

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.

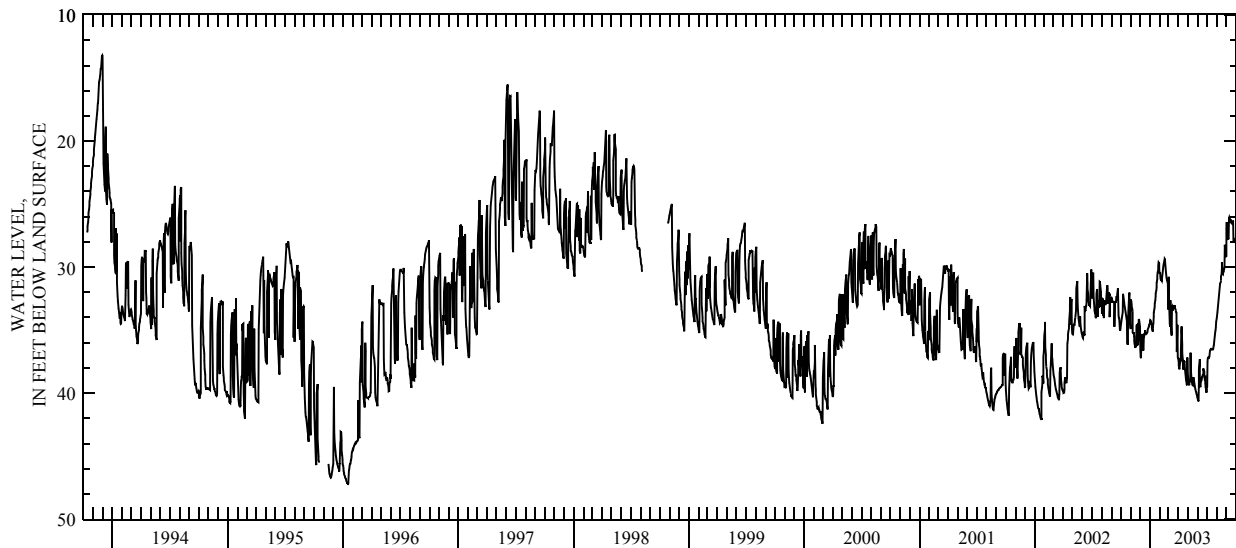
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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, 5.14 ft below land-surface, Dec. 24, 1974.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.65	34.91	34.71	34.40	30.47	31.24	37.33	38.42	40.40	39.53	34.02	26.92
2	34.45	32.59	36.56	34.21	30.47	30.78	37.50	38.72	40.50	39.52	33.79	26.43
3	34.25	32.72	37.11	34.23	30.51	32.93	37.80	38.76	40.56	37.50	33.58	27.53
4	34.08	32.96	37.21	34.40	30.87	33.63	38.02	38.99	40.65	37.20	33.30	27.76
5	33.92	33.12	36.51	34.39	31.07	34.45	38.12	39.31	39.21	37.16	32.99	27.79
6	33.75	33.34	35.45	34.51	31.10	34.73	37.78	39.40	38.13	37.15	32.72	27.73
7	33.58	33.53	35.37	34.64	31.04	32.63	37.52	38.92	37.63	37.16	32.45	27.74
8	32.12	35.20	35.32	34.83	31.11	33.84	37.26	39.07	37.29	37.19	32.18	27.74
9	32.31	35.23	36.60	35.01	30.83	34.71	37.47	39.09	39.40	37.05	31.94	26.15
10	32.50	35.21	36.16	35.13	30.58	35.22	35.33	36.80	39.54	36.79	31.68	26.06
11	32.68	35.18	36.60	34.81	30.38	35.44	35.08	38.11	39.12	36.57	31.38	26.14
12	32.88	35.50	36.54	34.40	30.15	33.16	34.70	38.55	39.07	36.52	31.27	26.23
13	33.10	35.83	35.59	33.92	29.92	33.08	36.14	38.81	39.00	36.51	31.21	26.31
14	33.22	36.08	35.46	33.59	29.77	33.47	36.74	39.00	38.91	36.50	31.08	26.25
15	33.40	36.34	35.23	33.32	29.62	33.15	37.16	39.21	38.79	36.51	30.76	26.29
16	33.58	36.40	35.32	33.11	29.50	33.19	37.51	39.37	38.73	36.53	30.56	26.39
17	33.75	36.30	35.01	32.88	29.35	33.19	37.90	39.40	38.68	36.52	30.07	26.53
18	33.93	36.22	35.19	32.60	29.41	33.22	38.15	39.01	38.54	36.54	29.59	26.56
19	34.10	36.12	35.27	32.30	29.77	33.19	37.38	38.72	38.55	36.55	30.56	26.52
20	34.23	34.62	35.32	32.08	30.08	33.01	37.50	38.93	38.04	36.55	30.57	26.52
21	36.01	34.60	35.29	31.84	30.36	33.16	37.46	39.04	38.20	36.47	30.46	26.42
22	36.11	36.14	35.24	31.62	30.58	33.25	37.96	39.23	38.29	36.27	30.37	26.31
23	36.11	36.17	35.22	31.23	30.84	33.33	38.20	39.39	38.71	36.15	30.32	27.94
24	33.87	36.07	35.19	30.99	31.00	33.45	38.43	39.53	38.81	35.87	30.22	27.98
25	33.21	35.94	34.98	30.72	31.06	33.54	38.73	39.70	38.75	35.65	30.07	28.00
26	32.68	35.72	34.87	30.42	31.20	33.62	38.99	39.79	39.20	35.44	29.92	27.98
27	32.25	34.13	34.83	30.20	31.29	36.49	39.08	39.90	39.52	35.16	28.22	27.93
28	32.02	34.18	34.73	29.92	33.38	36.75	39.31	39.98	39.74	35.01	29.12	27.76
29	33.84	34.31	34.69	29.62	---	34.59	39.38	40.12	39.90	34.79	29.12	27.71
30	33.98	34.54	34.57	29.70	---	36.52	37.19	40.16	39.97	34.33	29.14	27.64
31	34.74	---	34.53	30.09	---	37.15	---	40.33	---	34.16	29.12	---
MAX	36.11	36.40	37.21	35.13	33.38	37.15	39.38	40.33	40.65	39.53	34.02	28.00
CAL YR 2002		LOW 42.07										
WTR YR 2003		LOW 40.65										



GROUND-WATER RECORDS
Athens County

239

392004082071600. LOCAL NUMBER, AT-2A

LOCATION.—Latitude 39°20'04", longitude 82°07'16", Hydrologic Unit 05030204, 1.1 mi west of city hall in Athens, Ohio. 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, 5.8 ft above land-surface datum.

REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR. Prior to water year 1978, well depth reported as 43 ft.

PERIOD OF RECORD.—October 1966 to September 1982 continuous, periodic thereafter. This well replaced At-2, which has continuous record from March 1954 to September 1966.

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

WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL
10/16/02	20.62
04/28/03	18.43
04/30/03	18.60

GROUND-WATER RECORDS
Athens County

392009082072200. LOCAL NUMBER, AT-5

LOCATION.—Latitude 39°20'09", longitude 82°07'22", Hydrologic Unit 05030204, along Hocking River in Athens, Ohio. 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.—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.

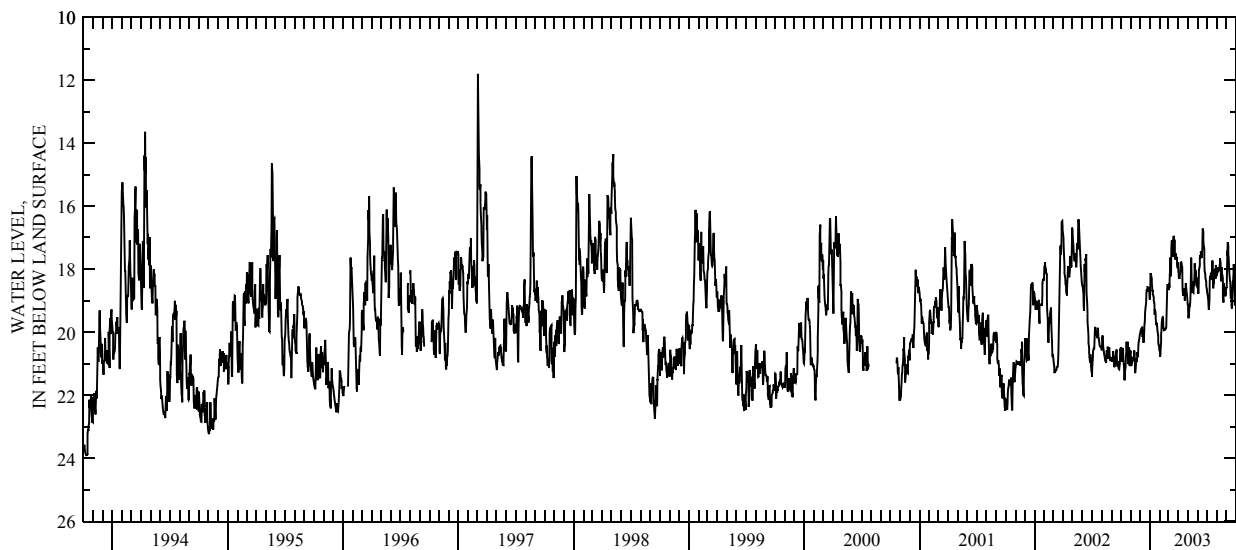
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.58	20.61	20.06	18.96	20.60	18.66	18.06	19.11	18.61	18.63	18.18	18.59
2	20.47	20.73	20.00	18.69	20.63	18.63	18.15	19.14	18.47	18.74	18.11	18.57
3	20.95	21.08	19.94	18.12	20.78	18.44	18.25	19.53	18.75	18.80	18.11	17.42
4	20.68	20.93	19.92	18.18	20.63	18.59	18.29	19.53	18.75	18.86	18.08	17.58
5	20.58	20.93	19.88	18.20	20.31	18.18	18.31	19.43	18.21	18.93	17.94	17.15
6	20.54	20.94	19.86	18.25	20.07	18.00	18.24	19.29	18.03	19.15	18.05	17.25
7	20.58	20.91	19.85	18.30	19.95	17.63	18.08	19.10	17.94	19.29	18.05	17.55
8	20.50	20.84	19.85	18.44	19.68	18.14	18.05	19.11	17.86	19.19	18.02	17.61
9	20.87	20.85	20.15	18.70	19.62	18.22	17.79	19.05	17.63	18.99	18.02	17.82
10	20.99	20.88	19.95	18.66	19.53	17.34	17.78	18.77	17.55	18.36	17.86	18.08
11	21.10	20.82	20.18	18.81	19.52	17.09	17.79	18.05	17.65	18.21	17.81	18.21
12	21.48	20.69	20.33	18.84	19.56	17.10	17.84	17.64	17.43	18.30	17.65	18.36
13	21.52	20.58	20.19	18.89	19.86	17.49	17.93	18.18	17.52	18.18	17.82	18.39
14	21.26	20.70	20.06	18.99	19.89	17.61	18.06	18.59	17.63	18.20	18.38	18.78
15	21.18	21.08	19.74	19.08	19.93	17.10	18.65	18.74	17.52	18.29	18.08	18.95
16	21.09	21.30	19.68	19.45	19.92	17.01	18.84	18.48	17.33	18.33	17.94	18.68
17	20.76	21.14	19.36	19.28	19.93	16.94	18.72	18.39	17.15	18.11	18.08	19.13
18	20.66	20.93	19.26	19.34	19.93	16.97	18.60	18.74	16.71	17.73	18.12	19.25
19	20.30	20.82	19.14	19.43	19.92	17.07	18.66	18.75	16.81	17.79	18.21	18.96
20	20.58	20.94	19.10	19.55	19.88	17.09	18.81	18.54	17.07	18.45	18.31	18.51
21	20.55	20.76	18.77	19.77	19.87	17.10	18.77	18.48	17.25	18.61	18.89	18.38
22	20.30	20.67	18.65	19.70	19.86	17.63	18.99	18.29	17.34	18.44	19.05	18.35
23	20.34	20.67	18.72	19.75	19.51	17.70	18.74	17.82	17.78	18.44	18.57	18.18
24	20.88	20.79	18.57	19.83	18.96	17.56	18.74	18.09	18.06	18.15	18.44	17.84
25	21.02	20.69	18.57	19.89	18.63	17.50	18.44	18.14	18.14	18.11	18.59	18.48
26	20.73	20.40	18.59	19.98	18.47	17.65	18.54	18.09	18.21	17.99	18.59	18.86
27	20.49	20.30	18.60	20.10	18.50	17.69	18.66	18.08	18.30	18.11	18.80	19.13
28	20.84	20.25	18.60	20.28	18.61	17.61	18.74	18.42	18.38	18.30	18.72	19.13
29	21.08	20.19	18.66	20.40	---	17.95	18.83	18.54	18.50	17.86	18.86	18.99
30	20.76	20.10	18.70	20.45	---	17.97	18.96	18.27	18.59	17.99	18.72	18.54
31	20.60	---	18.93	20.51	---	17.78	---	18.30	---	18.17	18.57	---
MAX	21.52	21.30	20.33	20.51	20.78	18.66	18.99	19.53	18.75	19.29	19.05	19.25
CAL YR 2002		LOW 21.52										
WTR YR 2003		LOW 21.52										



GROUND-WATER RECORDS
Athens County

392630082130400. LOCAL NUMBER, AT-6

LOCATION.—Latitude 39°26'30", longitude 82°13'04", Hydrologic Unit 05030204, at Hocking Technical College near Nelsonville, Ohio. Owner: State of Ohio.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled unused water table well, diameter 6 in., depth 54 ft, cased to 49 ft.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land surface datum is 670 ft above sea level (from topographic map). Measuring point: Floor of instrument shelter, 4.00 ft above land-surface datum.

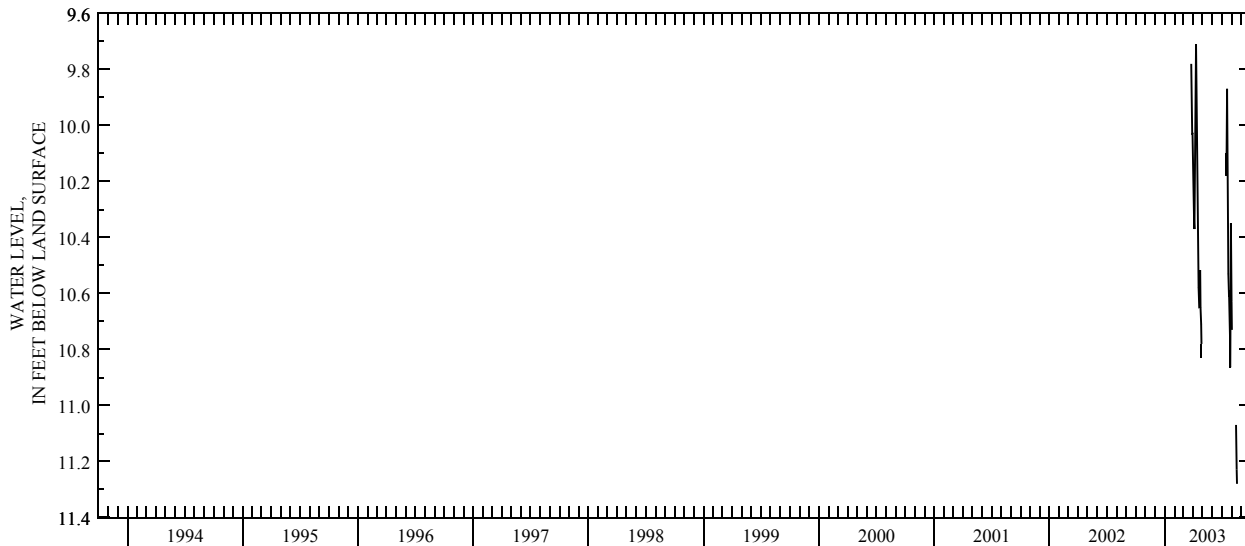
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—March 2003 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 11.28 ft below land-surface datum, Aug. 18, 2003; minimum daily low 9.71 ft below land-surface datum, Apr. 10, 2003.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	10.14	---	---	---	10.63	---
2	---	---	---	---	---	---	10.21	---	---	---	10.73	---
3	---	---	---	---	---	---	10.28	---	---	---	---	---
4	---	---	---	---	---	---	10.35	---	---	---	---	---
5	---	---	---	---	---	---	10.37	---	---	---	---	---
6	---	---	---	---	---	---	10.26	---	---	---	---	---
7	---	---	---	---	---	---	10.16	---	---	---	---	---
8	---	---	---	---	---	---	10.06	---	---	---	---	---
9	---	---	---	---	---	---	9.80	---	---	---	---	---
10	---	---	---	---	---	---	9.71	---	---	---	---	---
11	---	---	---	---	---	---	9.78	---	---	---	---	---
12	---	---	---	---	---	---	9.90	---	---	---	---	---
13	---	---	---	---	---	---	10.01	---	---	---	---	---
14	---	---	---	---	---	---	10.11	---	---	---	---	---
15	---	---	---	---	---	---	10.21	---	---	10.10	11.07	---
16	---	---	---	---	---	---	10.31	---	---	10.18	11.17	---
17	---	---	---	---	---	---	10.40	---	---	9.87	11.23	---
18	---	---	---	---	---	---	10.50	---	---	9.87	11.28	---
19	---	---	---	---	---	---	10.58	---	---	10.03	---	---
20	---	---	---	---	---	---	10.65	---	---	10.21	---	---
21	---	---	---	---	---	---	10.65	---	---	10.37	---	---
22	---	---	---	---	---	---	10.52	---	---	10.53	---	---
23	---	---	---	---	---	---	10.52	---	---	10.61	---	---
24	---	---	---	---	---	---	10.59	---	---	10.59	---	---
25	---	---	---	---	---	---	10.65	---	---	10.67	---	---
26	---	---	---	---	---	9.78	10.71	---	---	10.75	---	---
27	---	---	---	---	---	9.86	10.78	---	---	10.86	---	---
28	---	---	---	---	---	9.95	10.83	---	---	10.86	---	---
29	---	---	---	---	---	10.03	---	---	---	10.53	---	---
30	---	---	---	---	---	10.03	---	---	---	10.35	---	---
31	---	---	---	---	---	10.09	---	---	---	10.50	---	---
MAX	---	---	---	---	---	10.09	10.83	---	---	10.86	11.28	---
WTR YR	2003	LOW 11.28										



GROUND-WATER RECORDS
Auglaize County

403233083574500. LOCAL NUMBER, AU-3

LOCATION.—Latitude 40°32'33", longitude 83°57'45", Hydrologic Unit 05080001, 1 mi southwest of New Hampshire, Ohio. 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.—Electronic data logger, 60-minute log interval.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

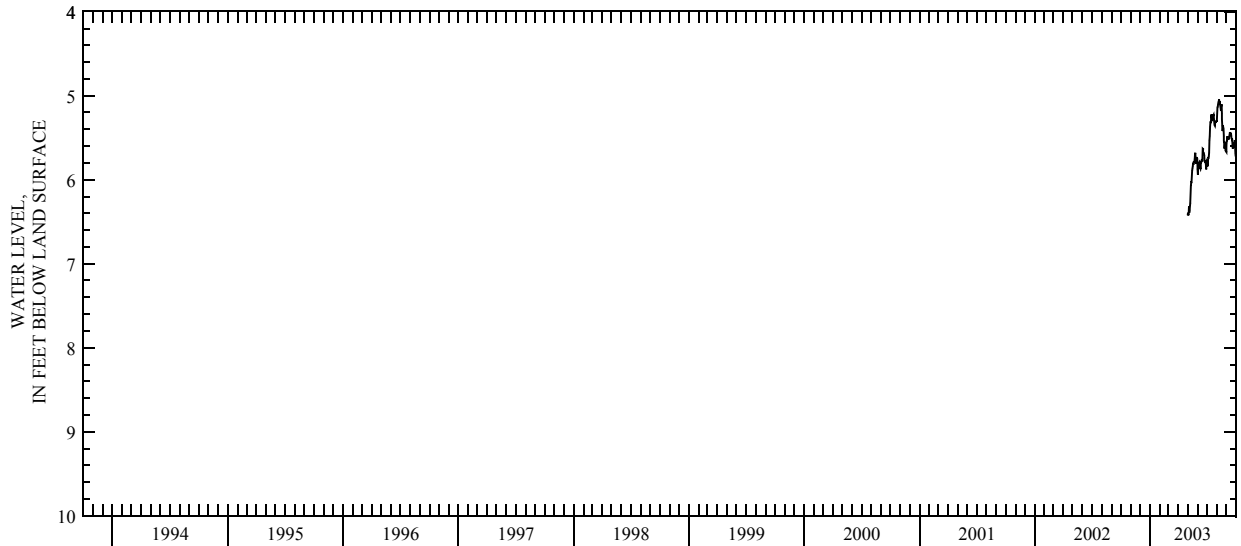
PERIOD OF RECORD.—December 1974 to September 1982 continuous, periodic October 1982 to April 2003, continuous thereafter.

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.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	6.42	5.88	5.78	5.31	5.60
2	---	---	---	---	---	---	---	6.39	5.94	5.79	5.21	5.54
3	---	---	---	---	---	---	---	6.42	5.86	5.80	5.14	5.50
4	---	---	---	---	---	---	---	6.41	5.80	5.84	5.13	5.48
5	---	---	---	---	---	---	---	6.32	5.81	5.74	5.10	5.52
6	---	---	---	---	---	---	---	6.39	5.80	5.74	5.08	5.51
7	---	---	---	---	---	---	---	6.36	5.78	5.72	5.07	5.50
8	---	---	---	---	---	---	---	6.32	5.79	5.68	5.04	5.52
9	---	---	---	---	---	---	---	6.28	5.85	5.53	5.10	5.50
10	---	---	---	---	---	---	---	6.16	5.87	5.48	5.08	5.48
11	---	---	---	---	---	---	---	6.07	5.85	5.37	5.06	5.46
12	---	---	---	---	---	---	---	6.03	5.81	5.32	5.10	5.43
13	---	---	---	---	---	---	---	6.03	5.78	5.32	5.14	5.45
14	---	---	---	---	---	---	---	5.96	5.77	5.29	5.18	5.46
15	---	---	---	---	---	---	---	5.89	5.76	5.22	5.14	5.44
16	---	---	---	---	---	---	6.28	5.86	5.78	5.26	5.10	5.47
17	---	---	---	---	---	---	---	5.84	5.75	5.27	5.21	5.51
18	---	---	---	---	---	---	---	5.80	5.63	5.26	5.28	5.52
19	---	---	---	---	---	---	---	5.82	5.64	5.27	5.42	5.51
20	---	---	---	---	---	---	---	5.78	5.68	5.26	5.38	5.58
21	---	---	---	---	---	---	---	5.80	5.68	5.23	5.35	5.63
22	---	---	---	---	---	---	---	5.78	5.71	5.22	5.39	5.56
23	---	---	---	---	---	---	---	5.75	5.74	5.27	5.48	5.60
24	---	---	---	---	---	---	---	5.69	5.78	5.31	5.54	5.61
25	9.38	---	---	---	---	---	---	5.68	5.80	5.35	5.56	5.61
26	---	---	---	---	---	---	---	5.77	5.78	5.36	5.63	5.60
27	---	---	---	---	---	---	---	5.81	5.78	5.32	5.55	5.53
28	---	---	---	---	---	---	---	5.78	5.88	5.31	5.63	5.59
29	---	---	---	---	---	---	---	5.74	5.84	5.31	5.65	5.68
30	---	---	---	---	---	---	---	5.74	5.83	5.30	5.66	5.72
31	---	---	---	---	---	---	---	5.75	---	5.30	5.67	---
MAX	9.38	---	---	---	---	---	6.28	6.42	5.94	5.84	5.67	5.72

WTR YR 2003 LOW 9.38



**GROUND-WATER RECORDS
Belmont County**

400118081082200. LOCAL NUMBER, B-3

LOCATION.—Latitude 40°01'18", longitude 81°08'22", Hydrologic Unit 05040001, Mt. Olivett Public Square, Mt. Olivett, Ohio. Owner: Village of Mt. Olivett.

AQUIFER.—Shale of Pennsylvanian Age.

WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 119 ft.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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.

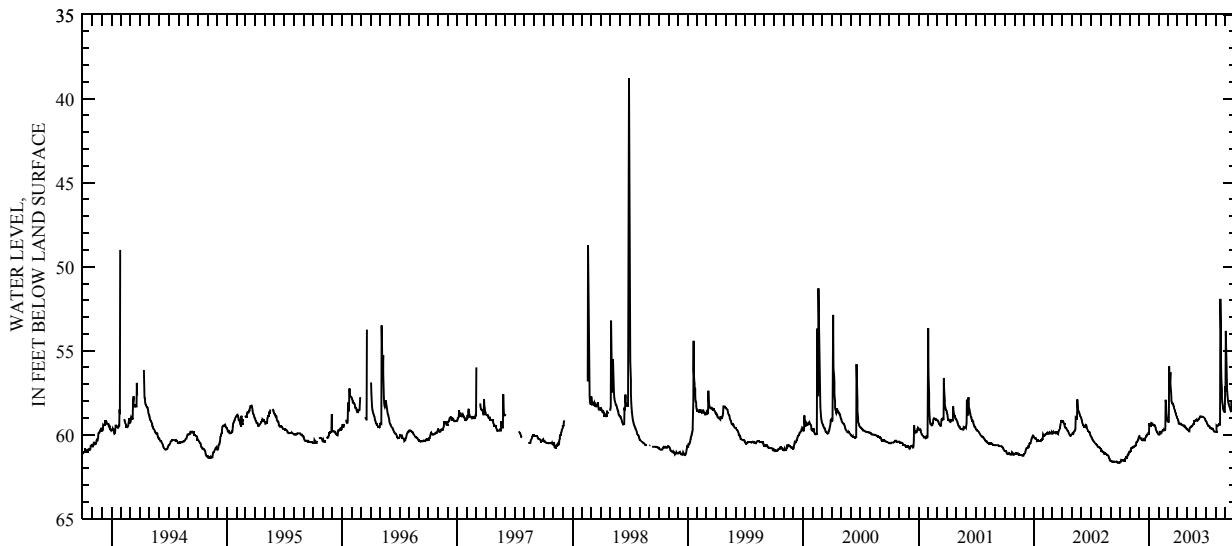
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—July 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 TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61.65	61.02	60.08	59.87	59.97	59.21	59.03	59.67	59.13	59.21	59.85	57.42
2	61.65	61.01	60.08	59.31	59.99	59.21	59.07	59.67	59.18	59.22	59.85	53.82
3	61.62	60.98	60.18	59.40	59.99	59.24	59.12	59.70	59.18	59.24	59.84	55.18
4	61.59	60.96	60.20	59.46	59.96	59.24	59.12	59.73	59.16	59.31	59.45	56.16
5	61.53	60.92	60.20	59.46	59.78	59.19	59.21	59.73	59.14	59.36	59.48	56.85
6	61.54	60.79	60.20	59.48	59.87	55.95	59.33	59.73	59.14	59.39	59.48	57.30
7	61.52	60.81	60.21	59.49	59.88	56.84	59.33	59.76	59.13	59.43	59.48	57.59
8	61.53	60.81	60.29	59.42	59.91	57.33	59.34	59.81	59.09	59.48	59.46	57.79
9	61.53	60.79	60.33	59.29	59.91	56.73	59.36	59.81	59.04	59.49	59.45	57.98
10	61.54	60.77	60.33	59.31	59.89	56.28	59.36	59.61	58.99	59.49	59.40	58.10
11	61.54	60.69	60.32	59.37	59.81	56.99	59.36	59.58	58.98	59.48	59.39	58.17
12	61.53	60.72	60.35	59.42	59.78	57.47	59.34	59.54	58.97	59.52	59.36	58.23
13	61.54	60.74	60.35	59.42	59.73	57.81	59.39	59.54	58.92	59.57	59.37	58.31
14	61.56	60.74	60.27	59.42	59.73	57.99	59.42	59.54	58.92	59.58	59.39	58.35
15	61.56	60.74	60.29	59.43	59.74	58.08	59.42	59.54	58.92	59.61	59.39	58.41
16	61.49	60.71	60.30	59.45	59.74	58.11	59.40	59.48	58.95	59.61	51.92	58.49
17	61.44	60.66	60.33	59.43	59.74	58.14	59.40	59.48	58.95	59.64	54.00	58.56
18	61.44	60.66	60.35	59.45	59.68	58.17	59.43	59.46	58.95	59.64	55.53	58.61
19	61.43	60.66	60.35	59.45	59.70	58.24	59.46	59.43	58.95	59.66	56.60	58.59
20	61.38	60.64	60.21	59.45	59.73	58.28	59.48	59.42	58.93	59.66	57.32	58.05
21	61.37	60.63	60.14	59.51	59.73	58.32	59.48	59.37	58.95	59.66	57.77	58.24
22	61.35	60.49	60.12	59.58	59.68	58.39	59.46	59.37	58.95	59.63	58.05	58.31
23	61.34	60.43	60.09	59.63	57.93	58.47	59.51	59.33	58.95	59.66	58.28	58.34
24	61.32	60.43	60.09	59.73	58.10	58.54	59.54	59.27	58.98	59.72	58.41	58.38
25	61.29	60.42	60.00	59.76	58.62	58.59	59.54	59.22	58.99	59.78	58.49	58.38
26	61.18	60.39	60.00	59.79	58.88	58.67	59.52	59.19	59.01	59.81	58.56	58.39
27	61.17	60.35	60.00	59.85	59.03	58.73	59.57	59.19	59.04	59.81	58.61	58.38
28	61.17	60.33	60.00	59.85	59.14	58.77	59.60	59.19	59.07	59.81	58.65	58.38
29	61.13	60.27	59.94	59.91	---	58.86	59.61	59.14	59.12	59.81	58.65	58.46
30	61.04	60.11	59.94	59.96	---	58.93	59.66	59.12	59.18	59.82	58.65	58.52
31	61.02	---	59.89	59.97	---	58.99	---	59.10	---	59.85	57.11	---
MAX	61.65	61.02	60.35	59.97	59.99	59.24	59.66	59.81	59.18	59.85	59.85	58.61
CAL YR 2002		LOW 61.68										
WTR YR 2003		LOW 61.65										



GROUND-WATER RECORDS

Brown County

385932083412400. LOCAL NUMBER, BR-20

LOCATION.—Latitude 38°59'32", longitude 83°41'24", Hydrologic Unit 05090201, near Fincastle, Ohio. 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.

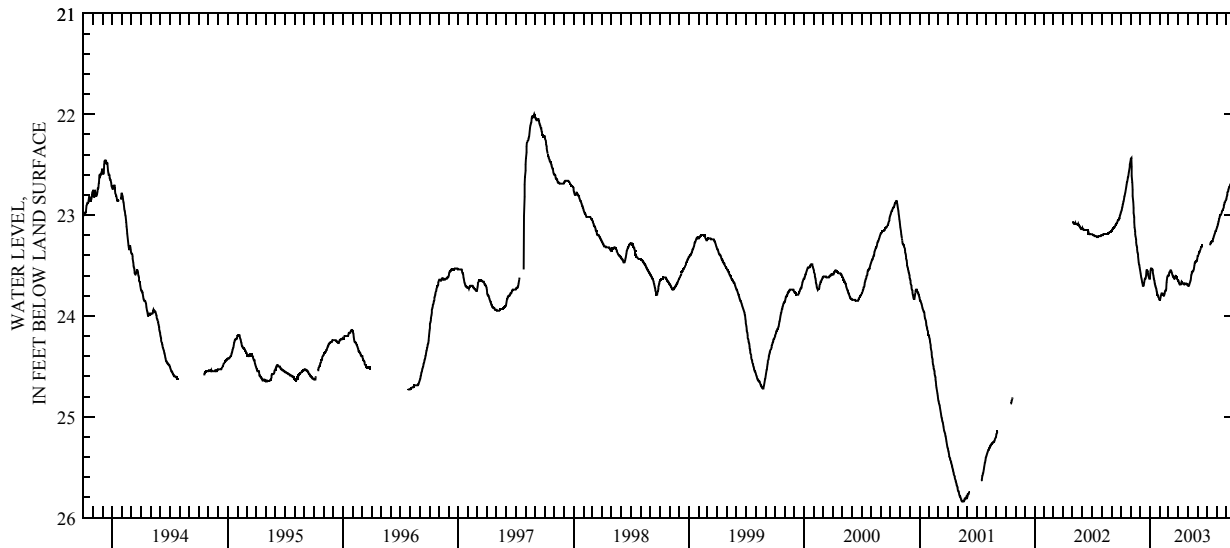
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—March 1993 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 25.84 ft below land-surface datum, May 16-21, 2001; minimum daily low, 22.00 ft below land-surface datum, Aug. 29, 1997.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.98	22.46	23.54	23.63	23.84	23.60	23.65	23.69	23.41	---	23.13	22.83
2	22.97	22.44	23.56	23.58	23.84	23.60	23.66	23.70	23.41	---	23.12	22.82
3	22.96	22.43	23.58	23.55	23.83	23.58	23.67	23.70	23.40	---	23.11	22.80
4	22.95	22.52	23.60	23.53	23.82	23.57	23.68	23.70	23.39	---	23.10	22.78
5	22.93	22.61	23.62	23.53	23.79	23.57	23.68	23.70	23.38	---	23.09	22.77
6	22.92	22.68	23.63	23.53	23.79	23.56	23.69	23.69	23.37	---	23.07	22.76
7	22.90	22.75	23.65	23.54	23.78	23.55	23.69	23.68	23.37	---	23.06	22.75
8	22.89	22.81	23.67	23.54	23.78	23.55	23.69	23.67	23.36	---	23.04	22.74
9	22.87	22.87	23.68	23.54	23.78	23.55	23.69	23.66	23.35	---	23.03	22.73
10	22.86	22.93	23.70	23.55	23.78	23.56	23.68	23.65	23.34	---	23.02	22.72
11	22.84	22.98	23.70	23.57	23.78	23.57	23.67	23.63	23.33	23.30	23.01	22.72
12	22.82	23.02	23.70	23.60	23.79	23.58	23.66	23.60	23.32	23.28	23.00	22.71
13	22.81	23.07	23.69	23.62	23.79	23.59	23.67	23.59	23.32	23.28	23.00	22.70
14	22.79	23.12	23.67	23.63	23.80	23.60	23.67	23.57	23.31	23.27	22.99	22.70
15	22.78	23.16	23.65	23.65	23.80	23.61	23.68	23.57	23.30	23.27	22.99	22.69
16	22.76	23.19	23.63	23.67	23.79	23.61	23.68	23.56	23.30	23.26	22.98	22.69
17	22.74	23.21	23.63	23.68	23.78	23.62	23.68	23.56	---	23.26	22.97	22.68
18	22.72	23.24	23.63	23.70	23.76	23.62	23.68	23.56	---	23.26	22.96	22.68
19	22.70	23.27	23.62	23.71	23.75	23.63	23.68	23.55	---	23.26	22.95	22.67
20	22.68	23.30	23.60	23.72	23.75	23.63	23.69	23.54	---	23.24	22.95	22.67
21	22.67	23.32	23.56	23.73	23.75	23.62	23.69	23.52	---	23.23	22.94	22.67
22	22.65	23.34	23.54	23.75	23.73	23.61	23.68	23.50	---	23.22	22.93	22.66
23	22.63	23.37	23.55	23.76	23.67	23.60	23.68	23.48	---	23.21	22.92	22.65
24	22.62	23.39	23.56	23.78	23.64	23.60	23.68	23.47	---	23.20	22.90	22.64
25	22.60	23.41	23.56	23.79	23.62	23.61	23.68	23.47	---	23.19	22.89	22.63
26	22.58	23.44	23.58	23.79	23.61	23.62	23.68	23.46	---	23.18	22.88	22.62
27	22.56	23.47	23.60	23.80	23.60	23.62	23.68	23.46	---	23.17	22.87	22.61
28	22.54	23.49	23.61	23.81	23.60	23.63	23.69	23.46	---	23.16	22.86	22.60
29	22.52	23.50	23.62	23.82	---	23.64	23.69	23.45	---	23.16	22.86	22.59
30	22.50	23.52	23.63	23.83	---	23.64	23.69	23.45	---	23.15	22.85	22.58
31	22.47	---	23.63	23.83	---	23.65	---	23.43	---	23.14	22.84	---
MAX	22.98	23.52	23.70	23.83	23.84	23.65	23.69	23.70	23.41	23.30	23.13	22.83
CAL YR 2002		LOW 23.70										
WTR YR 2003		LOW 23.84										



GROUND-WATER RECORDS
Butler County

391904084371800. LOCAL NUMBER, BU-12

LOCATION.—Latitude 39°19'04", longitude 84°37'18", Hydrologic Unit 05080002, 1.5 mi east of Ross, Ohio. Owner: City of Cincinnati.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled unused observation well, diameter 6 in., depth 157 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 547.33 ft above sea level. Measuring point: Floor of instrument shelter 7.8 ft above land-surface datum.

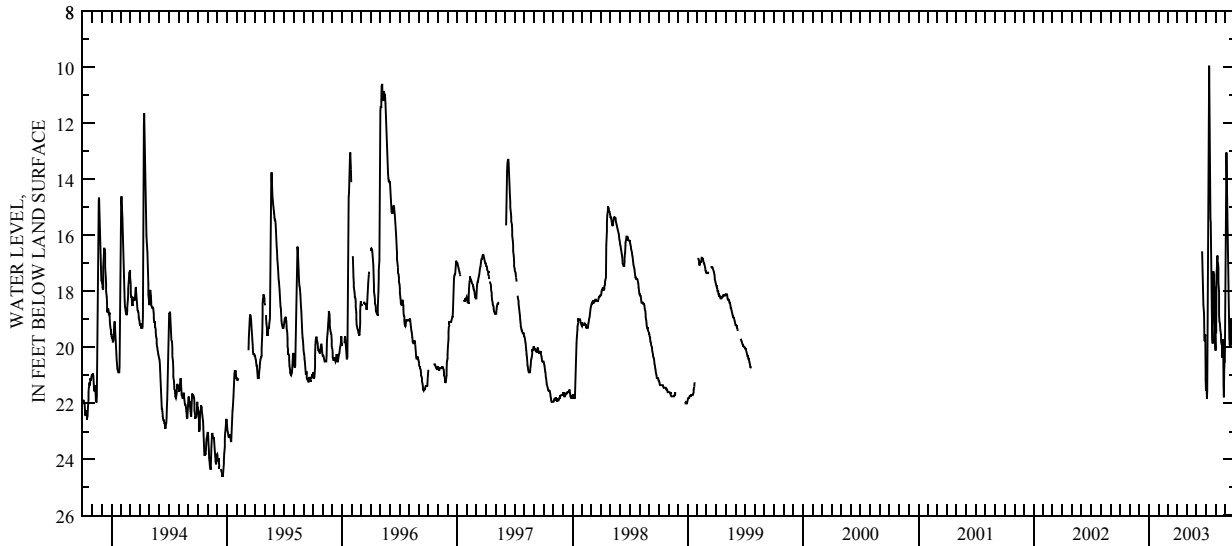
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—April 1968 to July 1999 and June 2003 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 and 25, 1968.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	21.56	19.38	18.68
2	---	---	---	---	---	---	---	---	---	21.00	19.42	18.07
3	---	---	---	---	---	---	---	---	---	21.44	18.74	13.63
4	---	---	---	---	---	---	---	---	---	21.84	17.42	13.05
5	---	---	---	---	---	---	---	---	---	21.57	16.97	14.02
6	---	---	---	---	---	---	---	---	---	19.65	16.72	15.06
7	---	---	---	---	---	---	---	---	---	18.44	16.98	16.28
8	---	---	---	---	---	---	---	---	---	14.52	17.00	17.45
9	---	---	---	---	---	---	---	---	---	13.22	17.20	18.08
10	---	---	---	---	---	---	---	---	---	11.30	17.67	18.50
11	---	---	---	---	---	---	---	---	---	9.94	18.02	19.04
12	---	---	---	---	---	---	---	---	---	10.87	18.84	19.41
13	---	---	---	---	---	---	---	---	---	12.04	19.06	19.68
14	---	---	---	---	---	---	---	---	---	14.56	19.16	19.86
15	---	---	---	---	---	---	---	---	---	15.39	19.23	19.99
16	---	---	---	---	---	---	---	---	---	15.54	19.39	19.71
17	---	---	---	---	---	---	---	---	---	16.61	19.54	19.17
18	---	---	---	---	---	---	---	---	---	17.22	19.72	18.98
19	---	---	---	---	---	---	---	---	16.58	17.89	19.85	19.48
20	---	---	---	---	---	---	---	---	17.10	19.30	19.94	19.76
21	---	---	---	---	---	---	---	---	17.70	19.71	20.17	19.90
22	---	---	---	---	---	---	---	---	18.15	19.87	20.37	19.92
23	---	---	---	---	---	---	---	---	18.49	18.08	19.92	19.78
24	---	---	---	---	---	---	---	---	18.63	17.28	19.72	19.78
25	---	---	---	---	---	---	---	---	18.79	17.36	20.08	19.79
26	---	---	---	---	---	---	---	---	19.65	17.46	21.39	19.80
27	---	---	---	---	---	---	---	---	19.78	17.79	21.79	19.78
28	---	---	---	---	---	---	---	---	19.63	17.88	20.82	18.52
29	---	---	---	---	---	---	---	---	19.54	18.74	20.54	17.66
30	---	---	---	---	---	---	---	---	21.16	19.80	20.51	17.65
31	---	---	---	---	---	---	---	---	---	20.12	19.64	---
MAX	---	---	---	---	---	---	---	---	21.16	21.84	21.79	19.99
WTR YR 2003	---	---	---	---	---	---	---	---	---	---	---	---
LOW	---	21.84	---	---	---	---	---	---	---	---	---	---



GROUND-WATER RECORDS

Butler County

391942084345700. LOCAL NUMBER, BU-18

LOCATION.—Latitude 39°19'42", longitude 84°34'57", Hydrologic Unit 05080002, in Fairfield, Ohio. 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, 60-minute log interval.

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.

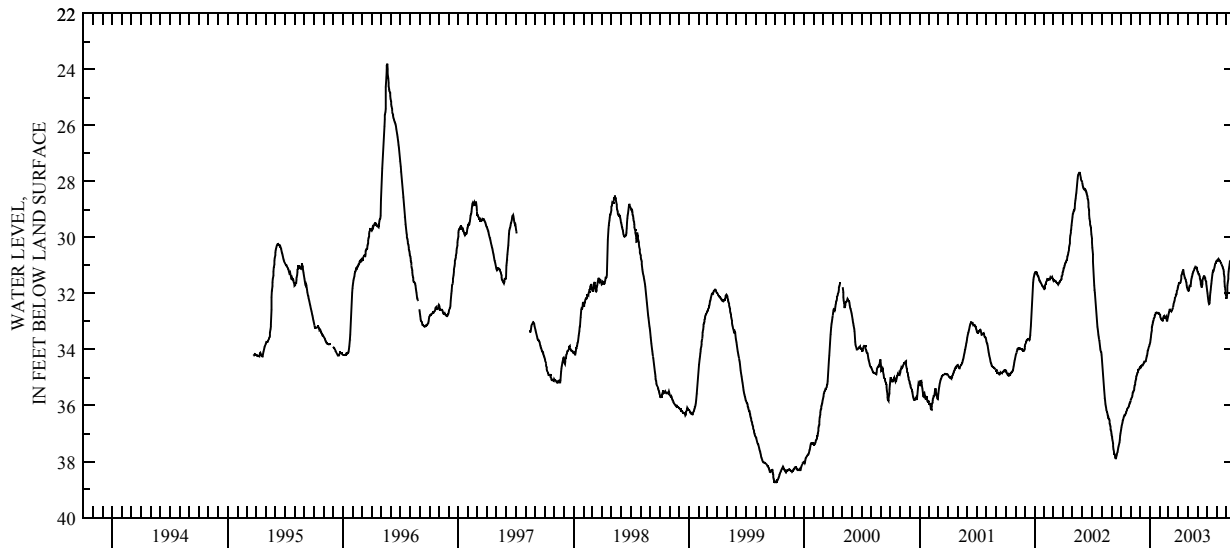
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—March 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 38.74 ft below land-surface datum, Sept. 29, 30, Oct. 4 and 5, 1999; minimum daily low, 23.79 ft below land surface, May 20, 1996.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36.92	35.83	34.64	33.78	32.73	32.76	31.71	31.85	31.22	31.82	30.82	32.16
2	36.86	35.78	34.62	33.73	32.75	32.69	31.67	31.89	31.24	31.91	30.84	32.16
3	36.78	35.75	34.64	33.65	32.79	32.66	31.64	31.91	31.25	31.99	30.84	31.94
4	36.71	35.71	34.62	33.56	32.87	32.60	31.60	31.91	31.31	32.11	30.84	31.71
5	36.66	35.70	34.58	33.45	32.90	32.55	31.61	31.90	31.31	32.19	30.78	31.62
6	36.61	35.65	34.57	33.37	32.92	32.59	31.61	31.77	31.32	32.27	30.77	31.48
7	36.55	35.58	34.56	33.32	32.94	32.62	31.61	31.74	31.36	32.34	30.80	31.34
8	36.51	35.54	34.57	33.20	32.95	32.62	31.62	31.75	31.41	32.38	30.82	31.21
9	36.47	35.52	34.57	33.12	32.95	32.63	31.57	31.74	31.46	32.37	30.82	31.11
10	36.43	35.49	34.53	33.07	32.97	32.64	31.47	31.74	31.53	32.30	30.82	31.04
11	36.39	35.46	34.51	33.03	32.97	32.61	31.37	31.65	31.60	32.07	30.84	30.95
12	36.35	35.42	34.50	32.97	32.89	32.58	31.31	31.52	31.67	31.95	30.86	30.87
13	36.36	35.37	34.48	32.92	32.86	32.56	31.28	31.46	31.74	31.86	30.89	30.84
14	36.36	35.30	34.44	32.88	32.83	32.55	31.26	31.42	31.78	31.74	30.91	30.82
15	36.32	35.24	34.43	32.85	32.82	32.49	31.22	31.38	31.77	31.64	30.93	30.84
16	36.29	35.18	34.44	32.82	32.80	32.44	31.17	31.32	31.67	31.53	30.96	30.83
17	36.26	35.12	34.44	32.77	32.82	32.37	31.15	31.28	31.55	31.44	30.99	30.86
18	36.23	35.05	34.43	32.75	32.88	32.32	31.22	31.25	31.48	31.34	31.01	30.87
19	36.19	34.98	34.42	32.71	32.88	32.29	31.28	31.21	31.43	31.26	31.04	30.93
20	36.16	34.95	34.35	32.68	32.87	32.25	31.33	31.17	31.41	31.20	31.07	31.01
21	36.12	34.89	34.30	32.67	32.84	32.18	31.38	31.15	31.39	31.21	31.11	31.08
22	36.10	34.85	34.25	32.68	32.82	32.15	31.44	31.12	31.38	31.20	31.15	31.14
23	36.08	34.83	34.21	32.68	32.91	32.11	31.48	31.08	31.39	31.15	31.22	31.21
24	36.07	34.80	34.15	32.68	32.97	32.08	31.50	31.05	31.41	31.10	31.29	31.26
25	36.05	34.75	34.06	32.66	32.97	32.04	31.51	31.07	31.45	31.05	31.40	31.32
26	36.03	34.74	34.02	32.68	32.91	32.02	31.57	31.09	31.50	31.00	31.58	31.34
27	35.98	34.73	33.98	32.70	32.86	31.96	31.61	31.09	31.54	30.93	31.74	31.37
28	35.95	34.69	33.93	32.66	32.81	31.90	31.71	31.09	31.58	30.91	31.87	31.41
29	35.93	34.66	33.88	32.72	---	31.86	31.78	31.08	31.64	30.90	31.97	31.46
30	35.90	34.64	33.86	32.72	---	31.83	31.81	31.10	31.73	30.88	32.04	31.50
31	35.87	---	33.83	32.72	---	31.78	---	31.18	---	30.84	32.12	---
MAX	36.92	35.83	34.64	33.78	32.97	32.76	31.81	31.91	31.78	32.38	32.12	32.16
CAL YR 2002		LOW 37.89										
WTR YR 2003		LOW 36.92										



GROUND-WATER RECORDS
Butler County

392017084345200. LOCAL NUMBER, BU-7

LOCATION.—Latitude 39°20'17", longitude 84°34'52", Hydrologic Unit 05080002, 5584 East River Road in Fairfield, Ohio. 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.—Electronic data logger, 60-minute log interval.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

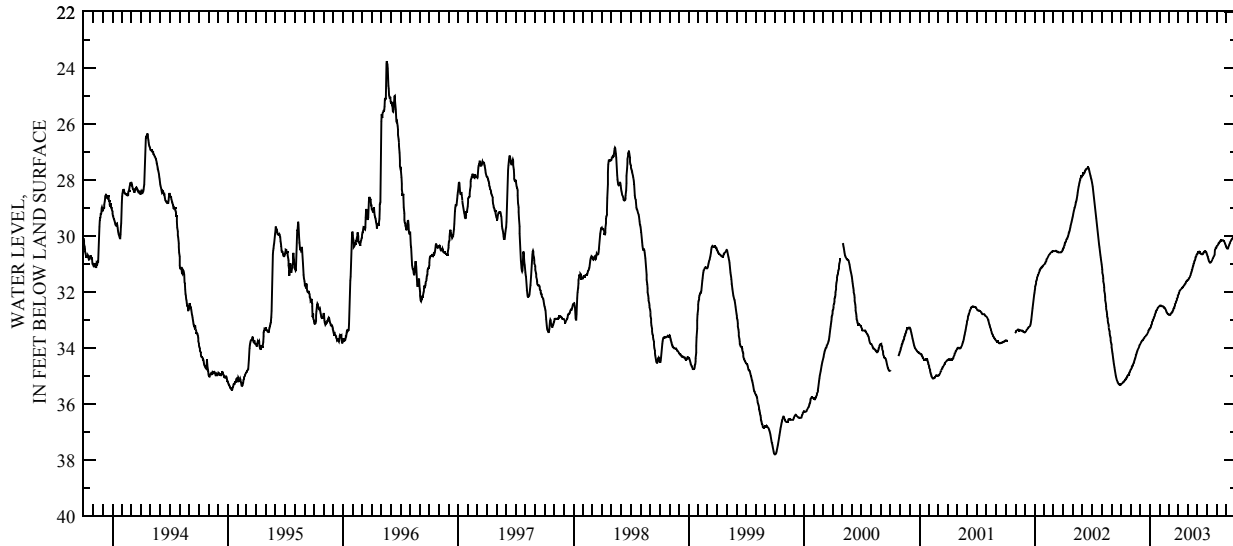
PERIOD OF RECORD.—August 1943 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 37.81 ft below land-surface datum, Sept. 30, Oct. 1 and 2, 1999; minimum daily low, 11.45 ft below land-surface datum, June 6, 1947.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35.31	34.79	33.87	33.31	32.51	32.81	32.11	31.59	30.63	30.66	30.38	30.42
2	35.30	34.77	33.84	33.29	32.50	32.82	32.07	31.57	30.61	30.69	30.36	30.45
3	35.29	34.74	33.82	33.27	32.49	32.83	32.04	31.56	30.60	30.73	30.34	30.46
4	35.28	34.71	33.80	33.24	32.49	32.83	32.01	31.54	30.59	30.77	30.33	30.46
5	35.27	34.69	33.78	33.20	32.49	32.83	31.99	31.52	30.58	30.82	30.30	30.46
6	35.26	34.66	33.76	33.16	32.51	32.82	31.96	31.49	30.58	30.85	30.28	30.44
7	35.24	34.64	33.75	33.13	32.51	32.81	31.94	31.47	30.59	30.90	30.27	30.41
8	35.23	34.61	33.73	33.10	32.51	32.80	31.93	31.44	30.60	30.93	30.25	30.37
9	35.22	34.59	33.72	33.07	32.51	32.78	31.92	31.41	30.62	30.95	30.24	30.34
10	35.20	34.56	33.71	33.04	32.51	32.77	31.90	31.38	30.63	30.96	30.23	30.31
11	35.19	34.53	33.69	33.01	32.52	32.75	31.89	31.35	30.64	30.96	30.21	30.27
12	35.18	34.50	33.67	32.97	32.53	32.73	31.87	31.31	30.65	30.96	30.20	30.24
13	35.16	34.47	33.66	32.94	32.55	32.71	31.86	31.28	30.65	30.95	30.19	30.21
14	35.15	34.44	33.64	32.91	32.56	32.68	31.85	31.24	30.66	30.93	30.18	30.19
15	35.13	34.40	33.63	32.88	32.57	32.65	31.84	31.20	30.66	30.91	30.17	30.17
16	35.12	34.36	33.61	32.85	32.58	32.63	31.82	31.15	30.66	30.89	30.17	30.15
17	35.11	34.32	33.60	32.81	32.59	32.61	31.81	31.11	30.65	30.86	30.17	30.13
18	35.08	34.28	33.58	32.78	32.61	32.58	31.80	31.07	30.64	30.83	30.17	30.11
19	35.07	34.24	33.57	32.75	32.62	32.56	31.78	31.03	30.62	30.80	30.16	30.09
20	35.05	34.20	33.56	32.72	32.64	32.52	31.76	30.99	30.60	30.78	30.16	30.07
21	35.03	34.16	33.54	32.69	32.67	32.48	31.74	30.95	30.59	30.76	30.17	30.06
22	35.01	34.13	33.52	32.66	32.70	32.44	31.73	30.92	30.57	30.74	30.18	30.06
23	34.99	34.09	33.50	32.64	32.73	32.41	31.71	30.88	30.56	30.72	30.18	30.06
24	34.98	34.06	33.48	32.62	32.75	32.38	31.69	30.84	30.55	30.69	30.20	30.06
25	34.96	34.03	33.46	32.60	32.77	32.35	31.67	30.81	30.55	30.66	30.22	30.06
26	34.94	34.01	33.43	32.58	32.79	32.32	31.64	30.77	30.56	30.49	30.24	30.06
27	34.92	33.98	33.41	32.57	32.80	32.29	31.63	30.74	30.56	30.47	30.27	30.06
28	34.89	33.95	33.39	32.55	32.81	32.25	31.61	30.71	30.58	30.45	30.30	30.06
29	34.87	33.92	33.36	32.54	---	32.22	31.60	30.69	30.60	30.44	30.33	30.06
30	34.84	33.89	33.34	32.53	---	32.18	31.60	30.67	30.63	30.42	30.36	30.06
31	34.81	---	33.33	32.52	---	32.14	---	30.65	---	30.40	30.39	---
MAX	35.31	34.79	33.87	33.31	32.81	32.83	32.11	31.59	30.66	30.96	30.39	30.46

CAL YR 2002 LOW 35.32
WTR YR 2003 LOW 35.31



GROUND-WATER RECORDS

Butler County

392048084311400. LOCAL NUMBER, BU-8

LOCATION.—Latitude 39°20'48", longitude 84°31'14", Hydrologic Unit 05080002, Symmes and Gilmore Road, east of Hamilton, Ohio. Owner: City of Hamilton.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled test artesian well, diameter 6 in., depth 200 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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.

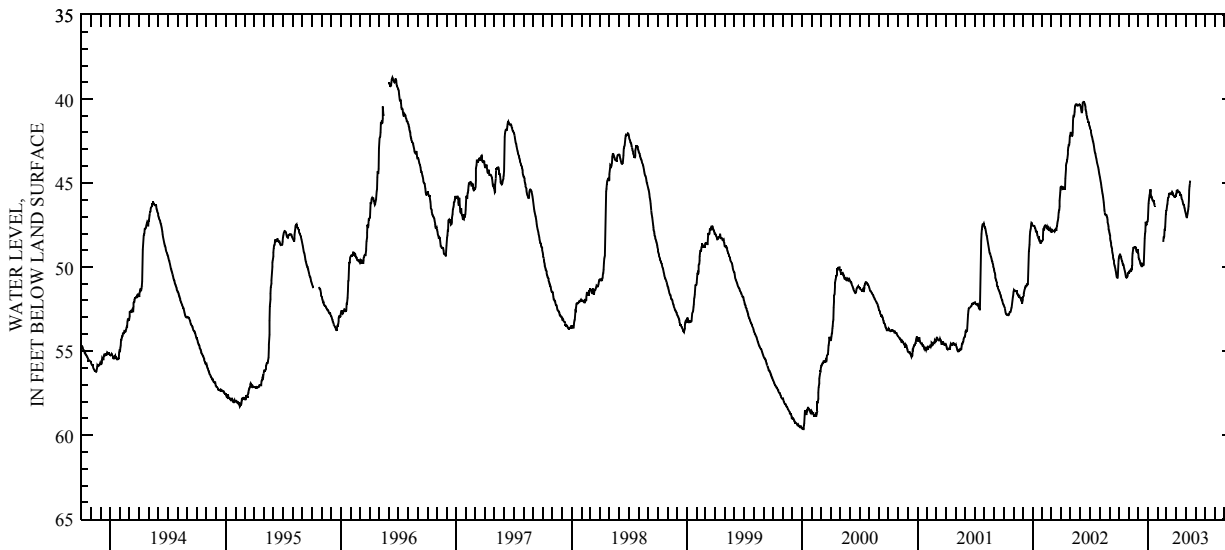
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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 TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	49.48	50.33	49.09	47.15	---	46.63	45.63	46.78	---	---	---	---
2	49.37	50.32	49.18	46.73	---	46.46	45.43	46.87	---	---	---	---
3	49.29	50.27	49.41	46.21	---	46.32	45.43	46.98	---	---	---	---
4	49.25	50.22	49.51	46.03	---	46.25	45.42	47.04	---	---	---	---
5	49.25	50.23	49.53	45.87	---	46.00	45.46	47.04	---	---	---	---
6	49.28	50.16	49.62	45.76	---	45.88	45.55	46.90	---	---	---	---
7	49.35	50.24	49.66	45.78	---	45.86	45.55	46.81	---	---	---	---
8	49.42	50.24	49.76	45.59	---	45.82	45.54	46.67	---	---	---	---
9	49.50	50.22	49.85	45.35	---	45.59	45.55	46.57	---	---	---	---
10	49.58	50.15	49.86	45.50	---	45.65	45.55	46.37	---	---	---	---
11	49.63	49.94	49.87	45.68	---	45.65	45.53	46.07	---	---	---	---
12	49.68	49.92	49.95	45.82	---	45.63	45.55	45.44	---	---	---	---
13	49.79	49.54	49.95	45.85	---	45.63	45.64	45.20	---	---	---	---
14	49.86	49.19	49.80	45.90	---	45.67	45.70	45.04	---	---	---	---
15	49.86	48.93	49.82	45.99	---	45.67	45.71	44.84	---	---	---	---
16	49.90	48.85	49.86	46.02	---	45.63	45.71	---	---	---	---	---
17	50.00	48.83	49.89	46.05	---	45.55	45.76	---	---	---	---	---
18	50.09	48.81	49.89	46.08	---	45.51	45.87	---	---	---	---	---
19	50.15	48.81	49.83	46.09	48.50	45.56	45.97	---	---	---	---	---
20	50.24	48.83	49.45	46.13	48.23	45.59	46.02	---	---	---	---	---
21	50.33	48.81	48.84	46.24	48.23	45.62	46.05	---	---	---	---	---
22	50.43	48.76	48.30	46.35	48.17	45.70	46.13	---	---	---	---	---
23	50.55	48.83	48.02	46.41	47.78	45.73	46.24	---	---	---	---	---
24	50.61	48.88	47.88	---	47.78	45.76	46.29	---	---	---	---	---
25	50.63	48.96	47.30	---	47.59	45.79	46.29	---	---	---	---	---
26	50.61	49.03	47.45	---	47.26	45.83	46.34	---	---	---	---	---
27	50.59	49.10	47.49	---	46.86	45.83	46.46	---	---	---	---	---
28	50.56	49.12	47.48	---	46.66	45.78	46.53	---	---	---	---	---
29	50.47	49.10	47.32	---	---	45.75	46.63	---	---	---	---	---
30	50.35	48.92	47.31	---	---	45.76	46.71	---	---	---	---	---
31	50.34	---	47.26	---	---	45.73	---	---	---	---	---	---
MAX	50.63	50.33	49.95	47.15	48.50	46.63	46.71	47.04	---	---	---	---
CAL YR 2002		LOW 50.64										
WTR YR 2003		LOW 50.63										



GROUND-WATER RECORDS
Butler County

392737084291300. LOCAL NUMBER, BU-16

LOCATION.—Latitude 39°27'37", longitude 84°29'13", Hydrologic Unit 05080002, Wayne–Madison Road 2 mi southwest of Trenton, Ohio. Owner: Miller Brewing Company.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled test water table well, diameter 4 in., depth 218 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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.

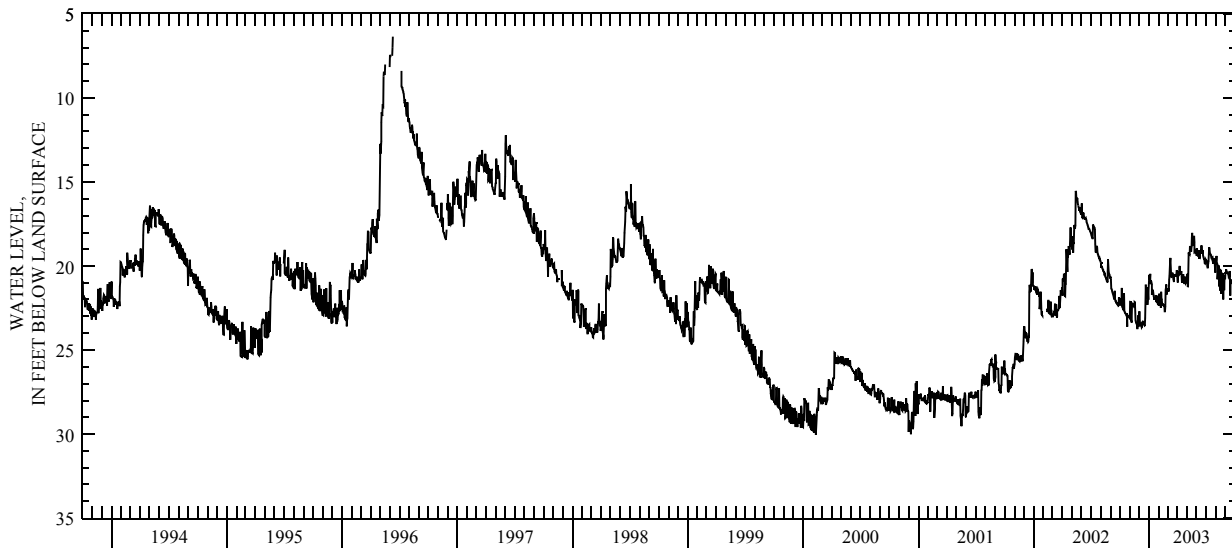
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR. Prior to 1992 published as 392733084293000.

PERIOD OF RECORD.—May 1982 to July 1987, April 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 30.05 ft below land-surface datum, Feb. 10, 2000; minimum daily low, 5.71 ft below land-surface datum, April. 17, 1991.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.10	23.09	23.07	21.00	22.32	21.47	20.31	20.81	19.38	19.64	19.72	20.35
2	22.16	23.10	22.70	20.52	22.32	21.47	20.99	20.47	19.31	19.67	19.80	20.47
3	22.26	22.13	23.13	20.66	21.65	21.33	20.39	20.51	18.97	19.71	19.40	20.18
4	22.25	22.13	23.52	20.82	22.16	21.48	20.42	21.24	19.35	19.77	19.80	20.29
5	22.31	23.15	23.49	20.46	21.84	21.48	20.60	21.20	19.40	20.00	19.88	20.34
6	22.32	23.22	23.47	21.02	21.83	20.82	20.47	19.85	19.38	20.09	19.89	20.38
7	21.30	23.36	23.54	21.05	21.89	20.58	20.45	19.19	19.10	20.09	20.79	20.41
8	22.41	23.04	23.54	20.91	22.49	20.58	20.09	19.32	19.10	19.85	20.15	20.44
9	22.47	22.34	23.63	20.90	21.54	19.71	19.98	19.31	19.49	19.71	20.01	20.47
10	22.50	22.29	23.58	21.08	21.95	19.52	20.33	19.32	19.49	19.31	19.95	20.50
11	22.55	22.26	23.34	21.71	21.99	19.61	20.39	18.81	19.52	18.89	20.20	20.61
12	22.56	22.28	23.33	21.42	22.28	20.46	20.47	18.92	19.25	18.95	21.22	20.59
13	22.64	22.28	23.39	21.45	22.26	20.63	20.46	19.00	19.25	19.17	20.56	20.65
14	21.62	22.38	23.36	21.50	22.28	20.63	20.30	19.10	19.25	19.26	21.46	20.29
15	22.64	22.43	23.42	21.53	22.32	20.61	20.60	19.10	19.10	19.31	21.33	20.73
16	22.71	22.41	23.43	21.83	22.29	20.61	21.00	18.87	19.04	19.32	20.25	21.76
17	22.76	22.14	23.51	21.92	22.31	20.39	20.72	18.27	18.77	19.38	20.28	20.80
18	22.82	22.16	23.55	21.92	22.37	20.55	20.76	18.03	19.00	19.49	21.60	20.86
19	22.83	22.64	23.54	21.89	22.38	20.67	20.93	18.59	19.13	19.47	21.58	20.94
20	22.86	23.24	23.09	21.89	22.70	20.75	20.49	18.75	19.15	19.53	20.43	20.95
21	22.88	23.30	21.97	21.97	22.70	20.94	20.81	18.77	19.06	19.58	20.44	20.98
22	22.94	23.37	21.11	21.72	22.41	20.54	20.84	18.77	19.40	19.56	20.44	20.98
23	22.97	23.42	21.74	21.77	21.41	20.54	20.82	18.57	19.45	19.86	20.47	21.00
24	23.60	23.36	21.71	22.10	21.29	20.57	21.08	18.20	19.53	19.70	20.44	21.07
25	23.06	23.70	21.26	22.13	21.09	20.60	20.64	18.59	19.59	19.80	22.00	21.10
26	23.01	23.70	21.92	22.13	21.71	20.54	20.67	19.17	19.58	19.67	20.59	21.07
27	22.91	23.57	21.84	21.86	21.38	20.52	20.72	19.13	19.85	19.58	20.62	21.06
28	22.97	23.55	22.31	21.83	21.42	20.55	20.99	19.13	19.86	19.55	21.45	20.68
29	23.01	22.92	21.42	22.22	---	20.55	20.94	19.19	19.75	19.70	20.74	20.80
30	23.00	23.49	22.01	22.28	---	20.25	20.79	19.17	19.62	20.39	20.74	21.06
31	23.04	---	21.66	22.28	---	20.30	---	18.95	---	19.74	20.74	---
MAX	23.60	23.70	23.63	22.28	22.70	21.48	21.08	21.24	19.86	20.39	22.00	21.76
CAL YR 2002		LOW 23.70										



GROUND-WATER RECORDS

Butler County

392743084295500. LOCAL NUMBER, BU-17

LOCATION.—Latitude 39°27'43", longitude 84°29'55", Hydrologic Unit 05080002, southwest of Trenton, Ohio. 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.—Electronic data logger, 60-minute log interval.

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.

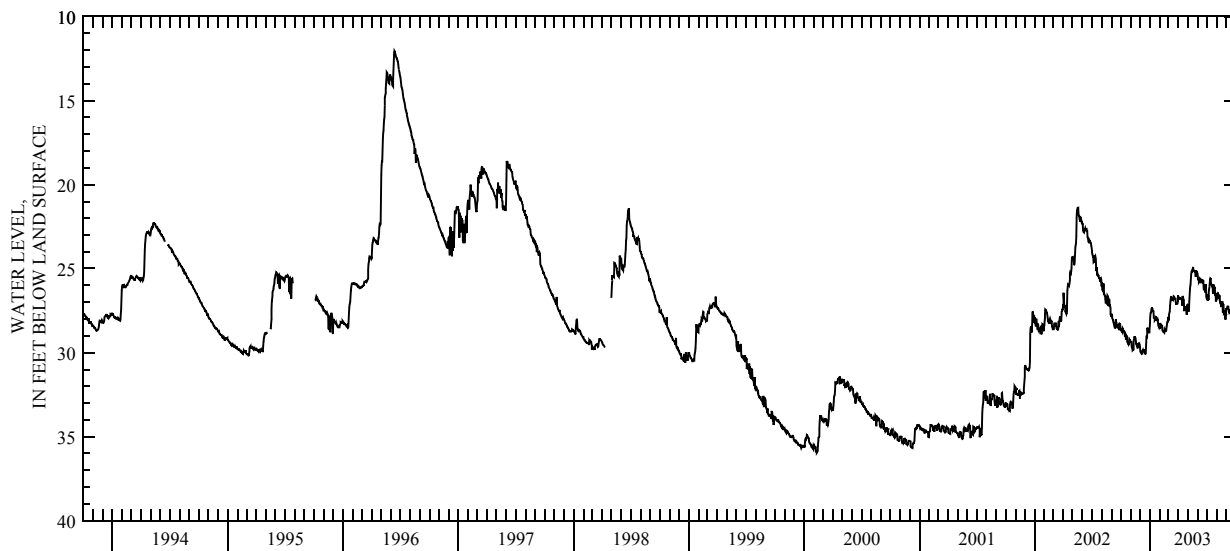
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR. Prior to 1992 published as 392733084293000.

PERIOD OF RECORD.—March 1993 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 35.94 ft below land-surface datum, Feb. 11, 2000; minimum daily low, 12.06 ft below land-surface datum, June 12, 1996.

DEPTH TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.62	29.36	29.67	28.33	28.56	28.07	26.65	27.24	25.32	26.79	26.65	27.42
2	28.68	29.38	29.91	27.87	28.56	28.02	26.72	27.48	25.61	26.76	26.70	27.40
3	28.73	29.37	29.99	27.65	28.23	27.69	26.75	27.53	25.65	26.87	26.72	27.26
4	28.73	29.61	30.00	27.62	28.31	27.62	26.78	27.53	25.67	26.93	26.45	27.26
5	28.77	29.68	30.03	27.56	28.37	27.54	26.85	27.50	25.71	26.55	26.79	27.24
6	28.80	29.76	30.00	27.36	28.35	27.20	26.81	26.96	25.82	26.88	26.55	27.26
7	28.58	29.81	30.06	27.33	28.40	26.97	26.78	26.63	25.76	26.33	26.60	27.29
8	28.62	29.87	30.06	27.39	28.40	26.82	26.83	26.30	25.77	26.22	26.61	27.56
9	28.70	29.83	29.85	27.39	28.41	26.63	26.76	26.03	25.58	26.08	26.64	27.58
10	28.71	29.79	29.82	27.51	28.68	26.78	26.78	25.93	25.62	25.88	26.64	27.65
11	28.76	29.31	29.90	27.56	28.73	26.76	26.76	25.65	25.63	25.63	26.97	27.62
12	28.76	29.15	29.90	27.56	28.76	26.81	26.83	25.31	25.63	25.58	27.05	27.42
13	28.85	29.03	29.96	27.83	28.79	26.88	26.83	25.19	25.67	25.61	27.12	27.47
14	29.07	29.08	29.90	27.92	28.79	26.88	27.20	25.19	25.70	25.90	27.17	27.47
15	28.88	29.08	29.82	27.95	28.80	26.85	26.64	25.19	25.68	25.95	27.20	27.81
16	28.92	29.12	30.03	27.95	28.82	26.87	26.75	25.07	25.86	26.00	27.18	27.86
17	29.24	29.15	30.08	28.07	28.61	26.65	26.76	25.01	25.79	26.03	27.23	27.90
18	29.00	29.43	30.08	28.01	28.65	26.68	26.83	24.89	25.70	26.10	27.00	27.95
19	29.03	29.49	30.06	28.02	28.67	26.73	26.90	25.13	25.71	26.12	27.00	28.01
20	29.04	29.54	29.63	27.86	28.71	26.81	27.43	25.16	25.76	26.51	27.62	28.02
21	29.33	29.58	29.13	27.90	28.71	26.83	27.42	25.13	26.21	25.93	27.13	28.05
22	29.40	29.64	28.97	27.93	28.67	26.79	27.53	25.16	26.27	26.00	27.15	27.78
23	29.40	29.70	29.16	27.95	28.47	26.79	27.30	25.19	26.22	26.04	27.72	27.78
24	29.49	29.68	28.52	28.02	28.37	27.08	27.30	25.19	26.30	26.07	27.77	27.83
25	29.52	29.49	28.58	28.08	28.20	27.11	27.32	25.23	26.36	26.15	27.48	27.88
26	29.46	29.48	28.83	28.05	28.11	27.11	27.38	25.50	26.42	26.16	27.53	27.86
27	29.48	29.57	28.62	28.29	28.08	27.08	27.40	25.14	25.92	26.60	27.62	27.90
28	29.25	29.52	28.62	28.35	27.86	27.06	27.75	25.16	26.54	26.45	27.96	27.92
29	29.28	29.49	28.62	28.44	---	27.06	27.18	25.19	26.64	26.93	28.05	28.18
30	29.27	29.60	28.85	28.49	---	26.96	27.17	25.20	26.76	26.93	27.75	28.23
31	29.33	---	28.62	28.47	---	26.65	---	25.25	---	26.67	27.71	---
MAX	29.52	29.87	30.08	28.49	28.82	28.07	27.75	27.53	26.76	26.93	28.05	28.23
CAL YR 2002		LOW 30.08										
WTR YR 2003		LOW 30.08										



GROUND-WATER RECORDS
Butler County

392939084231700. LOCAL NUMBER, BU-3

LOCATION.—Latitude 39°29'39", longitude 84°23'17", Hydrologic Unit 05080002, Armco Steel Corp., Route 122 in Middletown, Ohio. 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.

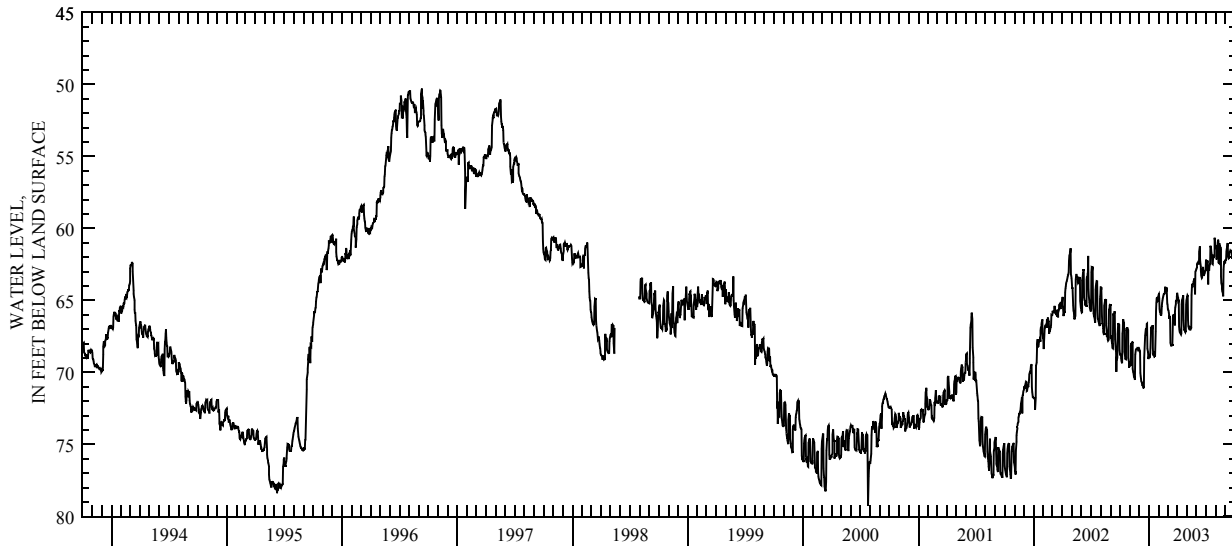
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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 TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	68.67	69.52	68.43	68.83	64.59	65.29	64.47	64.86	62.82	62.21	61.37	62.16
2	68.78	69.50	68.43	68.86	64.53	65.60	64.72	64.75	62.71	62.22	61.37	62.22
3	68.77	69.52	68.58	68.74	64.85	65.67	64.88	64.65	62.49	62.32	61.44	62.12
4	68.71	69.49	68.48	68.81	65.57	65.69	64.78	64.70	62.42	62.91	62.14	61.57
5	69.02	68.16	70.01	68.65	65.75	65.86	65.08	66.38	62.43	62.38	61.96	61.43
6	69.19	68.00	70.25	68.65	65.76	66.03	65.07	66.77	62.50	62.21	61.95	61.32
7	69.32	67.96	70.42	67.28	65.94	66.30	66.80	66.87	62.31	63.06	61.87	61.10
8	69.34	68.01	70.65	66.90	65.94	66.10	67.03	66.81	62.30	63.89	60.78	61.02
9	67.29	67.99	70.67	66.85	66.04	66.22	67.20	66.81	62.50	62.86	60.91	61.92
10	67.11	67.87	70.70	66.93	65.89	67.71	67.21	66.88	61.63	62.66	62.39	62.01
11	66.31	69.74	70.84	66.92	65.40	67.93	67.20	66.96	61.24	62.93	62.42	62.08
12	66.37	69.89	70.94	66.95	65.16	68.14	67.33	67.07	61.79	62.60	61.12	62.07
13	66.55	70.06	70.83	66.71	65.00	68.18	67.37	66.99	62.29	62.49	61.03	61.78
14	66.49	70.09	71.05	68.32	64.87	68.15	67.29	66.78	62.64	62.45	61.26	61.68
15	68.11	70.29	71.05	68.72	64.75	68.10	65.26	66.94	62.89	61.20	61.35	61.62
16	68.55	70.32	71.10	68.67	64.67	68.10	64.99	64.62	63.23	61.29	61.32	61.55
17	68.83	70.38	68.97	68.76	64.56	68.04	64.88	64.12	63.36	61.39	61.46	61.60
18	69.04	70.51	68.33	68.82	64.56	66.16	64.84	63.87	63.41	61.69	63.34	61.59
19	69.07	68.76	67.82	68.71	64.55	66.03	64.76	64.09	63.39	61.83	63.77	61.65
20	69.08	68.59	67.41	68.87	64.53	65.97	64.66	63.84	62.95	61.86	63.99	61.68
21	67.14	68.40	67.20	68.86	64.29	66.14	66.37	63.83	62.79	62.47	64.20	61.69
22	67.05	68.38	67.00	67.14	64.06	66.05	66.79	63.81	62.67	62.48	64.35	62.11
23	67.08	68.37	66.92	67.07	64.33	66.00	67.05	63.66	63.17	62.16	64.50	62.03
24	66.87	68.33	67.46	65.73	64.33	66.74	67.08	63.56	63.25	62.05	64.59	61.91
25	66.88	68.37	66.61	65.17	64.33	65.87	66.99	63.46	63.25	61.96	64.72	61.85
26	67.03	68.37	66.60	64.85	64.10	65.48	67.10	63.50	63.13	61.83	62.85	61.87
27	67.07	68.42	68.07	64.83	64.60	65.24	67.17	64.59	63.09	62.00	62.52	60.76
28	68.99	68.38	68.33	64.95	65.19	65.07	67.11	63.24	63.01	61.86	62.37	60.73
29	69.22	68.21	68.57	65.05	---	65.04	65.29	62.96	62.96	60.64	62.24	61.37
30	69.62	68.38	69.04	65.02	---	64.90	64.97	62.88	62.84	60.96	62.39	61.29
31	69.61	---	69.06	64.76	---	64.73	---	62.83	---	61.20	62.38	---
MAX	69.62	70.51	71.10	68.87	66.04	68.18	67.37	67.07	63.41	63.89	64.72	62.22
CAL YR 2002		LOW 72.59										
WTR YR 2003		LOW 71.10										



GROUND-WATER RECORDS
Butler County

393103084240900. LOCAL NUMBER, BU-2

LOCATION.—Latitude 39°31'03", longitude 84°24'09", Hydrologic Unit 05080002, in basement of YMCA in Middletown, Ohio. 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

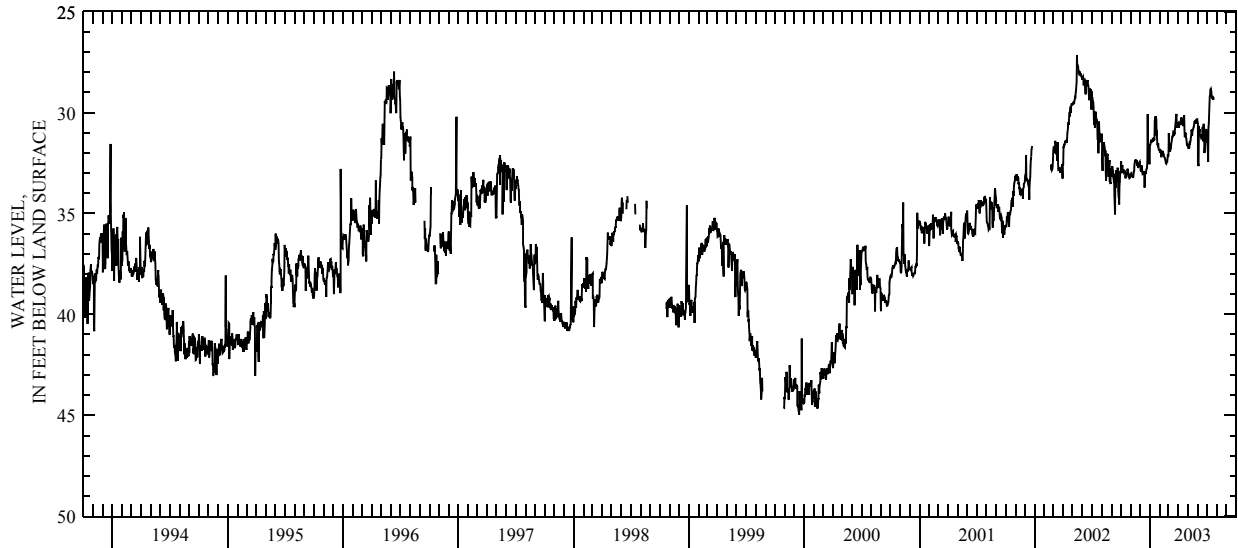
PERIOD OF RECORD.—October 1942 to current year.

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 TO WATER LEVEL, FEET BELOW LAND SURFACE, WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	32.89	33.12	32.60	31.61	31.86	32.14	30.49	31.56	30.45	30.90	---	---
2	32.41	33.03	32.64	31.60	31.92	31.01	30.75	31.65	30.52	31.46	---	---
3	32.74	33.00	32.87	31.52	32.00	31.60	30.73	31.70	32.45	31.56	---	---
4	32.74	33.09	32.91	31.39	31.85	31.58	30.63	31.78	32.65	31.90	---	---
5	32.68	33.15	32.64	31.32	31.88	31.75	30.47	31.66	30.67	32.44	---	---
6	32.60	33.16	32.65	31.45	32.15	31.92	30.52	31.76	30.89	30.71	---	---
7	32.91	33.17	32.62	31.40	32.20	31.77	30.54	31.50	30.88	30.53	---	---
8	32.95	33.13	32.91	31.43	32.06	31.77	30.58	31.52	30.80	30.17	---	---
9	32.79	33.16	33.05	31.41	32.05	31.65	30.43	31.47	31.20	29.69	---	---
10	32.88	33.01	33.02	31.34	31.97	31.49	30.38	31.37	31.08	29.19	---	---
11	32.95	32.96	32.94	31.32	31.89	31.42	30.23	31.22	31.20	29.12	---	---
12	32.84	32.89	32.94	31.35	31.99	31.29	30.39	31.13	31.13	28.83	---	---
13	32.94	32.70	32.92	31.28	32.01	31.19	30.37	30.83	31.29	28.80	---	---
14	32.89	32.53	32.93	31.23	32.09	31.18	30.59	30.91	31.26	28.91	---	---
15	33.16	32.34	33.71	31.35	32.13	31.07	30.57	31.13	31.19	28.93	---	---
16	33.25	32.32	33.63	30.56	32.22	30.97	30.66	30.90	31.04	29.17	---	---
17	33.11	32.47	33.00	30.40	32.24	30.89	30.38	30.85	30.74	29.27	---	---
18	33.19	32.39	33.03	30.18	32.26	31.14	30.34	30.81	30.71	29.29	---	---
19	33.01	32.32	33.01	30.28	32.32	31.09	30.21	30.76	31.43	29.16	---	---
20	32.99	32.39	32.93	30.18	32.39	31.05	30.12	30.71	30.74	29.35	---	---
21	32.99	32.40	32.81	30.33	32.51	31.02	30.87	30.60	30.55	29.21	---	---
22	32.77	32.65	32.73	31.14	32.53	30.82	31.21	30.46	31.58	29.36	---	---
23	32.88	32.57	32.70	30.87	32.40	30.56	30.97	30.45	31.99	---	---	---
24	32.95	32.56	32.39	31.50	32.43	30.60	31.05	30.41	31.95	---	---	---
25	33.07	32.73	30.07	31.54	32.47	30.28	31.04	30.41	31.29	---	---	---
26	33.16	32.58	31.75	31.60	32.26	30.06	31.22	30.53	31.42	---	---	---
27	33.19	32.54	32.25	31.52	32.07	30.75	31.31	30.37	31.36	---	---	---
28	33.25	32.50	31.77	31.52	32.15	30.71	31.49	30.36	30.80	---	---	---
29	33.23	32.46	31.91	31.75	---	30.54	31.65	30.37	31.39	---	---	---
30	33.18	32.43	32.52	31.89	---	30.59	31.55	30.33	31.08	---	---	---
31	33.09	---	32.52	31.86	---	30.53	---	30.33	---	---	---	---
MAX	33.25	33.17	33.71	31.89	32.53	32.14	31.65	31.78	32.65	32.44	---	---

CAL YR 2002 LOW 35.04
WTR YR 2003 LOW 33.71



GROUND-WATER RECORDS
Butler County

253

393202084241500. LOCAL NUMBER, BU-15

LOCATION.—Latitude 39°32'02", longitude 84°24'15", Hydrologic Unit 05080002, at Hook Field (municipal airport) at Middletown, Ohio. 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR. Water level affected by pumping wells nearby in Middletown well field.

PERIOD OF RECORD.—June 1972 to October 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

WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL
10/03/02	14.50
05/15/03	10.19

GROUND-WATER RECORDS

Carroll County

403709081052800. LOCAL NUMBER, C-1

LOCATION.—Latitude 40°37'09", longitude 81°05'28", Hydrologic Unit 05040001, State Route 171, 3 mi north of Carrollton, Ohio. Owner: Village of Carrollton.

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 1,050 ft above sea level (from topographic map). Measuring point: Top of platform 3 ft above land-surface datum.

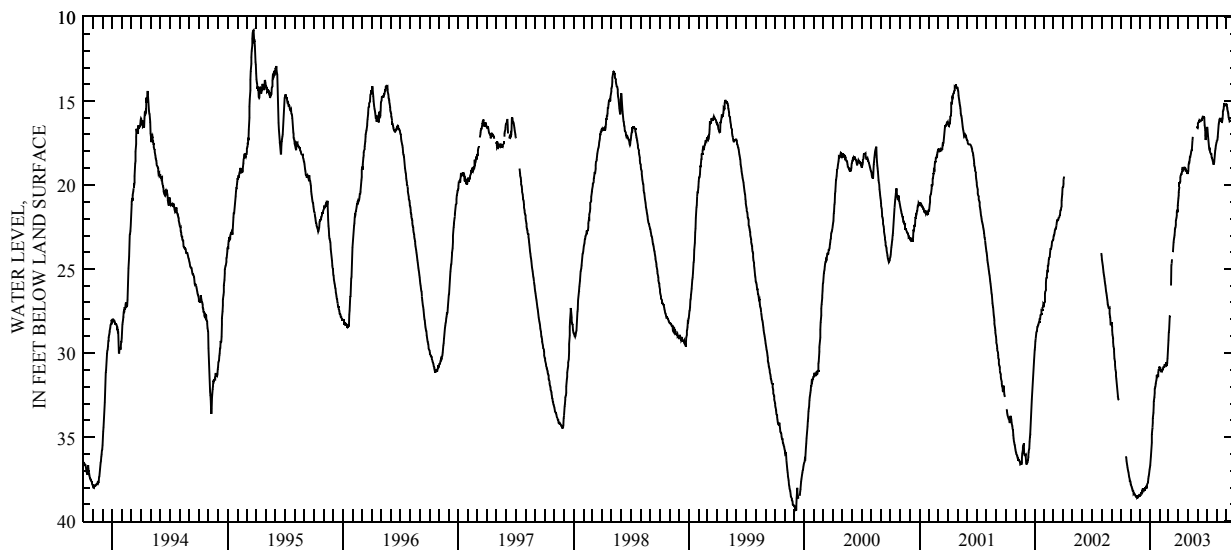
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—August 1951 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 41.05 ft below land-surface datum, Dec. 5, 1971; minimum daily low, 7.20 ft below land-surface datum, Jan. 10 and 14, 1971.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003 DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	37.74	38.47	36.80	30.84	29.24	20.78	19.33	16.61	16.65	17.39	15.17
2	---	37.82	38.44	36.66	30.89	28.77	20.62	19.20	16.51	16.54	17.32	15.33
3	---	37.92	38.44	36.40	30.83	28.63	20.42	19.17	16.31	16.66	17.29	15.42
4	---	37.95	38.33	36.17	31.04	28.21	20.11	18.77	16.23	16.95	17.10	15.48
5	---	37.97	38.30	35.87	31.12	27.82	19.89	18.67	16.25	17.17	16.84	15.60
6	---	38.10	38.28	35.60	31.05	27.80	19.89	18.67	16.27	17.38	16.62	15.74
7	---	38.15	38.23	35.33	31.06	27.79	19.79	18.52	16.14	17.59	16.37	15.82
8	---	38.18	38.28	34.84	31.08	---	19.54	18.33	16.15	17.79	16.25	15.95
9	---	38.22	38.11	34.41	31.02	25.99	19.42	18.32	16.21	17.86	16.14	16.03
10	---	38.32	38.03	34.16	30.99	24.75	19.34	18.23	16.22	17.85	16.08	16.05
11	---	38.40	38.12	33.89	30.99	24.66	19.39	18.12	16.15	18.01	16.00	16.22
12	---	38.36	38.11	33.54	30.90	24.42	19.30	18.00	16.15	18.10	16.05	16.18
13	---	38.37	38.03	33.09	30.83	---	19.19	17.93	16.14	18.14	16.11	16.19
14	---	38.38	38.13	32.90	30.83	23.98	19.05	17.92	16.12	18.16	16.09	---
15	---	38.43	38.09	32.61	30.83	23.95	19.07	17.62	16.07	18.16	16.20	---
16	---	38.44	38.17	32.38	30.78	23.69	19.11	17.34	16.05	18.35	16.20	---
17	36.14	38.51	38.03	32.12	30.66	23.39	19.09	17.12	16.00	18.39	16.21	---
18	36.22	38.59	38.02	32.00	30.73	23.21	18.92	---	15.92	18.46	16.30	---
19	36.42	38.54	38.00	31.87	30.73	23.11	19.04	---	15.93	18.54	16.04	---
20	36.55	38.54	38.08	31.80	30.73	22.97	19.04	---	15.97	18.60	15.81	---
21	36.68	38.54	37.97	31.62	30.61	22.74	19.02	---	15.94	18.71	15.62	---
22	36.80	38.62	37.98	31.50	30.53	22.63	19.07	---	15.99	18.79	15.53	---
23	36.91	38.58	37.85	31.40	30.74	22.51	19.06	---	16.07	18.70	15.33	---
24	37.02	38.59	37.75	31.41	30.72	22.37	19.03	---	16.41	18.62	15.32	---
25	37.09	38.59	37.72	31.28	30.55	22.12	19.08	---	16.72	18.36	15.13	---
26	37.21	38.54	37.67	31.34	30.33	21.94	19.17	---	17.08	18.13	15.21	---
27	37.35	38.51	37.46	31.36	29.96	21.80	19.19	---	17.31	17.94	15.22	---
28	37.43	38.45	37.34	31.16	29.54	21.60	19.13	16.55	17.05	17.83	15.24	---
29	37.51	38.45	37.25	31.00	---	21.46	19.31	16.56	16.88	17.66	15.17	---
30	37.62	38.53	37.06	31.00	---	21.62	19.22	16.57	16.82	17.56	15.20	---
31	37.65	---	36.92	30.80	---	21.21	---	16.60	---	17.46	15.21	---
MAX	37.65	38.62	38.47	36.80	31.12	29.24	20.78	19.33	17.31	18.79	17.39	16.22
CAL YR 2002		LOW 38.62										
WTR YR 2003		LOW 38.62										



GROUND-WATER RECORDS
Champaign County

400638083453900. LOCAL NUMBER, CH-3

LOCATION.—Latitude 40°06'38", longitude 83°45'39", Hydrologic Unit 05080001, in Urbana, Ohio. 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 1,030 ft above sea level (from topographic map). Measuring point: Floor of instrument shelter 4.5 ft above land-surface datum.

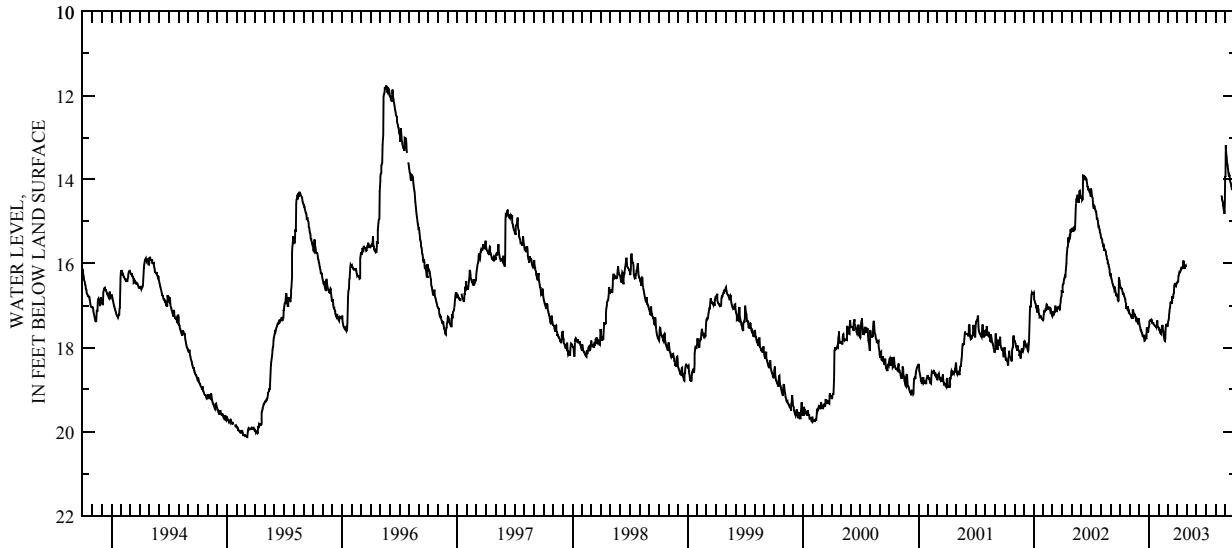
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—June 1957 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 24.80 ft below land-surface datum, Feb. 26 to Mar. 4, 1964; minimum daily low, 11.76 ft below land-surface datum, May 20, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.49	17.20	17.39	17.50	17.53	17.49	16.44	---	---	---	---	13.94
2	16.52	17.20	17.42	17.44	17.54	17.45	16.43	---	---	---	---	13.18
3	16.58	17.22	17.48	17.37	17.57	17.36	16.43	---	---	---	---	13.34
4	16.59	17.23	17.51	17.34	17.57	17.34	16.43	---	---	---	---	13.42
5	16.60	17.23	17.53	17.34	17.61	17.32	16.30	---	---	---	---	13.48
6	16.59	17.25	17.59	17.35	17.64	17.20	16.28	---	---	---	---	13.60
7	16.60	17.22	17.59	17.35	17.64	17.15	16.23	---	---	---	---	13.63
8	16.62	17.27	17.60	17.34	17.67	17.11	16.20	---	---	---	---	13.68
9	16.65	17.30	17.64	17.33	17.68	17.03	16.21	---	---	---	---	13.75
10	16.71	17.30	17.65	17.35	17.58	16.94	16.21	---	---	---	---	13.82
11	16.70	17.09	17.68	17.40	17.54	16.91	16.17	---	---	---	---	13.88
12	16.70	17.11	17.72	17.42	17.51	16.94	16.16	---	---	---	---	13.92
13	16.72	17.12	17.71	17.42	17.46	16.94	16.13	---	---	---	---	13.89
14	16.75	17.20	17.72	17.42	17.54	16.91	16.10	---	---	---	---	13.91
15	16.79	17.26	17.74	17.39	17.61	16.90	16.10	---	---	---	---	14.01
16	16.80	17.23	17.76	17.45	17.61	16.87	16.12	---	---	---	---	14.06
17	16.83	17.22	17.78	17.45	17.71	16.81	16.11	---	---	---	---	14.08
18	16.85	17.24	17.84	17.46	17.76	16.81	16.11	---	---	---	---	14.10
19	16.89	17.25	17.83	17.49	17.80	16.81	16.08	---	---	---	14.38	14.15
20	16.95	17.28	17.72	17.49	17.84	16.72	15.95	---	---	---	14.42	14.19
21	16.96	17.32	17.70	17.49	17.85	16.69	15.93	---	---	---	14.47	14.23
22	17.05	17.31	17.75	17.49	17.78	16.65	15.98	---	---	---	14.50	14.23
23	17.05	17.30	17.78	17.51	17.55	16.52	16.05	---	---	---	14.55	14.21
24	17.07	17.32	17.80	17.51	17.46	16.46	16.11	---	---	---	14.61	14.25
25	17.07	17.38	17.52	17.53	17.45	16.53	16.11	---	---	---	14.64	14.31
26	17.01	17.38	17.54	17.46	17.45	16.53	16.06	---	---	---	14.68	14.35
27	17.06	17.41	17.64	17.42	17.45	16.54	16.05	---	---	---	14.74	14.24
28	17.09	17.44	17.63	17.35	17.49	16.54	16.04	---	---	---	14.76	14.07
29	17.11	17.33	17.63	17.48	---	16.51	16.08	---	---	---	14.82	14.11
30	17.18	17.30	17.63	17.51	---	16.47	---	---	---	---	14.57	14.22
31	17.16	---	17.56	17.51	---	16.46	---	---	---	---	13.92	---
MAX	17.18	17.44	17.84	17.53	17.85	17.49	16.44	---	---	---	14.82	14.35
CAL YR 2002		LOW 17.84										
WTR YR 2003		LOW 17.85										



GROUND-WATER RECORDS
Clark County

395639084012200. LOCAL NUMBER, CL-9

LOCATION.—Latitude 39°56'39", longitude 84°01'22", Hydrologic Unit 05080001, at north edge of New Carlisle, Ohio. Owner: City of New Carlisle.
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 2.5 ft above land-surface datum.

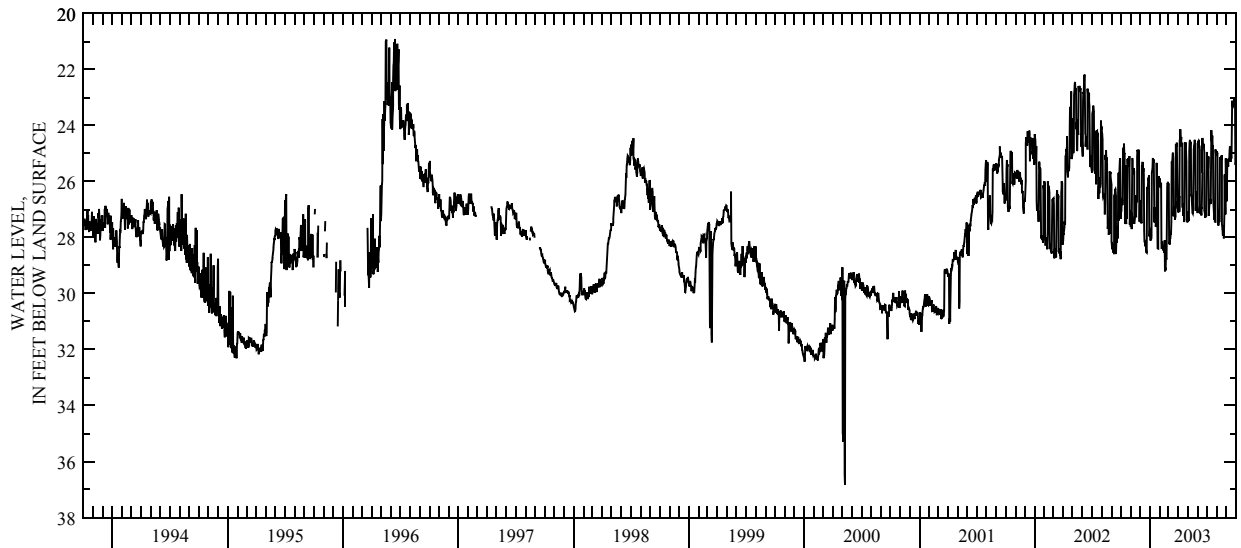
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—September 1974 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 36.82 ft below land-surface datum, May 10, 2000; minimum daily low, 18.20 ft below land-surface datum, July 4, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	27.34	27.27	26.66	27.72	25.88	26.09	27.11	27.06	27.13	24.95	24.92	26.46
2	27.09	27.62	27.27	27.66	26.00	26.10	26.93	27.31	26.28	25.14	25.00	26.71
3	27.04	27.12	27.27	28.12	26.07	28.19	26.64	27.41	24.58	25.11	24.97	25.29
4	26.69	27.71	27.00	27.80	26.21	28.18	26.53	27.34	24.54	25.49	27.49	25.21
5	26.62	27.23	27.47	28.06	26.04	28.25	27.09	27.40	24.57	25.55	27.01	25.33
6	26.85	25.17	27.50	27.93	26.31	28.05	24.55	24.93	24.75	25.11	27.58	25.46
7	26.67	25.26	25.43	26.55	28.20	28.04	24.36	24.60	24.75	27.23	27.30	25.25
8	24.86	25.56	25.57	25.68	28.41	27.83	24.14	24.51	24.88	26.97	27.27	25.18
9	24.87	25.66	25.31	25.54	28.15	27.84	24.76	24.66	26.98	26.81	27.45	25.25
10	25.06	25.63	25.58	25.18	28.40	27.45	24.41	24.63	27.16	26.71	27.26	25.16
11	24.65	25.52	25.65	25.31	28.37	25.29	24.64	24.58	27.06	26.80	26.28	24.89
12	25.01	25.64	25.52	25.31	28.46	25.34	24.63	26.53	27.01	26.63	25.13	24.75
13	25.01	27.52	25.77	25.21	28.31	25.25	24.65	26.48	27.21	26.80	25.19	25.16
14	27.52	27.35	27.74	25.74	28.44	25.01	26.91	26.64	26.91	25.84	25.19	25.31
15	26.89	27.13	28.17	27.46	28.35	24.97	26.94	26.85	26.98	24.17	25.14	24.89
16	27.31	26.49	28.15	26.92	28.55	25.18	26.91	27.13	25.68	24.54	25.16	25.18
17	27.40	26.88	28.19	27.43	28.10	27.25	27.22	27.16	24.48	24.58	25.07	25.16
18	27.52	27.28	28.32	27.07	29.21	26.89	26.89	26.97	24.48	24.37	27.52	23.98
19	25.43	27.16	28.20	27.49	29.08	27.21	26.80	26.16	24.80	24.73	27.70	23.12
20	27.34	26.66	28.42	27.61	29.18	27.12	27.45	24.87	24.71	24.71	27.93	23.32
21	26.79	26.74	28.54	27.48	28.74	27.11	26.28	24.71	24.65	26.68	27.64	23.28
22	25.20	25.13	28.55	27.21	28.76	27.36	24.60	24.66	24.98	26.89	27.68	23.30
23	25.39	24.87	26.24	25.34	28.77	27.25	24.81	24.51	27.03	27.14	27.58	23.25
24	25.17	24.97	26.19	27.43	28.24	24.81	24.71	24.68	27.10	27.36	28.03	23.18
25	25.42	25.05	26.25	27.67	26.20	24.66	24.60	24.64	27.23	27.20	26.98	23.19
26	25.24	25.06	26.09	28.39	26.05	24.76	25.01	27.05	27.30	27.46	25.82	23.00
27	25.48	24.87	25.86	28.40	26.10	24.62	25.30	26.75	27.09	27.43	25.74	23.09
28	25.10	25.18	25.98	26.21	26.07	24.71	27.39	26.34	27.24	24.86	27.17	23.31
29	26.81	27.42	25.79	25.80	---	26.31	27.31	26.78	27.24	24.99	26.25	25.41
30	27.54	27.44	27.94	25.91	---	26.97	27.46	26.86	25.80	24.97	25.18	25.33
31	27.05	---	27.96	26.07	---	26.71	---	26.91	---	24.98	26.31	---
MAX	27.54	27.71	28.55	28.40	29.21	28.25	27.46	27.41	27.30	27.46	28.03	26.71
CAL YR 2002	LOW 28.78											
WTR YR 2003	LOW 29.21											



GROUND-WATER RECORDS
Clark County

395840083495200. LOCAL NUMBER, CL-7

LOCATION.—Latitude 39°58'40", longitude 83°49'52", Hydrologic Unit 05080001. Eagle City Road northwest of Springfield, Ohio. 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

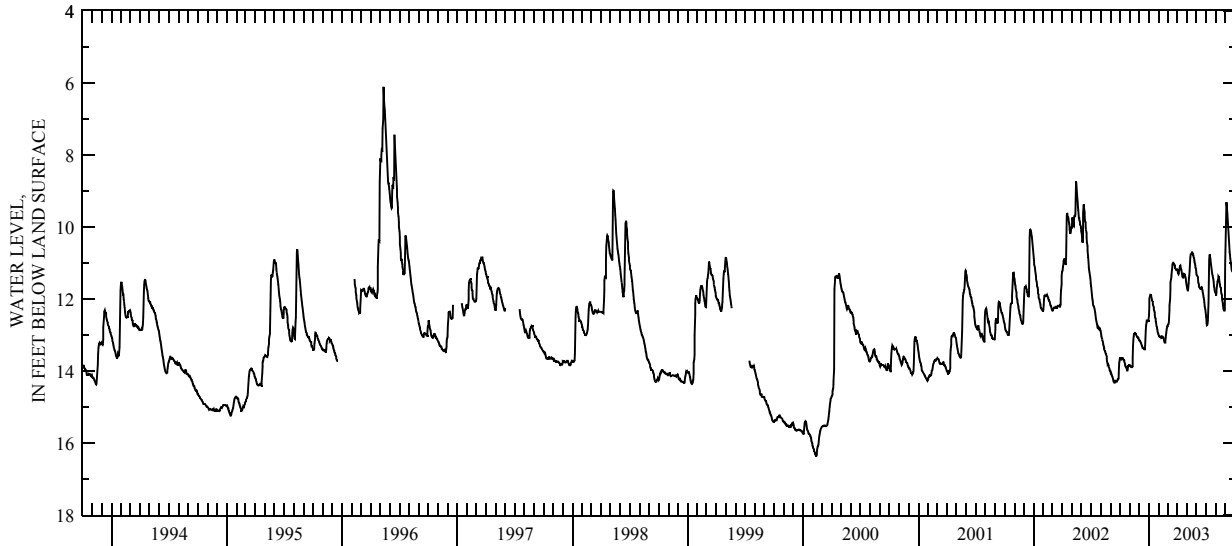
PERIOD OF RECORD.—October 1960 to current year.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.63	13.84	13.13	12.45	13.00	12.75	11.17	11.64	11.30	12.44	11.87	10.79
2	13.63	13.84	13.16	12.21	13.02	12.71	11.22	11.69	11.35	12.52	11.87	10.40
3	13.64	13.84	13.16	11.99	13.02	12.70	11.27	11.73	11.35	12.66	11.80	9.63
4	13.66	13.87	13.17	11.91	13.05	12.68	11.29	11.76	11.36	12.73	11.72	9.30
5	13.68	13.87	13.17	11.88	13.05	12.65	11.30	11.76	11.39	12.72	11.60	9.38
6	13.68	13.88	13.21	11.88	13.05	12.48	11.27	11.65	11.42	12.67	11.52	9.50
7	13.64	13.89	13.22	11.88	13.05	12.31	11.20	11.55	11.54	12.60	11.49	9.63
8	13.64	13.89	13.25	11.90	13.06	12.17	11.19	11.40	11.59	12.37	11.46	9.82
9	13.64	13.89	13.27	11.93	13.05	12.01	11.12	11.33	11.64	12.10	11.38	9.99
10	13.64	13.88	13.30	12.00	13.06	11.71	11.07	11.20	11.67	11.37	11.37	10.14
11	13.67	13.64	13.32	12.03	13.06	11.53	11.06	11.01	11.68	10.92	11.39	10.29
12	13.68	13.32	13.36	12.05	13.04	11.44	11.12	10.85	11.70	10.79	11.42	10.43
13	13.69	13.16	13.36	12.07	13.04	11.38	11.16	10.77	11.71	10.75	11.51	10.55
14	13.69	13.04	13.37	12.13	13.06	11.34	11.18	10.74	11.71	10.83	11.60	10.68
15	13.72	12.97	13.37	12.18	13.07	11.17	11.24	10.73	11.69	10.88	11.65	10.76
16	13.76	12.96	13.38	12.22	13.07	11.10	11.29	10.71	11.67	10.98	11.67	10.87
17	13.79	12.94	13.39	12.26	13.09	11.02	11.36	10.70	11.66	11.05	11.69	10.93
18	13.84	12.95	13.39	12.31	13.14	10.98	11.38	10.70	11.67	11.12	11.76	10.99
19	13.86	12.95	13.39	12.37	13.18	10.99	11.40	10.73	11.71	11.19	11.84	11.07
20	13.88	12.97	13.28	12.43	13.21	11.00	11.40	10.77	11.75	11.26	11.89	11.15
21	13.89	12.97	13.04	12.50	13.21	11.04	11.35	10.77	11.81	11.33	11.95	11.21
22	13.92	13.00	12.85	12.55	13.21	11.04	11.30	10.79	11.85	11.35	12.03	11.22
23	13.95	13.02	12.73	12.62	13.07	11.04	11.31	10.83	11.91	11.40	12.12	11.19
24	14.00	13.04	12.66	12.65	12.99	11.06	11.32	10.87	11.96	11.44	12.16	11.19
25	14.00	13.05	12.59	12.71	12.93	11.14	11.31	10.92	12.01	11.50	12.23	11.25
26	13.93	13.05	12.60	12.77	12.85	11.14	11.35	10.97	12.09	11.63	12.29	11.26
27	13.90	13.08	12.60	12.79	12.80	11.17	11.39	11.03	12.19	11.68	12.31	11.27
28	13.85	13.08	12.60	12.84	12.76	11.18	11.43	11.06	12.24	11.71	12.30	10.93
29	13.85	13.08	12.62	12.90	---	11.20	11.52	11.12	12.28	11.75	12.31	10.75
30	13.84	13.12	12.62	12.94	---	11.20	11.58	11.17	12.36	11.82	12.26	10.72
31	13.84	---	12.59	12.96	---	11.15	---	11.25	---	11.84	11.02	---
MAX	14.00	13.89	13.39	12.96	13.21	12.75	11.58	11.76	12.36	12.73	12.31	11.27

CAL YR 2002 LOW 14.32
WTR YR 2003 LOW 14.00



GROUND-WATER RECORDS
Coshocton County

401256081525100. LOCAL NUMBER, CS-3

LOCATION.—Latitude 40°12'56", longitude 81°52'51", Hydrologic Unit 05040004, 1.5 mi north of Conesville, Ohio. 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 2.8 ft above land-surface datum.

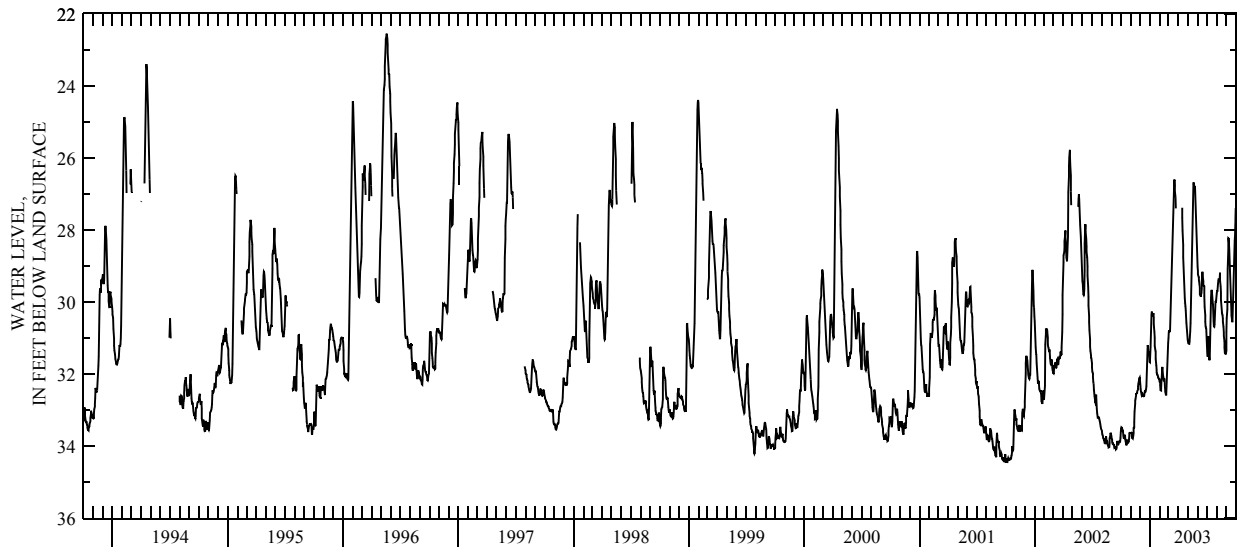
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—April 1958 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 36.86 ft below land-surface datum, Sept. 28, 1973; minimum daily low, 21.10 ft below land-surface datum, Feb. 15, 1959.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
 DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.61	33.64	32.18	31.68	32.20	31.01	---	31.04	29.02	31.22	29.75	30.82
2	33.51	33.63	32.28	31.45	32.19	30.83	---	31.10	29.13	31.38	29.69	30.45
3	33.48	33.62	32.40	31.26	32.31	30.78	---	31.14	29.22	31.50	29.69	30.21
4	33.49	33.63	32.48	30.86	32.45	30.81	---	31.14	29.29	31.50	29.58	29.71
5	33.50	33.72	32.51	30.61	32.46	30.81	---	31.16	29.32	31.26	29.47	29.08
6	33.59	33.78	32.56	30.33	32.41	30.76	---	31.16	29.38	30.96	29.39	28.54
7	33.54	33.79	32.61	30.26	32.21	30.54	---	31.09	29.51	31.24	29.40	28.23
8	33.60	33.76	32.60	30.26	32.08	30.26	---	30.95	29.61	31.54	29.38	28.24
9	33.71	33.72	32.56	30.35	31.87	29.86	---	30.81	29.78	31.61	29.36	28.36
10	33.76	33.63	32.58	30.40	31.80	29.46	---	30.59	29.83	31.56	29.35	28.56
11	33.76	33.49	32.60	30.39	31.94	29.08	---	30.08	29.83	31.21	29.19	28.88
12	33.78	33.48	32.62	30.31	32.03	28.65	---	29.44	29.82	30.77	29.38	29.16
13	33.78	33.34	32.62	30.43	32.08	28.30	27.38	28.89	29.75	30.29	29.56	29.46
14	33.68	33.04	32.61	30.61	32.17	28.01	27.66	28.37	29.64	29.87	29.74	29.74
15	33.79	32.82	32.53	30.83	32.18	27.75	28.02	27.94	29.43	29.70	29.94	29.96
16	33.87	32.73	32.48	30.99	32.12	27.39	28.41	27.62	29.19	29.66	30.16	30.17
17	33.90	32.69	32.49	31.21	32.20	27.06	28.76	27.32	29.16	29.74	30.27	30.37
18	33.96	32.57	32.49	31.33	32.37	26.82	29.10	27.00	29.28	29.86	30.31	30.46
19	33.96	32.55	32.46	31.37	32.48	26.63	29.33	26.70	29.42	29.98	30.37	30.54
20	33.90	32.55	32.41	31.57	32.53	26.60	29.50	26.70	29.52	30.07	30.46	30.54
21	33.82	32.53	32.33	31.76	32.57	26.77	29.73	26.80	29.55	30.27	30.54	30.30
22	33.86	32.50	32.15	31.89	32.57	26.92	29.90	26.81	29.56	30.54	30.69	29.90
23	33.91	32.45	31.89	31.96	32.39	27.09	30.02	26.77	29.84	30.68	30.86	29.59
24	33.91	32.41	31.56	32.01	32.22	27.40	30.11	26.81	30.14	30.69	30.94	29.27
25	33.88	32.33	31.20	32.02	32.00	---	30.24	27.06	30.37	30.62	31.09	28.85
26	33.87	32.26	31.23	32.03	31.66	---	30.43	27.36	30.55	30.44	31.27	28.50
27	33.78	32.22	31.38	32.08	31.35	---	30.58	27.64	30.68	30.19	31.40	28.29
28	33.63	32.16	31.41	32.11	31.13	---	30.69	27.93	30.74	30.00	31.41	28.16
29	33.61	32.10	31.41	32.12	---	---	30.82	28.22	30.74	30.00	31.43	27.80
30	33.63	32.08	31.48	32.13	---	---	30.94	28.51	30.99	29.94	31.45	27.39
31	33.64	---	31.67	32.12	---	---	---	28.82	---	29.84	31.35	---
MAX	33.96	33.79	32.62	32.13	32.57	31.01	30.94	31.16	30.99	31.61	31.45	30.82
CAL YR 2002		LOW 34.09										
WTR YR 2003		LOW 33.96										



GROUND-WATER RECORDS
Coshocton County

401734081523800. LOCAL NUMBER, CS-2A

LOCATION.—Latitude 40°17'34", longitude 81°52'38", Hydrologic Unit 05040003, at Coshocton, Ohio. Owner: State of Ohio.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled test well, diameter 6 in., depth 86 ft, cased to 81 ft.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

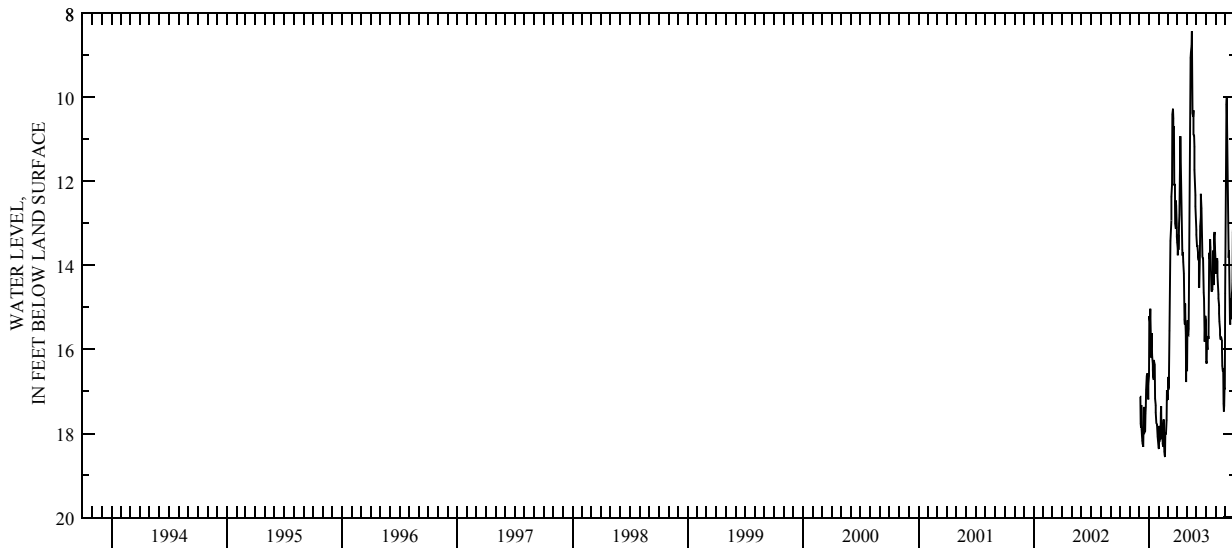
PERIOD OF RECORD.—December 2002 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 18.56 ft below land-surface datum, Feb. 21, 2003; minimum measured low, 8.43 ft below land-surface datum, May 17, 2003.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	16.63	18.33	17.18	13.45	16.40	13.27	15.31	14.03	14.44
2	---	---	---	15.61	18.37	17.20	13.61	16.52	13.54	16.27	14.20	13.97
3	---	---	---	15.21	17.82	16.66	13.76	15.58	13.56	16.34	13.99	12.90
4	---	---	17.13	15.34	18.13	16.91	13.27	15.31	13.52	15.82	13.89	10.17
5	---	---	17.13	15.07	18.14	16.92	13.63	15.65	13.68	15.96	13.83	10.02
6	---	---	17.77	15.03	18.09	16.55	13.42	15.66	13.80	16.01	13.91	10.41
7	---	---	17.86	15.79	18.10	15.88	13.00	15.51	13.87	15.72	14.26	11.22
8	---	---	17.33	16.19	17.52	15.56	12.80	14.87	13.89	15.68	14.57	12.12
9	---	---	17.91	15.90	17.36	14.85	11.80	14.35	14.51	15.75	14.69	12.94
10	---	---	18.06	15.62	17.99	13.65	11.33	12.26	14.53	15.35	14.78	13.46
11	---	---	18.16	15.97	18.06	13.42	10.93	10.97	13.77	13.80	14.95	13.82
12	---	---	18.24	16.18	18.10	13.09	11.64	10.23	13.54	13.70	15.15	13.65
13	---	---	18.27	16.35	18.13	12.93	12.17	9.06	13.07	13.85	15.34	13.90
14	---	---	18.32	16.49	18.23	12.37	12.57	8.93	12.84	13.38	15.53	14.36
15	---	---	17.80	16.66	18.31	12.07	12.94	8.85	12.30	13.57	15.66	15.37
16	---	---	17.39	16.72	17.79	10.77	13.30	8.77	12.48	14.05	15.75	15.41
17	---	---	17.37	16.25	17.67	10.40	13.63	8.43	12.64	14.30	15.76	14.79
18	---	---	17.90	16.29	18.23	10.27	13.77	8.97	13.20	14.56	15.70	15.24
19	---	---	17.95	16.37	18.43	10.50	13.68	9.86	13.53	14.62	15.73	15.25
20	---	---	17.94	16.46	18.51	10.75	13.92	10.37	13.81	14.58	15.80	14.99
21	---	---	17.53	17.17	18.56	10.69	14.07	10.46	13.82	14.59	15.98	14.67
22	---	---	17.37	17.33	18.02	10.97	14.20	10.31	13.84	14.26	16.39	14.59
23	---	---	16.96	17.50	17.98	12.10	14.87	10.88	14.40	14.12	16.53	14.36
24	---	---	16.80	17.64	18.02	12.06	15.29	10.92	14.65	13.65	16.45	13.22
25	---	---	16.63	17.76	17.88	12.49	15.41	11.18	14.80	14.47	16.52	12.99
26	---	---	16.59	17.78	17.68	13.00	14.91	11.73	15.44	13.64	17.30	13.26
27	---	---	16.57	17.79	16.97	13.13	15.40	12.14	15.82	13.27	17.48	12.83
28	---	---	16.58	17.96	17.16	12.46	15.63	12.33	15.45	13.20	17.34	11.32
29	---	---	17.16	18.08	---	12.59	16.78	12.60	15.20	13.39	16.93	9.06
30	---	---	17.19	18.17	---	13.10	15.49	12.97	15.27	13.74	16.93	8.55
31	---	---	16.84	18.25	---	13.32	---	13.16	---	13.89	14.67	---
MAX	---	---	18.32	18.25	18.56	17.20	16.78	16.52	15.82	16.34	17.48	15.41

WTR YR 2003 LOW 18.56



GROUND-WATER RECORDS
Coshocton County

401735081523800. LOCAL NUMBER, CS-2

LOCATION.—Latitude 40°17'35", longitude 81°52'38", Hydrologic Unit 05040003, 1.7 mi northwest of courthouse in Coshocton, Ohio. 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.

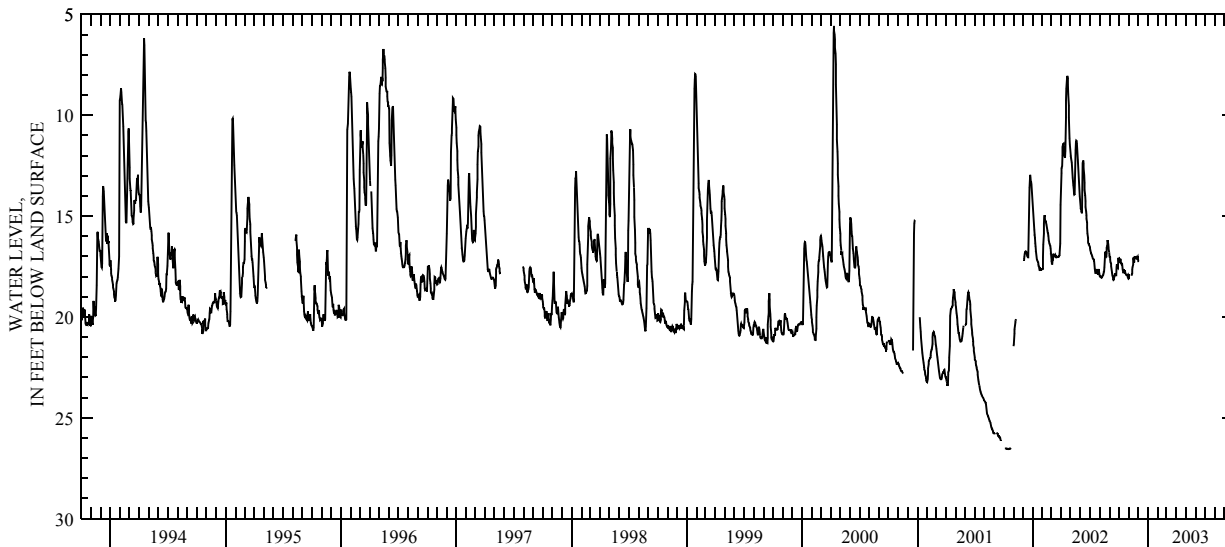
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—May 1949 to September 1982, April 1989 to December 2003 (discontinued).

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 26.56 ft below land-surface datum, Oct. 15-17, 2001; minimum measured low, 0.43 ft below land-surface datum, Feb. 21, 1951.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DAY	DAILY MAXIMUM VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	17.24	18.10	17.11	---	---	---	---	---	---	---	---	---
2	17.29	17.93	17.24	---	---	---	---	---	---	---	---	---
3	17.28	17.92	17.24	---	---	---	---	---	---	---	---	---
4	17.17	17.93	17.24	---	---	---	---	---	---	---	---	---
5	17.19	---	---	---	---	---	---	---	---	---	---	---
6	17.12	---	---	---	---	---	---	---	---	---	---	---
7	17.20	---	---	---	---	---	---	---	---	---	---	---
8	17.35	---	---	---	---	---	---	---	---	---	---	---
9	17.38	---	---	---	---	---	---	---	---	---	---	---
10	17.37	17.95	---	---	---	---	---	---	---	---	---	---
11	17.32	17.94	---	---	---	---	---	---	---	---	---	---
12	17.48	17.85	---	---	---	---	---	---	---	---	---	---
13	17.62	17.65	---	---	---	---	---	---	---	---	---	---
14	17.73	17.52	---	---	---	---	---	---	---	---	---	---
15	17.80	17.41	---	---	---	---	---	---	---	---	---	---
16	17.80	17.18	---	---	---	---	---	---	---	---	---	---
17	17.65	17.05	---	---	---	---	---	---	---	---	---	---
18	17.77	17.27	---	---	---	---	---	---	---	---	---	---
19	17.79	17.31	---	---	---	---	---	---	---	---	---	---
20	17.69	17.04	---	---	---	---	---	---	---	---	---	---
21	17.78	17.05	---	---	---	---	---	---	---	---	---	---
22	17.87	17.07	---	---	---	---	---	---	---	---	---	---
23	17.90	17.04	---	---	---	---	---	---	---	---	---	---
24	17.92	17.03	---	---	---	---	---	---	---	---	---	---
25	17.94	17.06	---	---	---	---	---	---	---	---	---	---
26	17.94	17.11	---	---	---	---	---	---	---	---	---	---
27	17.94	17.11	---	---	---	---	---	---	---	---	---	---
28	17.92	17.08	---	---	---	---	---	---	---	---	---	---
29	17.91	17.04	---	---	---	---	---	---	---	---	---	---
30	18.05	17.01	---	---	---	---	---	---	---	---	---	---
31	18.11	---	---	---	---	---	---	---	---	---	---	---
MAX	18.11	18.10	17.24	---	---	---	---	---	---	---	---	---
CAL YR 2002	LOW 18.18											
WTR YR 2003	LOW 18.11											



GROUND-WATER RECORDS
Darke County

400514084345700. LOCAL NUMBER, D-2

LOCATION.—Latitude 40°05'14", longitude 84°34'57", Hydrologic Unit 05080001, State Route 571, 3 mi east of Greenville, Ohio. Owner: City of Greenville.

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 1,038 ft above sea level (from topographic map). Measuring point: Floor of instrument shelter 4.00 ft above land-surface datum.

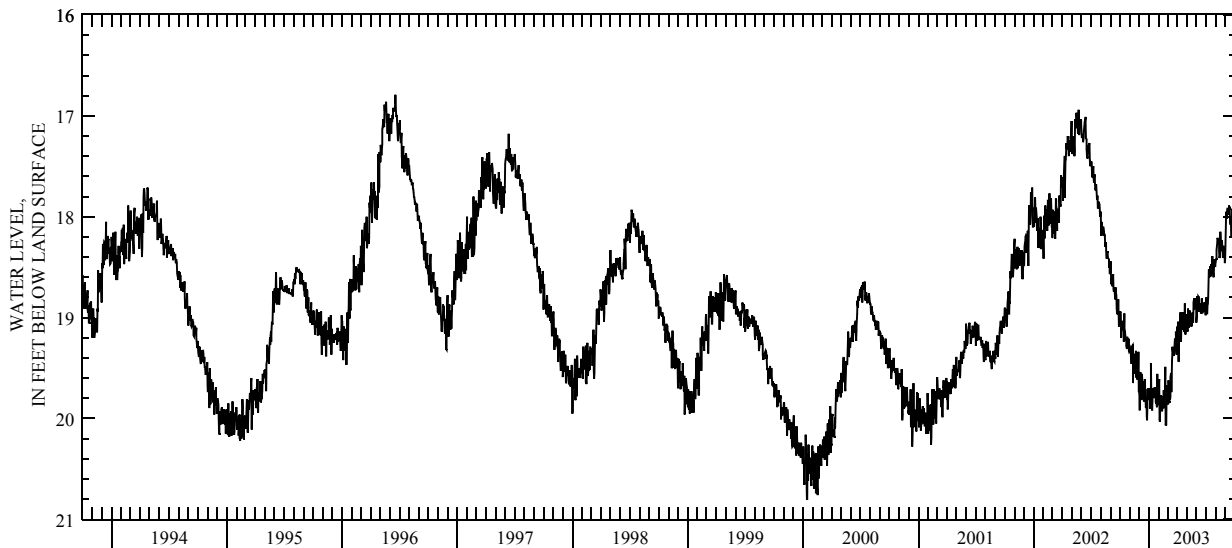
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.96	19.33	19.73	19.72	19.68	19.74	19.09	18.97	19.05	18.90	18.45	18.17
2	18.95	19.31	19.76	19.72	19.68	19.83	19.16	19.10	18.97	18.80	18.42	18.05
3	18.94	19.30	19.92	19.75	19.61	19.86	19.11	19.14	18.79	18.87	18.42	17.98
4	18.97	19.33	19.77	19.76	20.01	19.62	19.04	19.13	18.87	18.96	18.33	17.95
5	19.20	19.33	19.54	19.70	20.03	19.74	19.43	18.91	18.94	18.96	18.27	18.02
6	19.12	19.45	19.64	19.90	19.90	19.84	19.43	19.09	18.93	18.87	18.21	17.97
7	19.12	19.45	19.59	19.90	19.77	19.84	19.15	19.09	18.79	18.86	18.21	17.92
8	19.09	19.30	19.81	19.45	19.79	19.71	19.17	19.10	18.80	18.80	18.23	17.92
9	19.04	19.28	19.81	19.70	19.77	19.81	19.11	19.02	18.93	18.69	18.25	17.96
10	19.06	19.27	19.56	19.89	19.79	19.78	19.05	18.96	18.93	18.52	18.27	17.97
11	19.03	19.64	19.62	19.90	19.79	19.59	18.95	18.93	18.86	18.53	18.22	17.98
12	19.07	19.64	19.72	19.92	19.93	19.55	19.14	19.08	18.86	18.59	18.34	17.89
13	19.23	19.47	19.63	19.70	19.86	19.74	19.24	19.08	18.88	18.60	18.41	17.93
14	19.23	19.36	19.73	19.73	19.80	19.74	19.14	18.99	18.93	18.55	18.39	17.90
15	18.96	19.43	19.73	19.78	19.90	19.42	18.99	18.96	18.96	18.49	18.31	18.02
16	19.11	19.44	19.83	19.77	19.87	19.36	18.95	19.09	18.94	18.59	18.15	18.06
17	19.14	19.45	19.79	19.73	19.72	19.29	18.98	18.99	18.89	18.58	18.28	18.08
18	19.18	19.56	19.68	19.72	19.83	19.35	19.11	18.98	18.81	18.47	18.32	18.01
19	19.20	19.50	19.61	19.69	19.89	19.35	19.11	18.95	18.92	18.52	18.34	18.10
20	19.22	19.50	19.69	19.75	19.90	19.35	18.99	19.03	18.96	18.50	18.29	18.19
21	19.21	19.33	19.79	19.80	19.69	19.38	18.95	19.05	18.89	18.39	18.23	18.10
22	19.28	19.59	19.89	19.78	19.49	19.38	19.09	18.91	18.88	18.50	18.30	17.92
23	19.31	19.59	19.89	19.83	20.07	19.33	19.14	18.85	18.89	18.54	18.41	18.05
24	19.26	19.55	19.79	19.85	20.06	19.21	19.05	18.81	18.94	18.58	18.40	18.10
25	19.19	19.61	19.98	19.70	20.06	19.21	18.86	18.86	18.91	18.60	18.30	18.10
26	19.27	19.61	20.02	19.87	19.73	19.28	19.10	18.91	18.85	18.53	18.29	18.04
27	19.30	19.57	19.89	19.89	19.67	19.21	19.17	18.91	18.93	18.43	18.37	17.98
28	19.24	19.54	19.71	19.56	19.77	19.14	19.05	18.84	18.90	18.43	18.41	18.06
29	19.21	19.34	19.82	19.86	---	19.36	19.09	18.82	18.94	18.48	18.38	18.15
30	19.33	19.73	19.70	19.86	---	19.36	19.00	18.82	18.98	18.50	18.46	18.13
31	19.34	---	19.73	19.68	---	19.21	---	19.05	---	18.45	18.42	---
MAX	19.34	19.73	20.02	19.92	20.07	19.86	19.43	19.14	19.05	18.96	18.46	18.19
CAL YR 2002		LOW 20.02										
WTR YR 2003		LOW 20.07										



GROUND-WATER RECORDS
Delaware County

402126083040400. LOCAL NUMBER, DL-3

LOCATION.—Latitude 40°21'26", longitude 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.

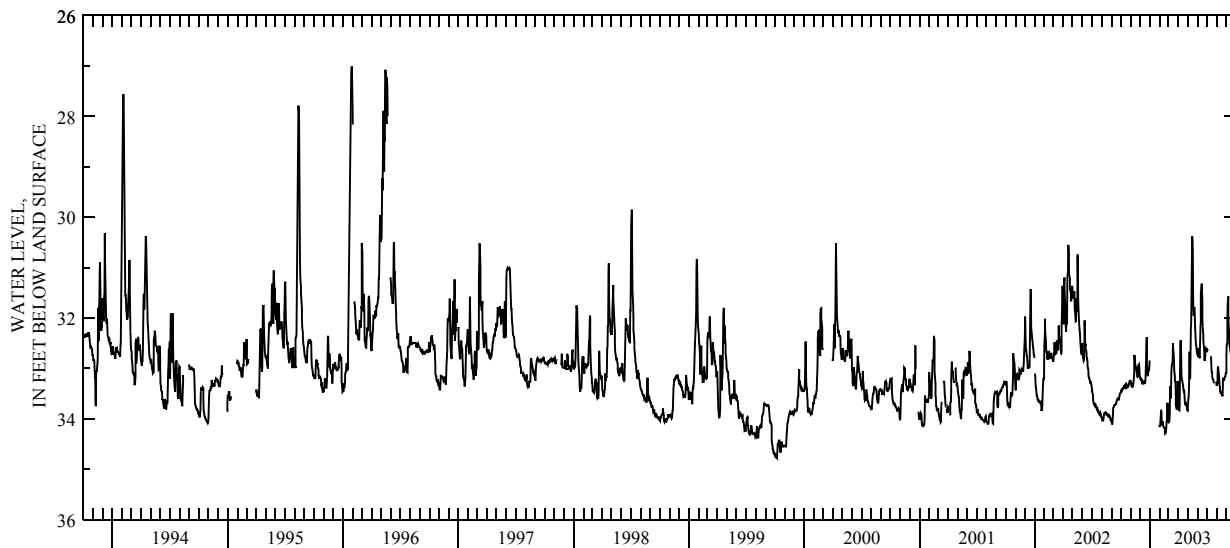
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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, 1949; minimum daily low, 20.43 ft below land-surface datum, Jan. 27, 1959.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.47	33.24	33.16	---	34.15	34.01	33.69	33.84	32.74	32.62	33.34	32.73
2	33.45	33.24	33.20	---	34.15	34.07	33.77	33.75	32.75	32.62	33.32	32.53
3	33.43	33.31	33.23	---	34.13	34.06	33.82	33.60	32.76	32.64	33.29	32.50
4	33.40	33.36	33.23	---	34.04	34.03	33.83	33.57	32.60	32.65	33.02	32.03
5	33.43	33.37	33.21	---	33.84	33.90	33.83	33.41	32.72	---	32.96	31.72
6	33.42	33.34	33.22	---	33.82	33.35	33.73	33.06	32.77	---	33.04	31.57
7	33.40	33.35	33.23	---	33.87	33.58	32.74	32.67	32.78	---	33.09	31.97
8	33.40	33.32	33.30	---	34.06	33.58	32.52	33.21	32.80	---	33.15	32.17
9	33.38	33.31	33.30	---	34.11	33.46	32.44	33.18	32.69	---	33.25	32.30
10	33.37	33.26	33.27	---	34.11	33.07	32.80	32.67	32.18	---	33.36	32.41
11	33.35	33.24	33.28	---	34.05	32.96	33.00	32.18	32.06	---	33.37	32.53
12	33.35	33.10	33.31	---	34.12	32.92	33.17	32.09	31.52	---	33.44	32.59
13	33.38	32.75	33.28	---	34.14	32.90	33.25	31.60	31.39	---	33.49	32.64
14	33.38	32.73	33.27	---	34.16	32.84	33.24	30.73	31.32	32.76	33.51	32.66
15	33.32	32.90	33.24	---	34.17	32.50	33.28	30.37	31.34	32.95	33.49	32.72
16	33.31	32.92	33.30	---	34.18	32.67	33.35	30.44	31.67	33.07	33.47	32.76
17	33.39	32.96	33.27	---	34.19	32.69	33.39	30.63	32.04	33.07	33.50	32.81
18	33.39	32.98	33.25	---	34.27	32.82	33.44	31.62	32.17	33.17	33.52	32.82
19	33.33	32.96	33.07	---	34.26	33.03	33.45	31.86	32.35	33.21	33.55	32.85
20	33.34	33.05	32.88	---	34.27	33.10	33.42	31.95	32.45	33.22	33.37	32.89
21	33.34	33.09	32.59	---	34.23	33.15	33.54	31.81	32.52	33.22	33.23	32.96
22	33.35	33.16	32.38	---	34.18	33.25	33.65	31.78	32.67	33.25	33.18	32.87
23	33.36	33.17	33.02	---	34.07	33.27	33.71	31.90	32.79	33.29	33.24	32.65
24	33.35	33.16	33.02	---	34.05	33.60	33.72	32.13	32.85	---	33.24	32.56
25	33.34	33.03	33.13	---	33.75	33.72	33.70	32.27	32.75	---	33.20	32.53
26	33.30	32.93	33.15	---	33.68	33.77	33.69	32.44	32.57	---	33.20	32.54
27	33.30	32.93	33.00	---	33.83	33.81	33.73	32.52	32.62	---	33.17	32.50
28	33.30	32.92	32.99	---	33.97	33.73	33.74	32.55	32.65	---	33.16	31.95
29	33.23	33.00	33.02	---	---	33.53	33.82	32.63	32.66	---	33.15	31.45
30	33.23	33.13	33.00	34.13	---	33.31	33.83	32.67	32.68	33.26	33.09	31.17
31	33.26	---	32.84	34.14	---	33.25	---	32.71	---	33.31	33.08	---
MAX	33.47	33.37	33.31	34.14	34.27	34.07	33.83	33.84	32.85	33.31	33.55	32.96
CAL YR 2002		LOW 34.11										
WTR YR 2003		LOW 34.27										



GROUND-WATER RECORDS
Fairfield County

393450082403600. LOCAL NUMBER, F-7

LOCATION.—Latitude 39°34'50", longitude 82°40'36", Hydrologic Unit 05030204, southeast of Amanda, Ohio. Owner: Pine Grove Springs Water Company Inc.

AQUIFER.—Sandstone of Mississippian Age.

WELL CHARACTERISTICS.—Drilled unused artesian well, diameter 5 in., depth 120 ft, cased to 31 ft.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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.

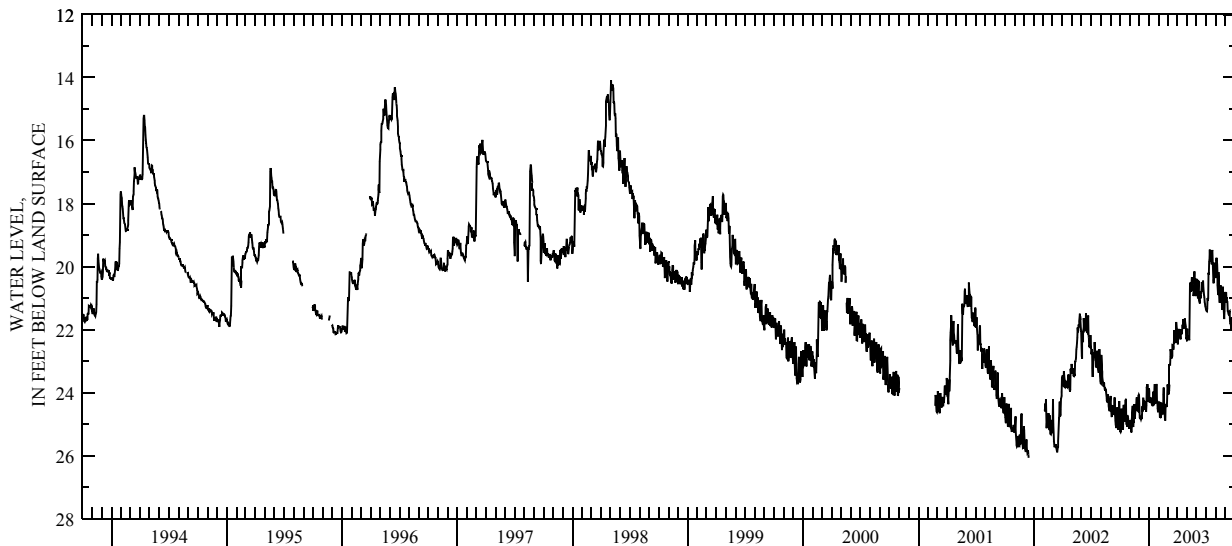
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—August 1988 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 26.07 ft below land-surface datum, Dec. 16, 2001; minimum daily low, 12.38 ft below land-surface datum, Apr. 17, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.96	25.12	24.10	23.86	24.45	23.74	21.98	22.26	20.38	21.36	20.37	20.80
2	25.23	25.13	24.44	23.96	24.52	23.82	22.32	22.36	20.66	21.36	19.81	21.14
3	25.25	24.87	24.79	24.28	24.28	24.00	22.47	21.97	20.64	21.41	19.71	20.81
4	25.21	25.01	24.83	24.30	24.56	24.05	22.30	22.32	20.83	21.42	19.71	21.01
5	24.79	25.05	24.73	24.18	24.78	24.00	21.98	22.17	21.00	21.33	19.92	20.97
6	24.51	25.26	24.81	24.15	24.68	23.92	22.00	22.25	20.87	20.99	20.20	21.10
7	25.09	25.22	24.84	24.19	24.78	23.75	22.01	22.26	20.46	21.07	20.59	21.12
8	25.11	24.87	24.80	24.25	24.80	23.12	22.04	22.28	20.48	21.01	20.90	21.40
9	25.17	24.74	24.83	24.32	24.31	23.12	21.98	22.33	21.04	20.19	20.72	21.44
10	25.14	24.42	24.79	24.26	24.44	22.85	22.17	21.52	21.08	20.25	20.17	21.46
11	25.16	24.64	24.44	24.40	24.61	22.62	22.28	20.60	21.17	19.84	20.61	21.52
12	24.57	25.06	24.60	24.31	24.59	22.70	22.28	20.51	21.06	19.78	20.86	21.53
13	24.39	25.09	24.36	24.43	24.65	22.88	22.00	20.77	20.89	19.46	21.11	21.42
14	24.84	24.93	24.16	24.39	24.67	22.91	22.06	20.80	21.01	19.76	21.11	21.41
15	24.92	24.92	24.28	23.97	24.66	22.87	22.14	20.64	20.78	19.84	20.78	21.72
16	24.71	24.37	24.41	24.32	24.06	22.83	22.08	20.49	20.85	19.76	20.70	21.79
17	24.60	24.59	24.54	24.35	23.84	22.49	21.96	20.34	20.75	19.70	20.60	21.83
18	24.41	24.83	24.49	24.40	24.32	22.50	21.84	20.45	20.49	19.81	20.88	21.80
19	24.24	24.61	24.45	23.73	24.51	22.55	21.94	20.59	20.57	19.93	20.90	22.02
20	24.19	24.55	24.33	24.05	24.68	22.64	21.66	20.72	20.77	19.51	21.22	21.77
21	24.89	24.58	24.35	24.22	24.87	22.36	21.90	20.72	20.79	19.47	21.37	21.60
22	24.93	24.39	24.42	24.35	24.87	22.02	21.96	20.77	20.44	19.79	21.07	21.68
23	24.89	24.21	24.61	24.16	24.37	22.04	21.87	20.93	20.68	20.14	20.78	21.69
24	25.09	24.15	24.41	24.07	24.45	22.08	21.80	20.77	20.80	20.41	20.64	21.70
25	24.71	24.46	23.81	23.77	24.41	22.21	21.64	20.15	20.90	20.53	21.18	21.68
26	24.77	24.57	23.89	23.73	24.43	22.41	21.75	20.37	20.96	20.39	21.27	21.62
27	24.81	24.58	23.81	24.29	24.43	22.41	21.84	20.78	21.12	19.88	21.44	21.69
28	25.01	24.21	23.73	24.28	24.09	22.08	21.89	20.86	21.18	20.05	21.66	21.62
29	25.09	24.10	24.26	24.49	---	21.76	22.26	20.85	21.27	19.89	21.42	21.56
30	25.11	24.07	24.24	24.59	---	21.96	22.29	20.93	21.28	20.09	20.95	21.62
31	25.11	---	24.28	24.62	---	22.03	---	20.50	---	20.36	20.91	---
MAX	25.25	25.26	24.84	24.62	24.87	24.05	22.47	22.36	21.28	21.42	21.66	22.02
CAL YR 2002		LOW 25.89										
WTR YR 2003		LOW 25.26										



GROUND-WATER RECORDS
Fairfield County

393913082330900. LOCAL NUMBER, F-8

LOCATION.—Latitude 39°39'13", longitude 82°33'09", Hydrologic Unit 05030204. Lancaster, Ohio. Owner: City of Lancaster.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled unused water table well, diameter 6 in., depth 87 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 791.5 ft above sea level (from topographic map). Measuring point: Floor of instrument shelter 2.5 ft above land-surface datum.

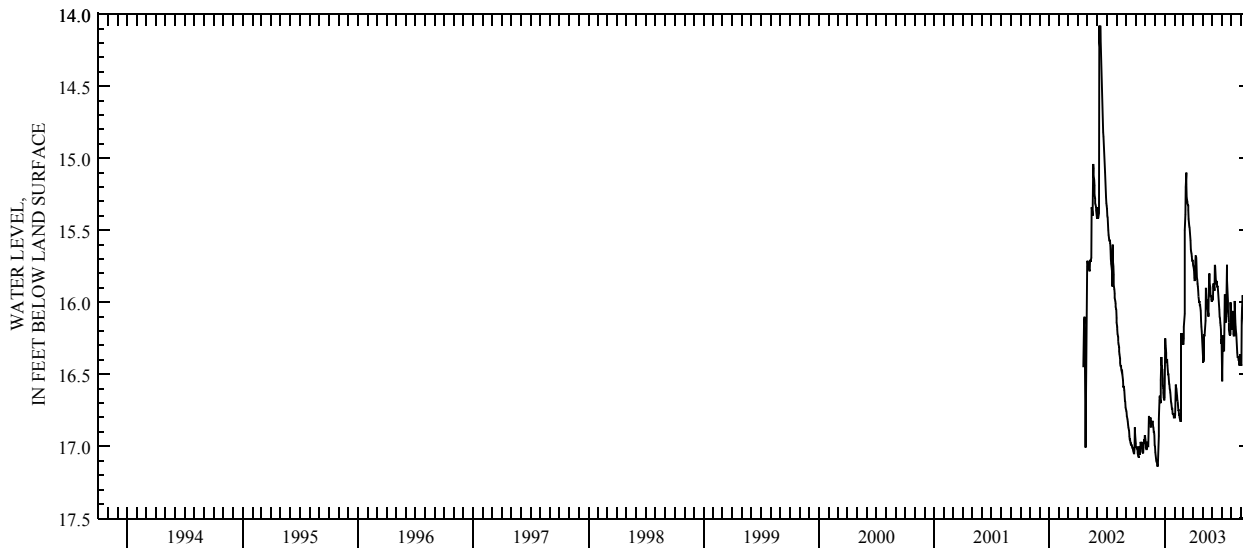
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water.

PERIOD OF RECORD.—April 2002 to current year.

EXREMES FOR PERIOD OF RECORD.—Maximum daily low, 17.14 ft below land-surface datum, Dec. 9, 2002; minimum daily low, 14.08 ft below land-surface datum, June 8 and 11, 2002.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.98	16.95	17.00	16.66	16.80	16.29	15.74	16.34	15.96	16.34	16.17	16.44
2	17.00	16.97	17.04	16.35	16.80	16.25	15.75	16.38	15.98	16.55	16.19	16.13
3	17.01	17.00	17.06	16.25	16.78	16.17	15.76	16.41	15.98	16.32	16.13	16.04
4	17.00	17.02	17.08	16.30	16.70	16.11	15.78	16.41	15.89	16.23	16.06	16.00
5	17.01	17.02	17.10	16.35	16.57	16.08	15.83	16.40	15.87	16.29	16.11	15.95
6	17.02	16.97	17.11	16.40	16.59	15.50	15.85	16.23	15.90	16.32	16.17	15.98
7	17.04	16.98	17.11	16.42	16.60	15.39	15.84	16.23	15.90	16.32	16.22	16.05
8	17.05	16.98	17.13	16.40	16.63	15.39	15.72	16.20	15.92	16.34	16.23	16.11
9	17.07	17.00	17.14	16.40	16.65	15.20	15.68	16.20	15.74	16.05	16.23	16.16
10	17.07	17.00	17.13	16.44	16.68	15.10	15.68	16.13	15.75	15.95	16.23	16.19
11	17.03	16.89	17.13	16.47	16.69	15.18	15.69	15.96	15.80	15.95	15.99	16.22
12	17.00	16.79	17.02	16.50	16.72	15.27	15.76	15.90	15.84	16.00	16.05	16.25
13	17.04	16.80	16.93	16.50	16.75	15.30	15.83	15.99	15.87	16.05	16.13	16.28
14	17.05	16.81	16.81	16.53	16.75	15.30	15.84	15.98	15.87	16.10	16.17	16.31
15	17.05	16.84	16.68	16.56	16.78	15.32	15.87	16.00	15.85	16.14	16.20	16.34
16	17.03	16.83	16.65	16.57	16.78	15.33	15.89	16.04	15.89	15.92	16.22	16.38
17	16.97	16.80	16.66	16.60	16.80	15.36	15.92	16.05	15.89	15.74	16.26	16.40
18	16.99	16.87	16.69	16.61	16.81	15.42	15.96	16.06	15.89	15.84	16.31	16.41
19	17.00	16.83	16.70	16.63	16.81	15.47	15.98	16.08	15.92	15.93	16.35	16.38
20	16.97	16.84	16.54	16.66	16.83	15.47	16.00	16.10	15.96	15.99	16.38	16.32
21	17.00	16.84	16.38	16.69	16.81	15.48	15.99	15.92	15.99	16.05	16.38	16.35
22	17.01	16.83	16.44	16.70	16.78	15.51	16.02	15.80	16.02	16.10	16.38	16.35
23	17.04	16.83	16.47	16.72	16.50	15.54	16.02	15.81	16.05	16.14	16.40	16.13
24	17.05	16.83	16.47	16.74	16.24	15.57	16.04	15.87	16.10	16.19	16.40	16.11
25	17.05	16.86	16.53	16.74	16.22	15.63	16.06	15.90	16.11	16.22	16.41	16.17
26	17.01	16.87	16.57	16.77	16.22	15.65	16.13	15.93	16.14	16.22	16.44	16.17
27	16.95	16.90	16.60	16.78	16.25	15.66	16.17	15.96	16.16	16.23	16.41	16.20
28	16.97	16.90	16.63	16.77	16.29	15.68	16.20	15.96	16.19	16.22	16.36	15.92
29	16.98	16.92	16.66	16.78	---	15.71	16.25	15.98	16.29	16.00	16.40	15.95
30	16.93	16.99	16.68	16.80	---	15.71	16.29	15.99	16.26	16.08	16.43	15.99
31	16.93	---	16.68	16.80	---	15.71	---	15.99	---	16.14	16.43	---
MAX	17.07	17.02	17.14	16.80	16.83	16.29	16.29	16.41	16.29	16.55	16.44	16.44
CAL YR 2002		LOW 17.14										
WTR YR 2003		LOW 17.14										



GROUND-WATER RECORDS
Fairfield County

394257082362900. LOCAL NUMBER, F-6

LOCATION.—Latitude 39°42'57", longitude 82°36'29", Hydrologic Unit 05030204, near Hocking River at Lancaster, Ohio. Owner: City of Lancaster.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled unused water table well, diameter 12 in., depth 108 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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.

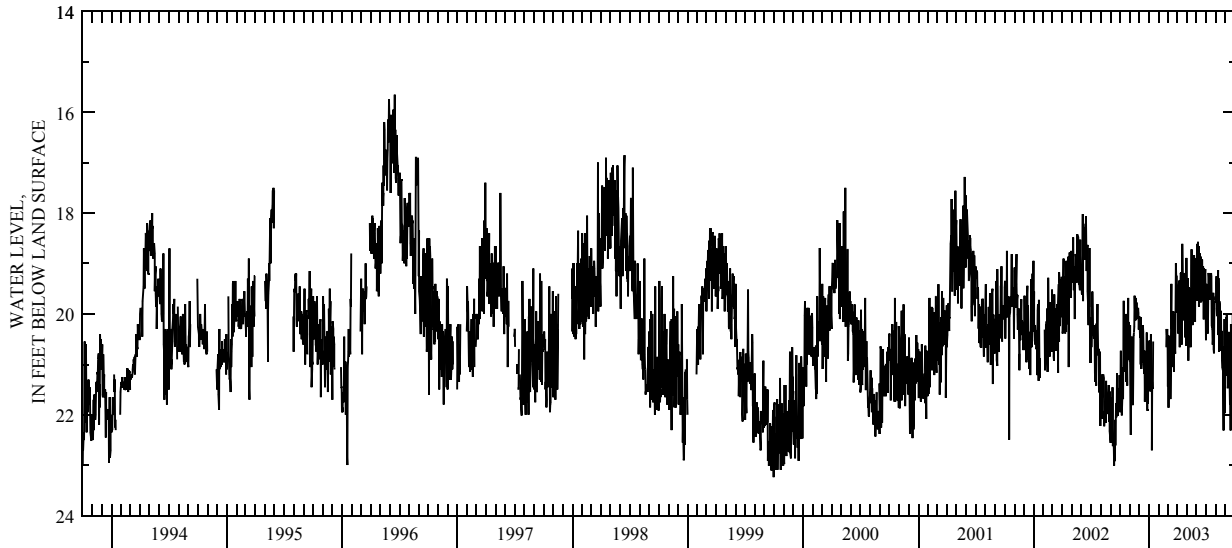
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.56	20.57	20.07	20.55	---	20.45	19.98	19.85	19.47	20.52	19.72	20.66
2	21.95	20.94	20.04	20.55	---	21.44	19.45	19.29	19.74	19.40	19.64	20.54
3	21.68	20.22	20.20	21.12	---	20.55	19.53	20.22	19.40	20.01	19.25	20.06
4	20.73	22.40	20.46	21.29	---	21.86	20.39	19.98	18.61	19.72	19.38	21.17
5	21.77	20.46	20.20	21.54	---	20.43	20.28	19.29	19.36	20.20	20.04	20.00
6	21.05	21.45	21.00	21.30	---	20.60	19.45	20.93	18.57	20.36	19.67	21.22
7	22.01	20.67	20.06	20.43	---	21.66	19.34	20.06	19.00	20.39	19.79	20.64
8	21.81	20.45	21.09	20.40	---	21.50	19.49	19.47	18.65	19.97	19.13	21.47
9	21.60	20.78	21.00	21.30	---	20.81	20.66	19.61	19.85	19.19	20.42	21.39
10	21.51	21.81	20.25	21.39	---	21.06	19.43	20.20	18.86	19.26	19.29	21.36
11	21.69	20.84	20.55	22.70	---	21.69	19.45	19.49	18.86	19.68	20.19	20.36
12	20.78	21.77	20.96	21.35	---	20.64	19.19	20.03	18.80	19.49	20.75	21.26
13	19.74	21.00	20.22	21.48	---	19.40	19.22	20.66	19.61	19.72	19.75	21.05
14	21.15	20.43	20.36	21.45	---	20.22	19.17	20.22	19.77	19.34	19.86	21.33
15	20.09	20.37	20.79	20.55	---	20.30	20.61	19.92	18.86	19.41	20.63	21.80
16	21.12	20.25	20.88	---	---	20.03	19.17	18.72	19.64	19.40	19.97	21.14
17	20.27	19.64	21.18	---	---	21.05	18.61	19.64	19.00	19.19	19.94	22.31
18	20.22	19.89	20.73	---	---	20.00	18.90	19.41	19.52	19.25	20.36	20.20
19	20.79	19.71	21.74	---	---	19.98	19.43	19.92	18.92	20.24	20.73	21.42
20	20.75	20.13	21.14	---	---	19.95	19.88	20.22	19.34	20.25	20.34	21.78
21	21.35	19.68	20.94	---	---	21.15	20.13	20.03	19.75	20.30	20.87	21.44
22	20.00	19.88	20.94	---	---	20.91	19.47	19.81	19.05	20.61	21.05	21.06
23	21.06	19.77	21.65	---	---	20.01	19.65	19.22	19.13	20.51	21.12	20.90
24	21.42	20.01	21.59	---	---	20.45	19.19	18.83	20.11	19.58	20.91	20.00
25	20.82	19.98	20.37	---	20.66	20.69	19.79	19.05	19.10	20.70	21.56	21.17
26	20.88	20.01	21.90	---	20.30	20.79	20.18	18.89	19.38	20.78	22.31	20.93
27	19.68	20.10	21.90	---	20.42	19.08	20.47	20.16	19.64	20.04	20.64	20.81
28	20.91	19.88	21.54	---	20.30	19.00	19.35	19.04	19.22	19.90	21.47	20.06
29	20.16	19.98	21.78	---	---	19.23	20.63	18.99	19.11	19.75	20.10	20.97
30	20.40	20.31	20.61	---	---	19.26	18.89	19.14	20.07	19.77	21.97	21.02
31	20.61	---	21.12	---	---	19.45	---	19.34	---	19.65	20.20	---
MAX	22.01	22.40	21.90	22.70	20.66	21.86	20.66	20.93	20.11	20.78	22.31	22.31
CAL YR 2002		LOW 23.01										
WTR YR 2003		LOW 22.70										



GROUND-WATER RECORDS
Fairfield County

394544082271000. LOCAL NUMBER, F-1

LOCATION.—Latitude 39°45'44", longitude 82°27'10", Hydrologic Unit 05030204, near the west edge of West Rushville, Ohio. Owner: State of Ohio.
AQUIFER.—Sandstone of Mississippian Age.

WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 108 ft, cased. Depth 84 ft prior to water year 2003

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

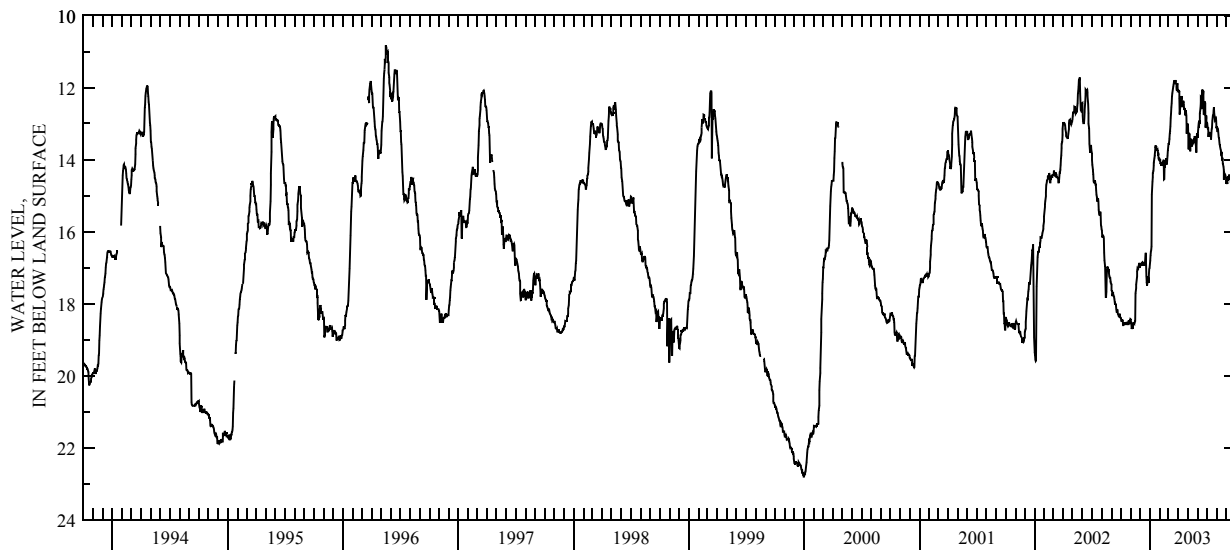
PERIOD OF RECORD.—March 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 22.80 ft below land-surface datum, Dec. 31, 1999 - Jan. 1, 2000; minimum daily low, 7.27 ft below land-surface datum, May 5-6, 1962.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.39	18.44	16.94	16.89	14.04	13.56	12.08	13.02	13.29	12.95	13.08	14.67
2	18.42	18.45	16.89	16.80	13.98	13.56	12.06	13.02	13.38	12.98	13.17	14.54
3	18.48	18.56	16.91	16.65	13.98	13.51	12.12	13.34	13.23	13.07	13.22	14.67
4	18.48	18.68	16.88	16.55	14.12	13.41	12.09	13.71	13.05	13.14	13.19	14.57
5	18.42	18.70	16.91	16.50	14.06	13.28	12.30	13.41	12.96	13.10	13.17	14.46
6	18.47	18.61	16.91	16.41	14.13	13.19	12.74	13.28	13.11	13.37	13.28	14.57
7	18.47	18.69	16.83	15.59	14.13	13.07	12.51	13.29	12.90	13.26	13.38	14.50
8	18.60	18.69	16.89	14.97	14.09	12.84	12.38	13.53	12.99	13.22	13.40	14.50
9	18.60	18.53	16.88	14.61	14.12	12.72	12.35	13.77	12.71	13.35	13.50	14.43
10	18.57	18.53	16.85	14.49	14.13	12.54	12.27	13.41	12.57	13.28	13.59	14.43
11	18.57	18.54	16.86	14.37	14.09	12.44	12.32	13.60	12.42	13.34	13.60	14.55
12	18.51	18.56	16.94	14.31	14.09	12.24	12.23	13.49	12.26	13.23	13.62	14.45
13	18.56	18.54	16.89	14.16	14.06	12.15	12.54	13.43	12.29	13.32	13.71	14.49
14	18.57	18.53	16.89	14.09	14.00	12.09	12.41	13.64	12.59	13.44	13.71	14.50
15	18.57	18.48	16.94	13.95	14.55	12.02	12.39	13.49	12.23	13.29	13.82	14.65
16	18.53	18.24	16.89	13.90	14.54	11.96	12.38	13.49	12.14	13.14	13.79	14.60
17	18.53	17.70	16.81	13.88	14.04	11.91	12.41	13.46	12.05	13.11	13.80	14.64
18	18.53	17.56	16.70	13.68	14.22	11.85	12.38	13.51	12.33	12.92	13.98	14.60
19	18.53	17.46	16.58	13.60	14.07	11.79	12.47	13.53	12.09	12.83	13.97	14.64
20	18.57	17.39	16.92	13.67	14.13	11.88	12.62	13.46	12.11	12.75	14.12	14.61
21	18.57	17.24	17.24	13.62	14.04	11.87	12.56	13.40	12.75	12.78	14.10	14.58
22	18.53	17.09	17.39	13.75	13.95	11.87	12.59	13.43	12.72	12.63	14.19	14.55
23	18.54	17.03	17.49	13.70	14.01	11.78	12.63	13.34	12.48	12.54	14.28	14.46
24	18.57	17.06	17.43	13.74	14.13	11.84	12.77	13.51	12.38	12.72	14.55	14.46
25	18.57	17.04	17.24	13.75	14.00	11.87	12.62	13.53	12.44	12.78	14.45	14.37
26	18.45	16.98	17.25	13.73	13.89	11.91	12.69	13.47	12.67	12.89	14.48	14.28
27	18.54	16.94	17.27	13.88	13.75	12.08	12.78	13.59	13.11	12.87	14.40	14.18
28	18.54	16.89	17.42	13.80	13.65	11.97	13.28	13.80	12.84	12.84	14.43	14.15
29	18.48	16.89	17.15	13.97	---	11.87	13.02	13.46	12.77	12.83	14.43	14.06
30	18.48	17.00	17.01	13.98	---	12.06	13.04	13.26	13.11	12.90	14.50	14.01
31	18.42	---	17.00	13.94	---	12.09	---	13.31	---	13.13	14.50	---
MAX	18.60	18.70	17.49	16.89	14.55	13.56	13.28	13.80	13.38	13.44	14.55	14.67

CAL YR 2002 LOW 19.58
WTR YR 2003 LOW 18.70



GROUND-WATER RECORDS
Fairfield County

395053082361900. LOCAL NUMBER, F-5

LOCATION.—Latitude 39°50'53", longitude 82°36'19", Hydrologic Unit 05060001, Gaylord Paper Company, Baltimore, Ohio. 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.—Electronic data logger, 60-minute log interval.

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.

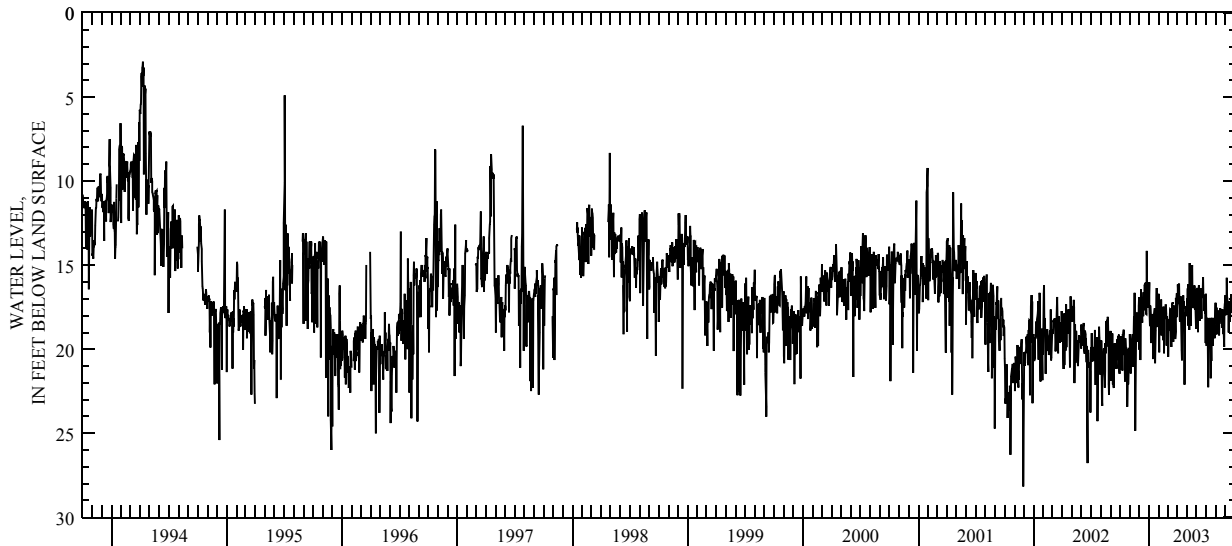
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.22	21.24	16.92	16.89	16.71	18.24	17.37	18.03	16.55	16.70	18.27	16.79
2	21.24	19.11	20.04	16.02	18.87	18.22	17.19	16.98	16.71	17.64	18.29	17.99
3	20.57	20.28	18.53	17.45	20.18	20.46	16.16	17.58	16.41	19.80	17.52	17.46
4	19.62	20.70	17.33	18.63	17.47	19.80	16.61	16.38	16.35	18.14	19.13	17.58
5	19.25	21.44	20.64	18.48	18.96	18.29	16.81	18.59	17.40	19.35	18.66	15.76
6	19.70	20.31	18.89	17.40	18.14	18.90	16.22	16.13	18.99	18.15	18.65	16.88
7	19.92	20.57	16.45	18.40	18.11	18.59	16.10	16.40	16.62	21.26	17.67	16.97
8	20.60	20.13	16.92	19.41	18.68	18.39	17.33	17.28	16.19	22.26	18.17	17.54
9	21.27	19.52	17.73	19.65	17.04	17.61	18.22	18.86	17.33	19.61	17.72	17.93
10	19.10	19.10	18.11	17.91	19.19	17.65	18.35	14.88	17.40	18.77	17.81	17.31
11	19.25	21.05	18.42	18.06	18.66	18.08	18.05	17.61	18.30	18.29	18.59	19.02
12	19.02	20.72	16.95	18.29	18.87	19.14	16.86	18.30	17.30	18.12	19.19	17.39
13	18.84	19.38	16.91	18.75	17.99	19.86	17.76	17.16	16.89	18.22	18.18	17.16
14	20.22	19.13	18.03	19.49	19.00	19.34	18.47	18.61	16.62	19.29	17.55	17.45
15	20.34	18.06	16.62	20.58	19.47	17.27	20.06	15.48	16.35	18.96	17.99	18.39
16	19.86	19.17	17.67	18.12	17.46	17.27	20.67	15.01	16.97	21.74	17.58	17.94
17	21.93	16.65	17.47	18.33	17.67	19.45	18.11	15.25	18.18	19.44	17.76	17.30
18	19.90	19.68	16.20	17.93	20.24	18.48	18.42	15.01	16.75	20.70	17.86	17.46
19	19.35	24.86	16.16	17.55	18.17	19.55	17.46	17.20	16.77	18.12	18.44	16.72
20	20.15	20.67	16.36	19.36	18.09	18.54	16.80	16.70	16.58	19.23	18.45	17.50
21	19.90	19.61	16.04	20.84	18.21	17.43	17.60	17.34	16.44	19.43	18.72	17.43
22	21.39	18.47	16.25	18.90	17.58	17.40	17.16	17.56	15.72	18.59	17.61	17.85
23	21.65	18.00	17.90	18.66	17.33	17.97	18.39	16.81	16.86	19.79	18.00	17.56
24	20.36	17.81	17.93	18.47	17.39	17.73	22.11	16.86	16.92	18.25	18.74	17.28
25	23.42	19.06	14.15	17.64	17.86	17.61	18.75	16.64	17.01	18.48	19.10	17.16
26	20.15	19.43	16.56	16.35	19.79	19.40	17.84	16.20	17.72	18.31	18.74	16.88
27	20.01	19.56	16.04	18.68	18.03	18.96	17.85	17.64	16.77	18.14	19.26	16.58
28	22.10	18.30	17.30	17.50	18.30	16.95	18.00	17.20	17.88	19.35	19.86	16.08
29	20.30	18.96	16.08	18.25	---	17.49	17.82	17.42	17.28	19.31	17.52	19.20
30	19.92	17.43	17.52	18.24	---	16.68	17.43	18.78	19.64	18.53	17.28	16.91
31	20.88	---	16.70	17.82	---	18.09	---	16.44	---	17.25	17.40	---
MAX	23.42	24.86	20.64	20.84	20.24	20.46	22.11	18.86	19.64	22.26	19.86	19.20
CAL YR 2002		LOW 26.78										
WTR YR 2003		LOW 24.86										



GROUND-WATER RECORDS
Fayette County

393153083322000. LOCAL NUMBER, FA-1

LOCATION.—Latitude 39°31'53", longitude 83°32'20", Hydrologic Unit 05060003, Burnett-Perill Road about 6 mi west of Washington Court House, Ohio.
Owner: Martha Slagle.

AQUIFER.—Limestone of Silurian Age.

WELL CHARACTERISTICS.—Drilled unused artesian well, diameter 5 in., depth 78 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval. Satellite telemeter at site.

DATUM.—Elevation of land-surface datum is 1,010 ft above sea level (from topographic map). Measuring point: Floor of instrument shelter 3.30 ft above land-surface datum.

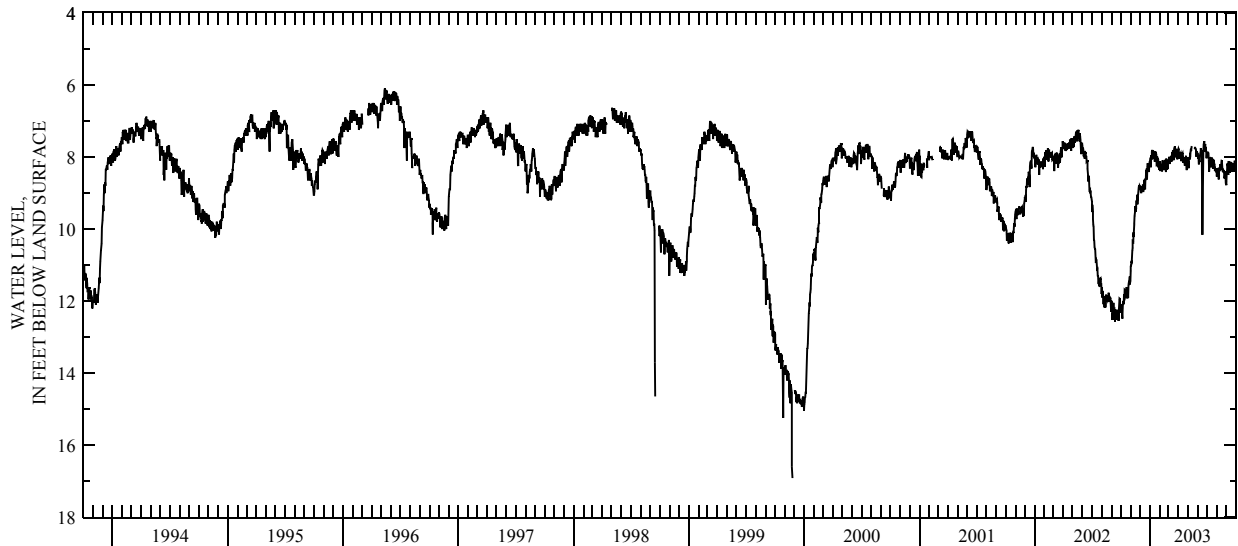
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—February 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 16.92 ft below land-surface datum, Nov. 25, 1999; minimum daily low, 3.26 ft below land-surface datum, Apr. 28, 1964.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.08	11.17	8.82	8.11	8.14	8.06	7.77	8.08	7.90	7.93	8.54	8.68
2	12.11	11.04	8.86	8.08	8.14	8.05	7.79	8.21	7.94	7.98	8.38	8.46
3	12.19	10.98	8.91	8.02	8.39	8.05	7.79	8.11	8.05	7.87	8.40	8.27
4	12.09	10.88	8.90	8.29	8.19	7.99	8.05	8.31	7.96	7.87	8.33	8.18
5	12.38	10.95	9.01	7.95	8.25	8.20	7.88	8.04	8.21	7.87	8.41	8.22
6	12.49	10.59	8.85	8.07	8.27	8.06	8.05	8.00	8.04	7.90	8.30	8.50
7	12.19	10.52	8.83	7.99	8.26	8.04	7.88	8.06	8.14	8.07	8.62	8.34
8	12.05	10.34	8.83	7.86	8.20	8.08	7.90	7.97	7.99	8.41	8.37	8.11
9	11.99	10.36	8.85	7.80	8.40	8.00	7.89	7.98	7.96	8.25	8.40	8.29
10	12.09	10.09	8.77	8.05	8.11	7.96	8.11	7.85	7.87	8.01	8.29	8.15
11	11.81	10.22	8.97	7.88	8.11	8.13	8.06	7.77	7.80	8.06	8.36	8.15
12	11.98	9.89	8.92	7.86	8.14	7.88	7.97	7.83	7.75	8.05	8.19	8.44
13	11.68	9.84	8.86	7.83	8.15	7.90	7.99	7.73	7.95	8.08	8.35	8.31
14	11.69	9.63	8.66	7.89	8.14	7.87	7.90	7.70	7.80	8.28	8.26	8.16
15	11.69	9.48	8.63	8.03	8.36	7.81	7.89	---	7.89	8.16	8.27	8.16
16	11.76	9.36	8.67	8.12	8.20	7.89	8.16	---	9.34	8.04	8.10	8.35
17	11.71	9.52	8.90	7.87	8.11	8.09	8.09	---	10.16	8.03	8.10	8.41
18	11.92	9.43	8.60	7.87	8.13	7.82	8.00	---	8.75	8.10	8.13	8.31
19	11.61	9.24	8.64	7.85	8.15	7.77	8.06	---	7.80	8.18	8.39	8.16
20	11.65	9.22	8.39	7.88	8.22	7.73	8.10	---	7.86	8.33	8.41	8.20
21	11.92	9.22	8.39	7.93	8.42	7.73	8.08	---	7.65	8.15	8.33	8.31
22	11.90	9.05	8.32	8.26	8.05	7.76	8.24	---	7.55	8.09	8.38	8.21
23	11.76	9.31	8.62	8.02	8.32	8.01	8.08	7.78	7.60	8.10	8.43	8.17
24	11.90	9.03	8.26	8.02	8.32	7.80	8.11	7.71	7.76	8.20	8.37	8.41
25	11.56	9.05	8.17	7.99	8.35	7.77	7.98	7.76	7.64	8.21	8.60	8.28
26	11.47	8.95	8.23	8.06	8.24	7.86	7.97	7.78	7.84	8.39	8.57	8.19
27	11.46	8.84	8.27	8.06	8.33	7.82	8.18	7.80	7.71	8.32	8.53	8.10
28	11.45	8.78	8.22	8.28	8.09	7.89	8.36	7.99	7.85	8.34	8.40	8.15
29	11.32	8.92	8.42	8.19	---	8.06	8.03	7.83	7.87	8.34	8.46	8.20
30	11.54	8.80	8.23	8.35	---	7.88	8.03	7.87	8.03	8.42	8.72	8.32
31	11.44	---	8.14	8.29	---	7.85	---	7.91	---	8.35	8.78	---
MAX	12.49	11.17	9.01	8.35	8.42	8.20	8.36	8.31	10.16	8.42	8.78	8.68
CAL YR 2002		LOW 12.57										
WTR YR 2003		LOW 12.49										



GROUND-WATER RECORDS
Franklin County

394956083002700. LOCAL NUMBER, FR-18

LOCATION.—Latitude 39°49'56", longitude 83°00'27", Hydrologic Unit 05060001, south of State Route 665 at Shadeville, Ohio. 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.—Electronic data logger, 60-minute log interval.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

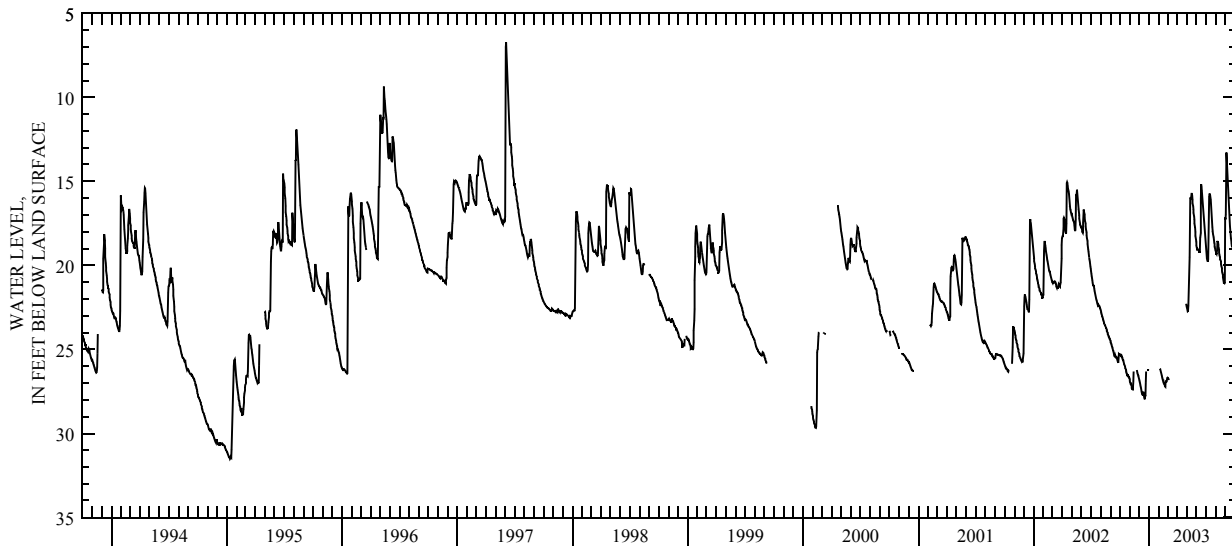
PERIOD OF RECORD.—November 1985 to March 1986 periodic, continuous thereafter.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.32	26.77	26.76	---	---	26.68	---	22.46	18.82	19.08	19.29	17.27
2	25.34	26.87	26.84	---	---	26.70	---	22.54	19.00	19.27	19.30	16.99
3	25.38	26.97	26.92	---	---	26.74	---	22.65	19.02	19.45	19.33	14.35
4	25.40	27.07	27.01	---	---	26.77	---	22.74	19.00	19.59	19.33	13.29
5	25.32	27.13	27.11	---	26.14	26.78	---	22.73	19.03	19.66	19.07	13.61
6	25.36	27.08	27.20	---	26.16	26.76	---	22.42	19.08	19.76	18.55	13.89
7	25.42	27.18	27.30	---	26.24	---	---	21.86	19.10	19.76	18.58	14.25
8	25.48	27.28	27.41	---	26.32	---	---	21.01	19.16	19.64	18.64	14.74
9	25.54	27.36	27.52	---	26.40	---	---	20.23	19.20	18.88	18.77	15.27
10	25.61	27.38	27.62	---	26.48	---	---	19.53	19.21	17.01	18.93	15.77
11	25.63	27.24	27.66	---	26.56	---	---	17.33	19.21	15.92	19.07	16.24
12	25.70	27.24	27.68	---	26.64	---	---	15.96	19.06	15.78	19.23	16.65
13	25.77	26.94	27.74	---	26.72	---	---	15.99	18.36	15.73	19.38	17.01
14	25.84	26.33	27.52	---	26.81	---	---	16.00	18.06	15.82	19.51	17.36
15	25.92	---	27.59	---	26.87	---	---	15.92	16.05	15.96	19.63	17.66
16	25.94	---	27.72	---	26.96	---	---	15.75	15.17	16.10	19.69	17.92
17	26.02	---	27.83	---	27.01	---	---	15.76	15.33	16.41	19.77	18.16
18	26.11	---	27.92	---	27.06	---	---	15.84	15.54	16.76	19.91	18.37
19	26.14	---	27.98	---	27.08	---	---	16.08	15.82	17.09	20.04	18.49
20	26.20	---	27.76	---	27.10	---	---	16.29	16.14	17.41	20.17	18.70
21	26.29	---	27.76	---	27.22	---	---	16.48	16.46	17.72	20.31	18.87
22	26.38	---	26.96	---	27.24	---	---	16.68	16.78	17.96	20.44	18.91
23	26.48	---	26.32	---	26.93	---	---	16.88	17.09	18.12	20.56	18.69
24	26.56	26.22	---	---	26.96	---	---	17.08	17.38	18.22	20.69	18.72
25	26.61	26.32	---	---	26.96	---	---	17.29	17.66	18.32	20.81	18.76
26	26.48	26.42	---	---	26.93	---	---	17.50	17.90	18.47	20.93	18.83
27	26.54	26.49	---	---	26.80	---	---	17.76	18.14	18.65	21.03	18.82
28	26.62	26.55	---	---	26.69	---	---	18.00	18.38	18.73	21.04	17.03
29	26.66	26.61	26.20	---	---	---	22.28	18.23	18.63	18.89	21.07	15.91
30	26.58	26.68	26.24	---	---	---	22.38	18.46	18.86	19.02	21.01	15.56
31	26.68	---	26.16	---	---	---	---	18.61	---	19.15	17.15	---
MAX	26.68	27.38	27.98	---	27.24	26.78	22.38	22.74	19.21	19.76	21.07	18.91

CAL YR 2002 LOW 27.98
WTR YR 2003 LOW 27.98



GROUND-WATER RECORDS
Franklin County

395055083000600. LOCAL NUMBER, FR-19

LOCATION.—Latitude 39°50'55", longitude 83°00'06", Hydrologic Unit 05060001, adjacent to State Route 23 near Shadeville, Ohio. 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

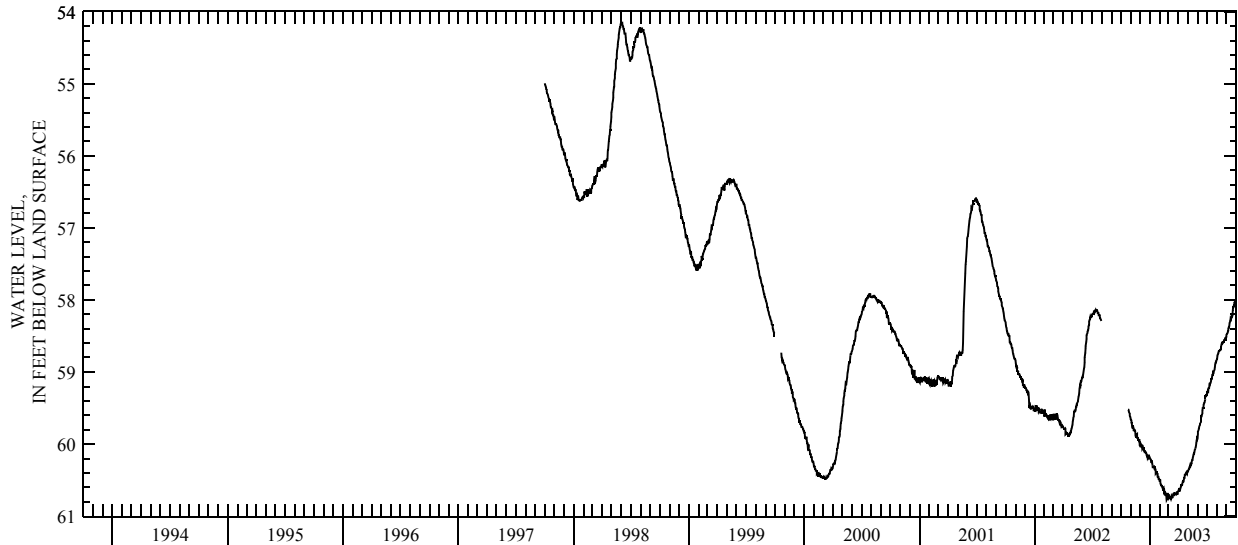
PERIOD OF RECORD.—September 1997 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 60.77 ft below land-surface datum, Feb. 23, 2003; 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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	59.65	60.01	60.20	60.51	60.70	60.65	60.38	59.91	59.30	58.82	58.48
2	---	59.66	60.02	60.21	60.51	60.74	60.65	60.38	59.86	59.27	58.81	58.47
3	---	59.67	60.04	60.21	60.49	60.73	60.63	60.36	59.82	59.26	58.77	58.46
4	---	59.71	60.00	60.22	60.55	60.72	60.61	60.35	59.80	59.28	58.75	58.46
5	---	59.70	60.01	60.23	60.57	60.74	60.65	60.34	59.79	59.28	58.74	58.45
6	---	59.77	60.02	60.26	60.56	60.76	60.65	60.34	59.78	59.23	58.73	58.42
7	---	59.77	60.02	60.24	60.58	60.73	60.62	60.32	59.74	59.21	58.71	58.40
8	---	59.74	60.06	60.23	60.58	60.75	60.62	60.31	59.73	59.23	58.71	58.38
9	---	59.76	60.05	60.29	60.59	60.76	60.60	60.29	59.72	59.17	58.70	58.38
10	---	59.78	60.04	60.33	60.60	60.75	60.58	60.30	59.70	59.15	58.70	58.36
11	---	59.82	60.07	60.32	60.60	60.72	60.57	60.28	59.69	59.16	58.69	58.32
12	---	59.80	60.08	60.32	60.64	60.73	60.57	60.27	59.62	59.15	58.69	58.30
13	---	59.80	60.04	60.31	60.62	60.75	60.57	60.27	59.62	59.14	58.69	58.29
14	---	59.80	60.10	60.30	60.61	60.73	60.54	60.23	59.60	59.12	58.68	58.26
15	---	59.82	60.08	60.32	60.66	60.71	60.53	60.22	59.59	59.08	58.65	58.27
16	---	59.82	60.12	60.31	60.65	60.69	60.51	60.22	59.57	59.10	58.61	58.25
17	---	59.88	60.11	60.36	60.68	60.69	60.53	60.19	59.53	59.07	58.62	58.23
18	---	59.91	60.11	60.34	60.69	60.70	60.51	60.17	59.50	59.04	58.61	58.20
19	---	59.88	60.12	60.37	60.71	60.69	60.49	60.15	59.50	59.04	58.60	58.22
20	---	59.87	60.12	60.40	60.71	60.67	60.47	60.13	59.49	59.01	58.58	58.21
21	---	59.86	60.13	60.39	60.69	60.70	60.47	60.13	59.45	59.02	58.57	58.14
22	---	59.92	60.16	60.39	60.70	60.70	60.43	60.11	59.43	59.00	58.59	58.10
23	---	59.91	60.17	60.40	60.77	60.69	60.43	60.08	59.42	58.98	58.59	58.10
24	59.52	59.92	60.15	60.41	60.76	60.69	60.41	60.07	59.41	58.97	58.57	58.08
25	59.52	59.94	60.19	60.40	60.74	60.71	60.40	60.06	59.38	58.96	58.55	58.08
26	59.54	59.94	60.18	60.45	60.69	60.69	60.42	60.04	59.34	58.93	58.56	58.04
27	59.56	59.95	60.16	60.45	60.69	60.68	60.42	60.02	59.34	58.89	58.55	58.04
28	59.57	59.94	60.15	60.44	60.72	60.66	60.40	59.98	59.32	58.87	58.55	58.02
29	59.58	59.93	60.18	60.48	---	60.70	60.41	59.95	59.31	58.87	58.52	58.02
30	59.61	60.01	60.17	60.48	---	60.67	60.38	59.92	59.33	58.85	58.54	58.00
31	59.63	---	60.19	60.48	---	60.66	---	59.93	---	58.84	58.51	---
MAX	59.63	60.01	60.19	60.48	60.77	60.76	60.65	60.38	59.91	59.30	58.82	58.48

CAL YR 2002 LOW 60.19
WTR YR 2003 LOW 60.77



GROUND-WATER RECORDS
Franklin County

400101083021800. LOCAL NUMBER, FR-10

LOCATION.—Latitude 40°01'01", longitude 83°02'18", Hydrologic Unit 05060001, Kenny and Ackerman Roads, Columbus, Ohio. 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.

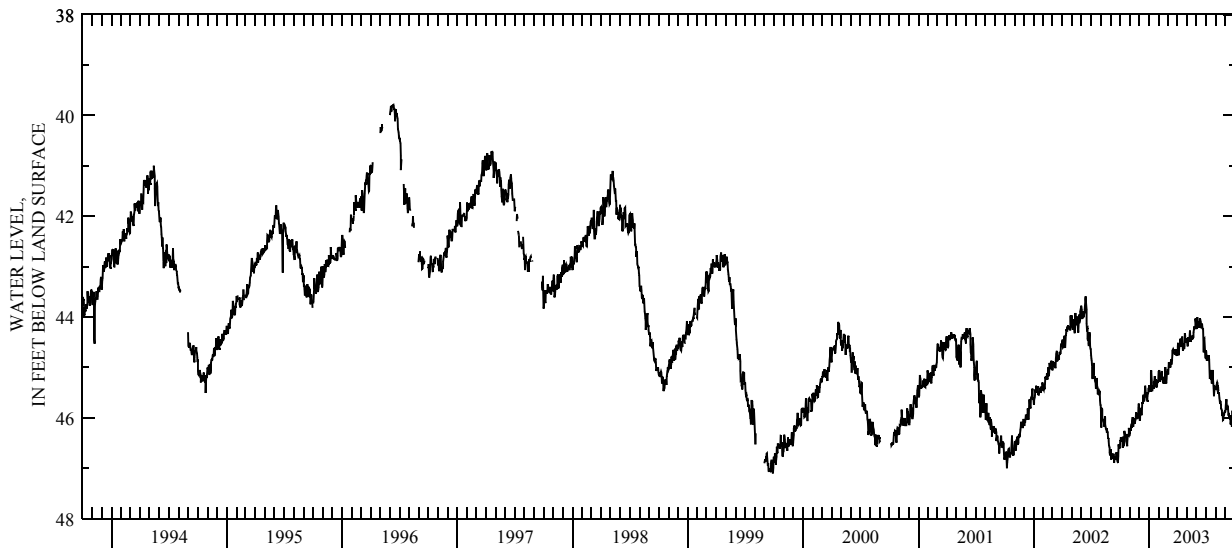
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	46.59	46.31	45.81	45.39	45.09	45.11	44.66	44.42	44.16	44.66	45.41	45.86
2	46.46	46.29	45.84	45.35	45.09	45.03	44.63	44.46	44.24	44.69	45.42	45.74
3	46.46	46.22	46.04	45.36	45.05	45.14	44.58	44.52	44.12	44.84	45.39	45.68
4	46.38	46.25	46.04	45.38	45.14	45.02	44.51	44.58	44.00	44.87	45.35	45.63
5	46.40	46.26	45.86	45.38	45.27	44.90	44.72	44.40	44.13	44.81	45.30	45.74
6	46.40	46.17	45.82	45.47	45.27	44.99	44.76	44.42	44.22	44.82	45.32	45.84
7	46.41	46.20	45.82	45.47	45.20	44.99	44.64	44.49	44.12	44.78	45.41	45.78
8	46.46	46.19	45.93	45.11	45.23	44.96	44.58	44.46	44.09	44.79	45.39	45.77
9	46.43	46.10	45.93	45.06	45.17	44.96	44.57	44.46	44.10	44.78	45.47	45.81
10	46.59	45.98	45.84	45.30	45.11	45.00	44.52	44.37	44.21	44.76	45.50	45.92
11	46.44	46.13	45.69	45.41	45.07	44.96	44.43	44.27	44.09	44.84	45.50	45.96
12	46.37	46.16	45.72	45.47	45.23	44.84	44.49	44.37	44.04	45.06	45.53	45.90
13	46.52	46.16	45.68	45.38	45.24	44.94	44.57	44.49	44.04	45.23	45.60	46.02
14	46.53	46.11	45.56	45.35	45.24	44.94	44.57	44.46	44.10	45.20	45.71	45.96
15	46.38	46.05	45.56	45.41	45.32	44.84	44.48	44.37	44.18	45.18	45.72	46.02
16	46.26	46.05	45.66	45.41	45.30	44.76	44.40	44.42	44.22	45.05	45.66	45.99
17	46.34	46.01	45.66	45.30	45.18	44.66	44.40	44.45	44.18	45.23	45.74	46.13
18	46.37	46.11	45.63	45.30	45.24	44.63	44.57	44.39	44.13	45.23	45.81	46.08
19	46.32	46.05	45.51	45.18	45.27	44.66	44.67	44.42	44.15	45.32	45.82	45.95
20	46.35	46.04	45.36	45.17	45.32	44.66	44.63	44.37	44.21	45.29	45.86	46.11
21	46.37	45.95	45.42	45.24	45.24	44.66	44.52	44.40	44.24	45.17	45.95	46.17
22	46.46	45.89	45.53	45.24	44.99	44.72	44.57	44.39	44.24	45.05	45.89	46.07
23	46.52	45.92	45.56	45.32	45.14	44.73	44.63	44.31	44.51	45.23	46.01	45.86
24	46.56	45.92	45.54	45.39	45.26	44.73	44.58	44.22	44.70	45.32	46.05	46.01
25	46.50	46.01	45.50	45.35	45.32	44.69	44.32	44.19	44.43	45.41	46.04	45.96
26	46.32	46.01	45.66	45.33	45.23	44.70	44.36	44.18	44.42	45.57	45.96	45.96
27	46.34	45.98	45.66	45.39	45.11	44.72	44.51	44.24	44.52	45.48	45.95	45.77
28	46.34	45.98	45.57	45.26	45.11	44.64	44.48	44.18	44.66	45.36	45.93	45.87
29	46.35	45.80	45.51	45.29	---	44.75	44.49	44.03	44.73	45.39	45.89	45.99
30	46.20	45.72	45.50	45.29	---	44.75	44.49	44.12	44.82	45.44	45.86	46.01
31	46.29	---	45.41	45.24	---	44.72	---	44.09	---	45.44	45.89	---
MAX	46.59	46.31	46.04	45.47	45.32	45.14	44.76	44.58	44.82	45.57	46.05	46.17
CAL YR 2002		LOW 46.89										
WTR YR 2003		LOW 46.59										



GROUND-WATER RECORDS
Gallia County

383638082103300. LOCAL NUMBER, G-2

LOCATION.—Latitude 38°36'38", longitude 82°10'33", Hydrologic Unit 05090101, 5.9 mi east of Crown City, Ohio. 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.—Electronic data logger, 60-minute log interval.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

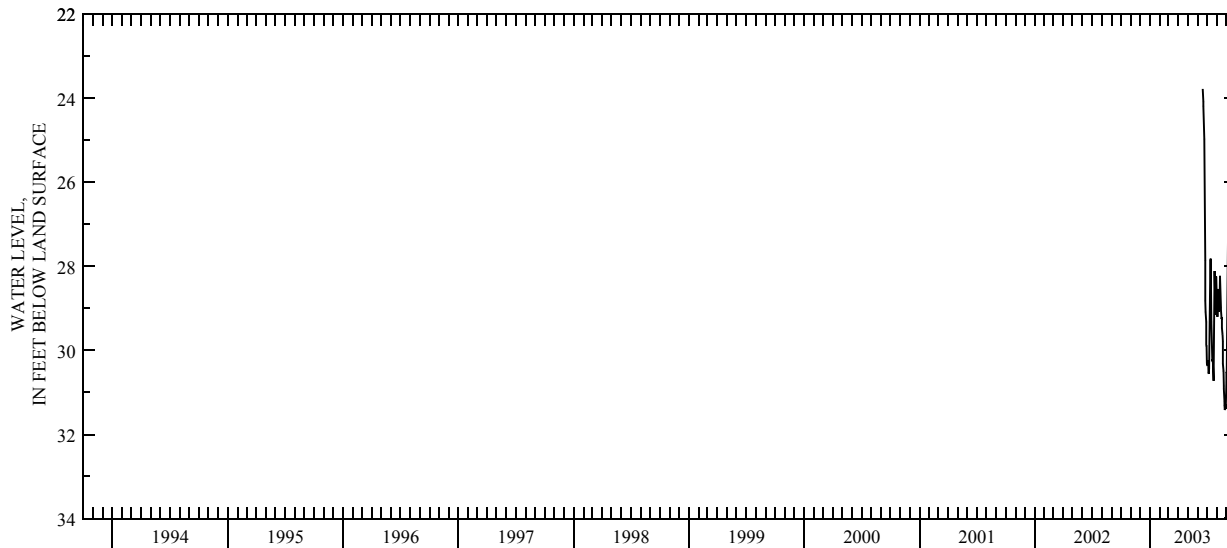
PERIOD OF RECORD.—June 1975 to September 1982 continuous, periodic October 1982 to June 2003, continuous thereafter.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 33.94 ft below land-surface datum, Sept. 22, 1983; minimum daily low 16.43 ft below land-surface datum, Mar. 8, 1979.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	30.30	28.78	30.51
2	---	---	---	---	---	---	---	---	---	30.34	28.97	30.53
3	---	---	---	---	---	---	---	---	---	30.33	29.20	29.27
4	---	---	---	---	---	---	---	---	---	30.35	28.97	28.06
5	---	---	---	---	---	---	---	---	---	30.23	28.54	27.28
6	---	---	---	---	---	---	---	---	---	30.52	28.68	26.56
7	---	---	---	---	---	---	---	---	---	30.56	29.08	27.42
8	---	---	---	---	---	---	---	---	---	30.44	29.00	28.47
9	---	---	---	---	---	---	---	---	---	30.10	28.90	29.24
10	---	---	---	---	---	---	---	---	---	29.35	28.72	29.42
11	---	---	---	---	---	---	---	---	---	28.77	28.28	29.96
12	---	---	---	---	---	---	---	---	---	27.85	28.23	30.25
13	---	---	---	---	---	---	---	---	---	27.82	28.70	30.59
14	---	---	---	---	---	---	---	---	---	28.60	28.98	30.83
15	---	---	---	---	---	---	---	---	---	29.33	29.04	30.96
16	33.40	---	---	---	---	---	---	---	---	29.58	29.26	31.02
17	---	---	---	---	---	---	---	---	---	29.85	29.21	31.00
18	---	---	---	---	---	---	---	---	23.78	30.26	29.46	31.28
19	---	---	---	---	---	---	---	---	24.08	30.21	29.63	31.25
20	---	---	---	---	---	---	---	---	24.19	30.32	29.79	29.98
21	---	---	---	---	---	---	---	---	24.42	30.49	30.31	29.18
22	---	---	---	---	---	---	---	---	24.97	30.72	30.49	29.15
23	---	---	---	---	---	---	---	---	26.12	30.30	30.85	29.20
24	---	---	---	---	---	---	---	---	27.07	29.24	30.92	29.17
25	---	---	---	---	---	---	---	---	27.86	28.11	31.22	28.56
26	---	---	---	---	---	---	---	---	28.82	28.45	31.31	28.82
27	---	---	---	---	---	---	---	---	29.09	28.85	31.42	29.26
28	---	---	---	---	---	---	---	---	29.33	29.15	31.29	29.31
29	---	---	---	---	---	---	---	---	29.88	28.94	31.37	29.30
30	---	---	---	---	---	---	---	---	29.90	28.24	31.40	28.97
31	---	---	---	---	---	---	---	---	---	28.49	30.76	---
MAX	33.40	---	---	---	---	---	---	---	29.90	30.72	31.42	31.28

WTR YR 2003 LOW 33.40



GROUND-WATER RECORDS
Greene County

273

394217083594100. LOCAL NUMBER, GR-12

LOCATION.—Latitude 39°42'17", longitude 83°59'41", Hydrologic Unit 05090202, at Glen Thompson Preserve near Trebein, Ohio. Owner: State of Ohio.
AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 75 ft, cased to 70 ft.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 790 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

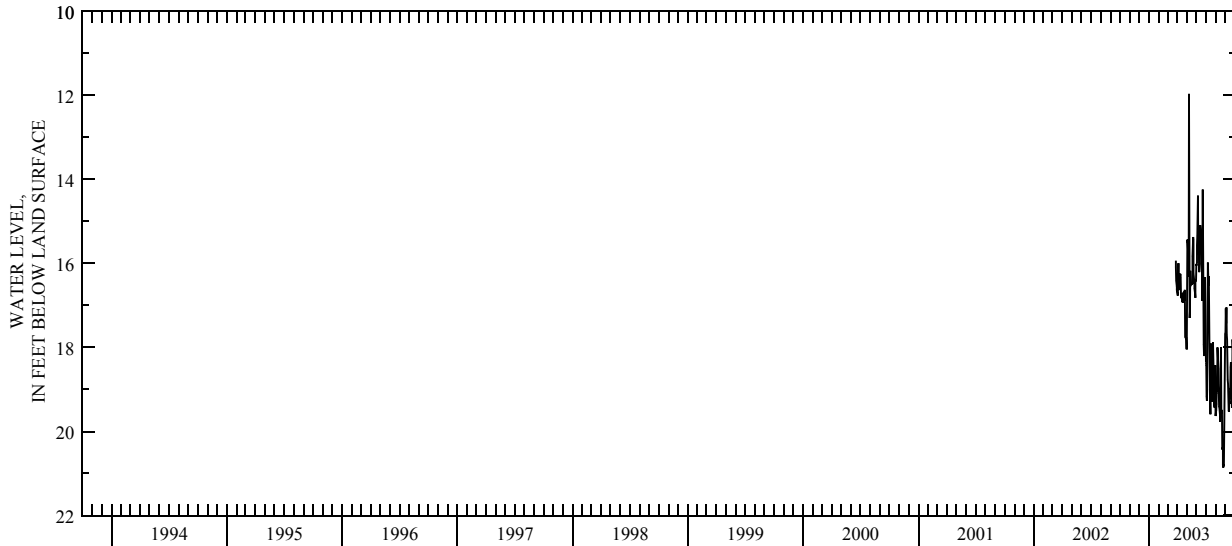
PERIOD OF RECORD.—March 2003 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 20.86 ft below land-surface datum, Aug. 25, 2003; minimum daily low, 11.97 ft above land-surface datum, May 8, 2003.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	16.68	18.03	16.05	18.35	19.63	17.64
2	---	---	---	---	---	---	16.77	16.60	15.98	18.42	19.49	17.07
3	---	---	---	---	---	---	16.68	15.43	15.57	19.17	19.35	17.43
4	---	---	---	---	---	---	16.41	15.51	15.35	19.27	19.09	17.05
5	---	---	---	---	---	---	16.00	15.71	14.39	18.71	18.95	17.70
6	---	---	---	---	---	---	16.45	16.17	14.75	16.57	18.09	17.81
7	---	---	---	---	---	---	16.64	16.32	15.71	15.98	18.00	18.49
8	---	---	---	---	---	---	16.24	11.97	15.79	16.23	18.35	18.77
9	---	---	---	---	---	---	16.41	14.86	15.75	16.53	18.51	18.87
10	---	---	---	---	---	---	16.32	17.30	16.21	16.30	18.89	19.24
11	---	---	---	---	---	---	16.25	17.15	16.01	16.95	19.35	19.50
12	---	---	---	---	---	---	16.34	16.18	15.64	17.39	19.41	19.53
13	---	---	---	---	---	---	16.78	16.46	15.09	19.00	19.43	19.29
14	---	---	---	---	---	---	16.83	16.51	15.31	19.33	19.61	19.34
15	---	---	---	---	---	---	16.78	16.49	15.31	19.59	19.77	19.17
16	---	---	---	---	---	---	16.78	16.45	15.57	19.01	18.99	18.96
17	---	---	---	---	---	---	16.93	16.50	15.24	17.91	17.99	18.47
18	---	---	---	---	---	---	16.72	16.46	15.29	17.96	18.49	18.35
19	---	---	---	---	---	---	16.71	16.49	16.90	18.31	19.58	18.58
20	---	---	---	---	---	---	16.82	15.83	15.13	19.15	19.49	18.83
21	---	---	---	---	---	---	16.94	15.37	14.24	19.29	19.89	19.35
22	---	---	---	---	---	---	16.79	15.44	14.76	18.39	20.43	19.44
23	---	---	---	---	---	---	16.89	16.23	16.43	17.88	20.37	17.81
24	---	---	---	---	---	---	16.68	16.39	17.93	18.38	20.79	17.97
25	---	---	---	---	---	---	16.63	16.50	18.21	18.63	20.86	18.21
26	---	---	---	---	---	---	17.76	16.59	18.05	19.08	20.81	18.23
27	---	---	---	---	---	15.94	17.77	16.71	17.51	19.38	20.83	17.97
28	---	---	---	---	---	16.09	17.78	16.82	16.33	19.43	19.72	16.48
29	---	---	---	---	---	16.41	17.76	16.43	17.12	18.52	18.62	17.16
30	---	---	---	---	---	16.55	18.05	16.40	17.96	18.43	18.08	18.08
31	---	---	---	---	---	16.63	---	16.03	---	19.39	17.68	---
MAX	---	---	---	---	---	16.63	18.05	18.03	18.21	19.59	20.86	19.53

WTR YR 2003 LOW 20.86



GROUND-WATER RECORDS
Greene County

394411083561300. LOCAL NUMBER, GR-1

LOCATION.—Latitude 39°44'11", longitude 83°56'13", Hydrologic Unit 05090202, along Massies Creek near U.S. 68 north of Xenia, Ohio. Owner: City of Xenia.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

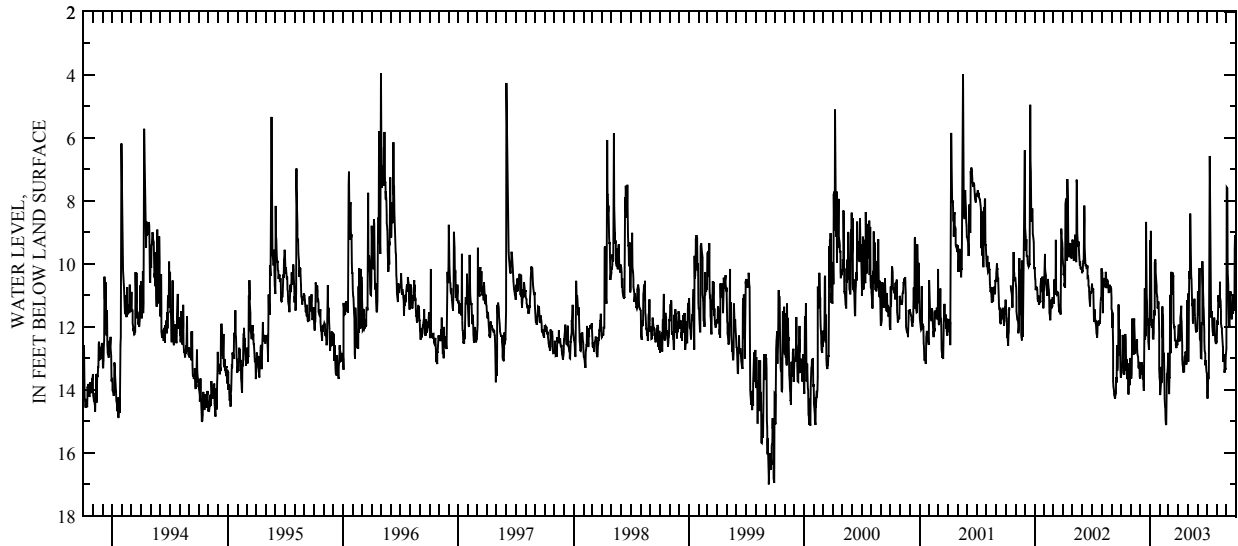
PERIOD OF RECORD.—August 1944 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 21.60 ft below land-surface datum, July 7, 1966; minimum daily low, 0.65 ft above land-surface datum, Aug. 3, 1958.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.61	13.34	13.64	11.27	13.58	13.55	12.26	12.83	11.70	13.48	12.49	11.09
2	13.54	13.54	13.26	9.26	13.81	13.89	11.93	10.95	10.88	14.07	11.84	7.57
3	13.49	13.64	13.51	10.52	14.17	14.14	12.44	13.11	11.31	14.28	11.85	7.61
4	13.44	13.51	13.36	8.96	13.99	13.61	11.98	11.33	11.34	14.04	11.93	9.25
5	13.26	13.11	13.14	11.25	13.66	13.63	12.38	10.80	11.02	13.53	11.62	10.24
6	13.09	11.74	13.39	11.83	13.27	10.99	12.46	10.24	11.65	13.64	11.00	10.69
7	12.26	12.62	13.13	11.96	13.78	12.35	12.21	10.48	10.14	13.66	11.21	10.99
8	12.82	12.83	13.29	12.03	13.69	12.84	11.70	10.27	11.79	12.54	11.03	11.38
9	13.03	12.74	13.60	11.76	13.71	10.70	11.65	8.41	12.38	10.62	11.36	11.97
10	13.48	12.89	13.66	12.10	11.35	10.25	11.34	9.25	12.44	6.58	11.39	11.96
11	13.41	12.13	13.33	12.35	12.34	10.83	11.71	9.80	12.91	9.74	10.57	11.98
12	13.52	11.74	13.86	12.40	11.61	10.99	11.83	10.37	12.99	10.52	11.06	10.86
13	13.08	11.85	14.04	12.19	13.03	10.59	12.60	10.50	13.00	10.88	11.19	11.03
14	13.41	12.16	13.60	11.89	13.03	10.28	13.03	10.77	12.00	11.51	11.52	10.88
15	12.23	12.78	11.86	11.48	12.83	10.59	13.17	11.28	11.89	11.71	11.87	11.17
16	12.38	12.82	10.79	11.64	13.89	10.36	13.33	11.27	11.90	11.51	12.03	11.44
17	12.93	12.81	12.40	9.96	14.28	11.85	13.32	11.79	9.92	11.58	12.05	11.66
18	13.05	12.71	11.72	9.86	14.47	11.95	13.45	11.89	10.57	11.98	12.14	11.76
19	13.28	12.44	12.30	10.00	14.55	11.99	13.30	11.58	11.14	12.13	12.44	11.50
20	13.04	12.43	8.67	10.27	14.97	11.97	13.43	11.58	11.26	12.21	12.63	11.54
21	13.66	12.43	9.75	10.58	15.09	12.33	13.00	11.50	11.46	12.29	13.09	11.55
22	13.15	12.67	11.01	10.71	15.12	12.43	12.92	11.11	12.14	12.10	13.09	11.59
23	13.64	12.87	11.21	10.92	14.70	12.44	13.02	11.53	12.44	12.24	12.88	11.01
24	13.64	12.95	11.85	11.04	13.54	12.46	12.78	11.67	12.75	11.71	12.94	11.47
25	14.15	12.93	11.98	11.06	13.55	12.57	12.83	11.91	12.84	11.97	13.10	11.38
26	13.77	13.25	11.74	11.42	13.39	12.68	13.09	12.03	13.23	12.23	13.46	11.47
27	13.32	13.32	12.46	11.25	13.22	12.47	13.19	12.18	13.06	12.41	13.35	9.54
28	13.62	13.16	12.60	11.19	12.83	12.46	13.10	12.02	13.27	12.48	13.33	9.09
29	13.76	13.11	12.74	11.23	---	12.59	11.48	11.97	13.34	12.47	13.36	10.23
30	13.85	13.56	11.95	12.15	---	12.37	11.15	12.15	13.45	12.54	12.94	10.91
31	12.99	---	11.95	13.34	---	12.46	---	12.03	---	12.45	12.69	---
MAX	14.15	13.64	14.04	13.34	15.12	14.14	13.45	13.11	13.45	14.28	13.46	11.98

CAL YR 2002 LOW 14.28
WTR YR 2003 LOW 15.12



GROUND-WATER RECORDS
Greene County

394425083551100. LOCAL NUMBER, GR-10

LOCATION.—Latitude 39°44'25", longitude 83°55'11", Hydrologic Unit 05090202, along Massies Creek north of Xenia, Ohio. Owner: City of Xenia.

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.

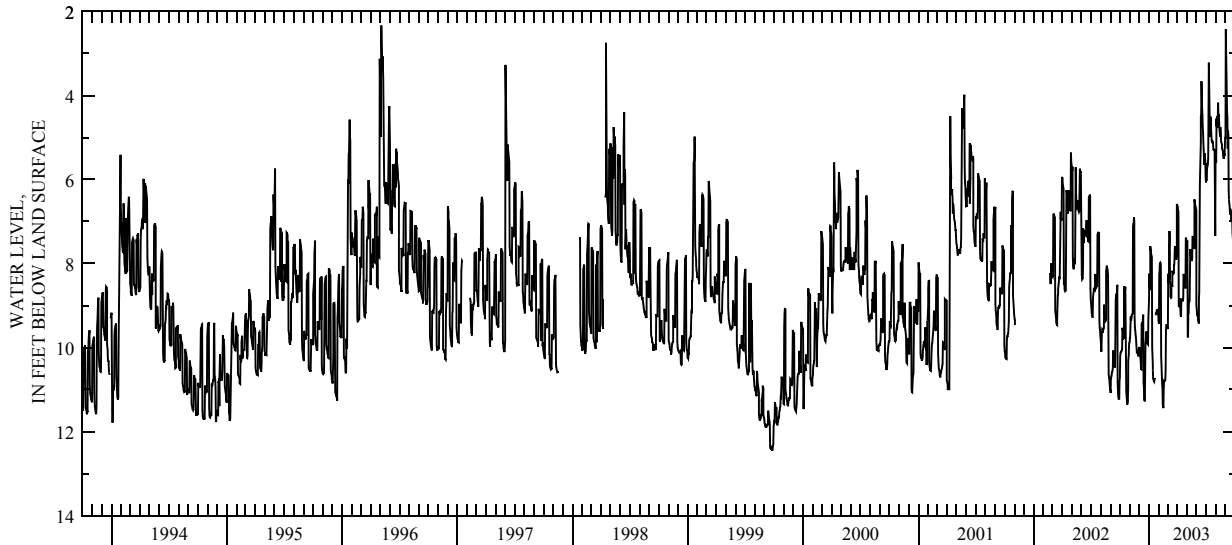
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.70	9.85	10.17	8.89	9.36	9.54	6.61	7.48	8.98	6.07	5.53	5.01
2	10.20	9.78	9.98	8.24	9.43	9.56	6.65	7.48	9.17	5.62	5.55	2.43
3	10.13	9.76	10.08	8.41	8.25	8.31	6.67	7.46	9.22	6.03	4.54	2.96
4	10.11	9.26	10.20	8.61	8.19	8.24	6.75	9.74	9.24	5.76	4.74	3.67
5	10.10	9.33	10.23	8.63	7.99	8.47	6.76	9.74	9.28	5.70	4.49	4.13
6	10.08	9.36	10.30	7.58	7.97	7.64	9.00	9.19	9.31	5.67	4.70	4.38
7	10.07	9.26	10.51	7.71	7.99	7.41	9.03	9.16	9.38	5.63	4.77	4.53
8	10.03	9.22	10.52	7.77	8.04	7.23	8.99	8.87	9.43	5.49	4.17	5.27
9	9.53	9.21	9.44	7.78	10.20	8.41	8.83	8.91	8.85	4.66	4.48	4.83
10	9.58	9.18	9.42	7.84	10.48	8.58	8.97	8.84	8.68	3.22	4.51	4.95
11	9.66	7.64	9.41	7.94	10.69	8.78	9.09	8.31	6.62	3.93	4.49	6.27
12	9.74	7.11	9.41	10.01	10.86	8.82	9.24	7.66	6.10	4.42	4.55	6.48
13	9.78	7.06	9.30	10.41	10.92	8.81	9.27	7.77	5.69	4.74	4.80	6.57
14	9.77	7.05	9.22	10.54	11.35	8.53	8.92	7.82	5.09	4.91	4.95	6.62
15	9.76	6.90	10.85	10.74	11.38	8.51	8.90	7.85	4.49	4.99	4.98	6.83
16	8.56	6.97	10.91	10.78	11.44	8.55	8.85	7.92	4.45	4.51	4.75	6.69
17	8.56	9.27	11.24	10.80	11.00	8.17	8.85	7.92	3.66	4.80	4.96	6.73
18	8.57	9.52	11.26	10.82	10.79	8.22	8.86	7.86	4.07	4.95	5.07	6.76
19	8.56	9.58	11.26	10.74	10.80	8.23	8.87	7.35	4.32	5.07	5.12	6.95
20	10.35	9.69	10.72	10.73	10.80	8.24	8.82	7.40	4.46	5.12	5.17	6.89
21	10.87	9.75	9.90	---	10.79	8.22	8.25	7.40	4.75	5.12	5.26	6.94
22	11.05	9.85	9.85	9.17	10.76	8.05	8.32	7.47	4.90	5.10	5.27	6.95
23	11.26	9.97	9.62	9.18	10.54	8.03	8.39	7.55	5.15	5.13	5.33	7.26
24	11.27	10.12	9.64	9.21	9.57	7.59	8.44	7.62	5.30	5.27	5.35	7.38
25	11.36	10.12	9.71	9.20	9.47	7.73	8.48	7.65	5.56	5.30	5.44	7.52
26	11.25	10.08	9.74	9.12	9.47	7.75	8.58	6.47	5.65	5.27	5.49	7.55
27	10.90	10.08	9.87	9.12	9.47	7.83	8.58	6.58	5.38	5.30	5.49	7.55
28	10.31	10.19	9.91	9.12	9.53	7.88	7.40	6.64	5.48	5.30	5.38	6.50
29	10.15	10.19	9.93	9.08	---	7.90	7.40	6.65	5.55	5.29	5.44	6.82
30	10.06	10.17	9.46	9.14	---	7.81	7.46	6.70	5.93	7.34	5.25	6.98
31	9.90	---	9.31	9.26	---	6.58	---	6.73	---	5.65	5.01	---
MAX	11.36	10.19	11.26	10.82	11.44	9.56	9.27	9.74	9.43	7.34	5.55	7.55
CAL YR 2002		LOW 11.36										
WTR YR 2003		LOW 11.44										



GROUND-WATER RECORDS
Hamilton County

391039084291500. LOCAL NUMBER, H-11

LOCATION.—Latitude 39°10'39", longitude 84°29'15", Hydrologic Unit 05090203, 5.6 mi north of Riverfront Stadium in Cincinnati, Ohio. 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—August 1939 to October 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, 40.93 ft below land-surface datum, May 14, 2003.

WATER LEVEL
IN FEET BELOW LAND-SURFACE DATUM
INSTANTANEOUS OBSERVATION

WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL
10/30/02	41.42
05/14/03	40.93

GROUND-WATER RECORDS
Hamilton County

391101084172100. LOCAL NUMBER, H-3

LOCATION.—Latitude 39°11'01", longitude 84°17'21", Hydrologic Unit 05090202, southeast of Miami, Ohio. Owner: Village of Indian Hills.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

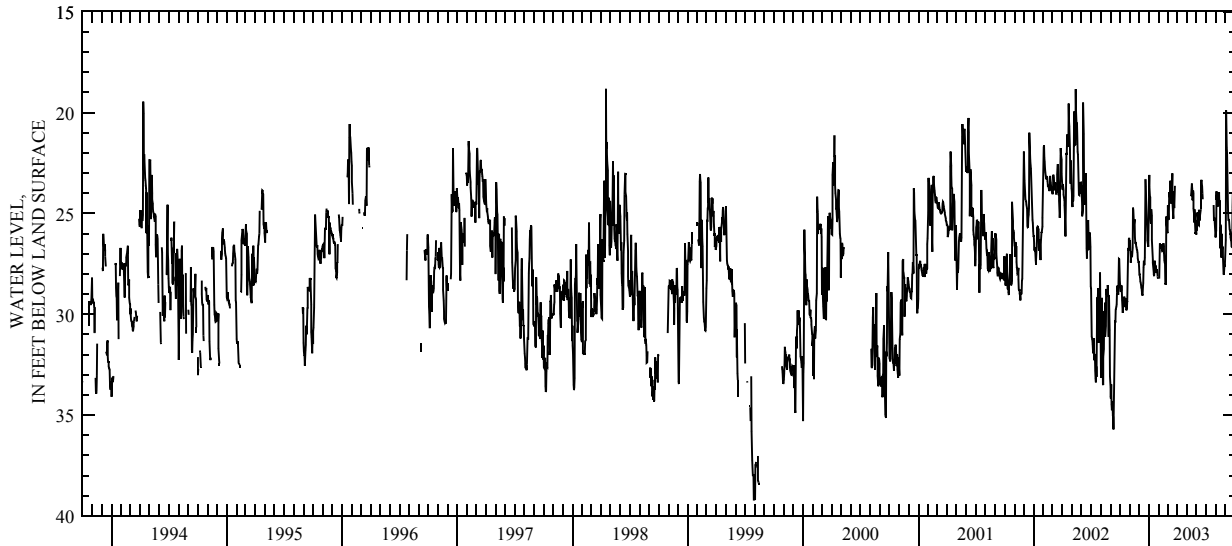
PERIOD OF RECORD.—August 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 39.20 ft below land-surface datum, July 29-31, 1999; minimum daily low, 15.60 ft below land-surface datum, Feb. 28, 1962.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	28.39	26.51	27.66	24.73	---	25.99	---	---	25.37	---	26.17	26.78
2	28.55	26.34	28.04	23.10	---	24.61	---	---	25.81	---	25.85	26.31
3	28.84	26.48	28.04	23.67	28.24	25.25	---	---	25.85	---	23.91	19.90
4	28.90	27.23	28.18	24.16	27.45	25.31	---	---	24.95	---	24.34	20.67
5	28.82	27.45	28.37	24.21	26.50	25.25	---	---	25.22	---	23.96	21.73
6	28.57	27.12	28.44	24.96	26.57	24.14	---	---	25.16	---	24.69	22.06
7	28.79	26.88	28.53	25.51	26.74	24.17	---	---	25.58	---	24.68	22.78
8	29.31	26.98	28.68	25.33	26.52	23.98	---	---	25.60	---	24.16	24.06
9	29.62	27.17	28.73	24.79	26.62	23.98	---	---	24.83	---	24.04	24.88
10	29.94	26.71	28.94	25.12	26.68	23.38	---	---	25.12	---	24.05	25.27
11	29.63	26.08	29.06	26.31	26.69	23.72	---	---	25.35	---	24.00	25.36
12	29.60	24.71	29.06	26.59	26.79	24.34	---	---	25.20	---	23.95	25.29
13	29.20	24.83	28.69	27.29	26.77	24.52	---	---	25.02	---	24.63	25.58
14	29.24	25.28	28.46	27.45	26.88	23.76	---	24.15	24.79	---	24.37	25.79
15	29.12	25.58	27.69	27.61	26.89	23.83	---	24.04	23.44	---	26.73	25.84
16	29.47	25.43	27.35	27.96	26.49	23.02	---	23.76	23.43	---	25.72	25.92
17	29.60	25.30	27.52	28.02	26.62	24.38	---	23.52	23.33	---	25.68	26.19
18	29.62	26.19	27.52	28.11	26.93	24.98	---	23.77	23.53	---	26.82	26.32
19	29.65	26.40	27.19	27.69	27.31	25.19	---	24.11	23.66	---	27.19	26.35
20	29.21	26.51	24.97	27.35	27.43	25.27	---	24.35	24.01	---	26.02	26.66
21	29.45	26.44	23.32	27.55	27.43	23.91	---	23.88	24.30	---	26.47	26.68
22	29.82	26.66	23.69	27.69	28.52	24.48	---	24.00	---	---	26.76	26.60
23	29.71	26.69	24.31	27.73	28.47	24.73	---	24.74	---	---	26.65	24.77
24	29.35	26.79	24.80	27.70	28.52	23.64	---	25.07	---	---	27.13	23.94
25	29.39	26.85	25.31	27.95	25.16	---	---	25.46	---	24.59	27.48	---
26	27.57	26.93	25.62	27.90	25.53	---	---	24.80	---	25.37	27.98	---
27	26.72	27.24	26.03	27.76	25.65	---	---	25.64	---	25.21	28.06	---
28	26.84	27.31	26.34	27.92	25.93	---	---	25.93	---	25.31	27.82	---
29	26.77	27.42	26.57	28.13	---	---	---	25.96	---	25.34	27.55	---
30	26.27	27.41	26.66	28.25	---	---	---	25.95	---	25.94	27.66	---
31	26.21	---	26.35	---	---	---	---	26.06	---	26.20	27.23	---
MAX	29.94	27.45	29.06	28.25	28.52	25.99	---	26.06	25.85	26.20	28.06	26.78

CAL YR 2002 LOW 35.72
WTR YR 2003 LOW 29.94



GROUND-WATER RECORDS
Hamilton County

391201084281600. LOCAL NUMBER, H-10

LOCATION.—Latitude 39°12'01", longitude 84°28'16", Hydrologic Unit 05090203, Section Road, Cincinnati, Ohio. 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 punch.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

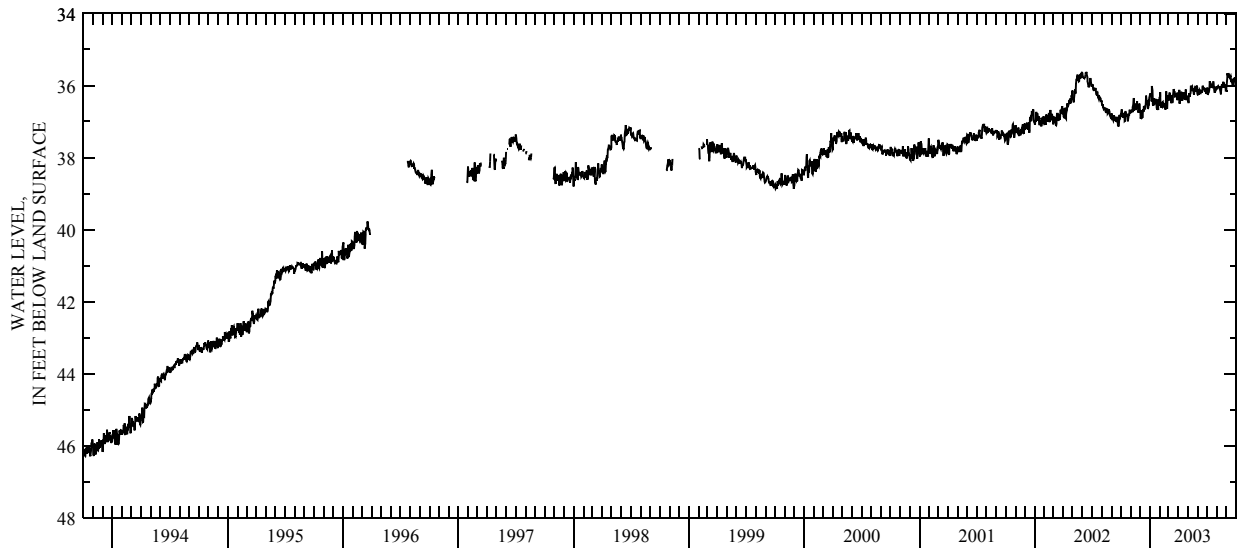
PERIOD OF RECORD.—June 1943 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 121.58 ft below land-surface datum, Nov. 3, 10, 1950; minimum daily low, 35.62 ft below land-surface datum, May 31 and June 14, 2002.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36.81	36.77	36.72	36.25	36.34	36.32	36.20	36.28	36.25	36.17	36.08	36.03
2	36.79	36.74	36.70	36.22	36.30	36.34	36.25	36.38	36.27	36.06	36.06	35.97
3	36.73	36.71	36.92	36.26	36.18	36.41	36.22	36.47	36.10	36.11	36.03	35.76
4	36.66	36.71	36.87	36.29	36.50	36.22	36.12	36.47	36.18	36.26	36.02	35.66
5	36.87	36.67	36.68	36.22	36.61	36.22	36.47	36.22	36.24	36.21	36.01	35.70
6	36.85	36.71	36.76	36.44	36.56	36.35	36.50	36.25	36.25	36.19	36.04	35.69
7	36.86	36.74	36.69	36.40	36.57	36.35	36.32	36.25	36.12	36.18	36.05	35.66
8	36.88	36.60	36.89	36.01	36.58	36.30	36.34	36.31	36.14	36.14	36.07	35.68
9	36.84	36.53	36.88	36.13	36.50	36.39	36.27	36.22	36.22	36.07	36.06	35.73
10	36.84	36.36	36.72	36.38	36.47	36.49	36.23	36.20	36.22	35.88	36.07	35.76
11	36.76	36.68	36.66	36.52	36.46	36.32	36.17	36.00	36.17	35.95	36.03	35.78
12	36.79	36.68	36.73	36.56	36.59	36.26	36.32	36.08	36.13	36.01	36.11	35.72
13	36.99	36.65	36.57	36.35	36.58	36.48	36.42	36.12	36.16	36.04	36.20	35.75
14	36.98	36.55	36.60	36.44	36.55	36.43	36.41	36.05	36.20	36.04	36.24	35.73
15	36.73	36.50	36.56	36.52	36.56	36.28	36.32	36.03	36.18	36.00	36.18	35.81
16	36.73	36.56	36.64	36.47	36.53	36.21	36.21	36.12	36.15	36.03	36.01	35.87
17	36.81	36.59	36.64	36.45	36.48	36.10	36.20	36.11	36.06	36.04	35.97	35.91
18	36.85	36.68	36.59	36.41	36.58	36.13	36.35	36.13	36.00	35.96	35.99	35.85
19	36.78	36.62	36.51	36.37	36.64	36.18	36.38	36.15	36.07	36.00	36.01	35.89
20	36.84	36.62	36.28	36.38	36.67	36.18	36.29	36.23	36.11	35.98	35.99	35.98
21	36.86	36.43	36.37	36.50	36.46	36.26	36.20	36.25	36.08	35.88	35.95	35.97
22	36.93	36.59	36.49	36.56	36.16	36.30	36.33	36.14	36.08	35.93	35.90	35.81
23	36.99	36.62	36.50	36.62	36.50	36.29	36.39	36.08	36.08	36.04	36.02	35.83
24	36.93	36.63	36.41	36.67	36.61	36.30	36.34	36.05	36.14	36.12	36.06	35.85
25	36.87	36.74	36.55	36.51	36.64	36.29	36.11	36.06	36.16	36.18	36.00	35.86
26	36.79	36.71	36.65	36.62	36.39	36.31	36.32	36.12	36.07	36.18	35.98	35.83
27	36.84	36.75	36.59	36.68	36.28	36.28	36.40	36.16	36.13	36.08	35.99	35.77
28	36.73	36.71	36.47	36.39	36.35	36.20	36.35	36.11	36.12	36.03	36.04	35.85
29	36.67	36.50	36.48	36.54	---	36.40	36.36	36.02	36.19	36.06	36.04	35.99
30	36.69	36.62	36.34	36.54	---	36.37	36.34	36.02	36.23	36.10	36.15	36.03
31	36.75	---	36.31	36.44	---	36.35	---	36.20	---	36.08	36.15	---
MAX	36.99	36.77	36.92	36.68	36.67	36.49	36.50	36.47	36.27	36.26	36.24	36.03

CAL YR 2002 LOW 37.13
WTR YR 2003 LOW 36.99



GROUND-WATER RECORDS
Hamilton County

391214084470100. LOCAL NUMBER, H-1

LOCATION.—Latitude 39°12'14", longitude 84°47'01", Hydrologic Unit 05080003, Kilby Road 4 mi southeast of Harrison, Ohio. 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.—Electronic data logger, 60-minute log interval. Satellite telemeter at site.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

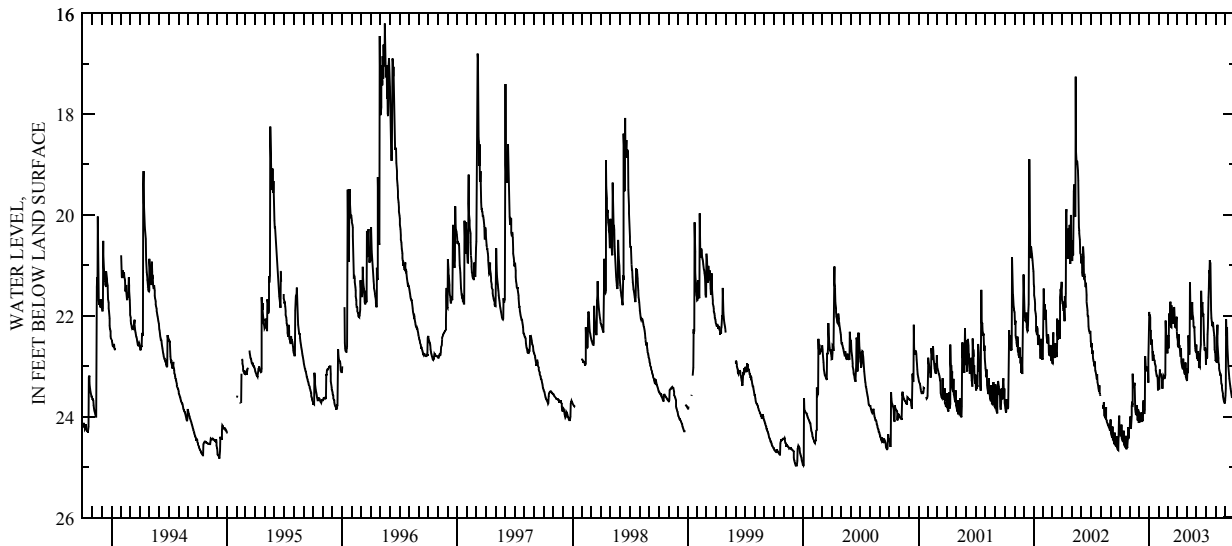
PERIOD OF RECORD.—February 1948 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 25.95 ft below land-surface datum, Oct. 26 and 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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.28	24.23	23.91	22.30	23.27	22.73	22.42	23.28	22.61	22.97	22.88	23.59
2	24.31	24.23	24.12	21.93	23.28	22.47	22.49	23.29	22.85	22.74	22.91	23.45
3	24.35	24.00	23.96	21.99	23.46	22.38	22.57	23.08	22.84	22.77	22.91	22.07
4	24.34	24.24	23.96	21.99	23.19	22.65	22.61	23.09	22.81	22.85	22.43	22.40
5	24.35	24.24	23.98	22.04	23.07	22.30	22.62	23.14	22.89	22.82	22.37	22.33
6	24.16	24.20	24.00	22.29	23.18	21.96	22.37	22.39	22.70	22.37	22.18	22.22
7	24.43	23.99	24.00	22.30	23.15	22.16	22.63	22.42	22.81	22.24	22.55	22.60
8	24.46	23.79	23.92	22.43	23.17	22.17	22.58	22.71	22.76	21.99	22.75	22.72
9	24.47	23.74	24.11	22.57	23.17	21.87	22.64	22.77	23.03	21.63	22.84	22.86
10	24.49	23.76	24.00	22.47	23.19	21.72	22.69	22.71	23.00	21.46	22.92	23.00
11	24.50	23.15	23.92	22.50	23.23	22.11	22.75	21.34	23.02	21.10	22.97	23.09
12	24.50	23.38	24.09	22.60	23.25	22.22	22.81	21.57	23.00	21.15	23.04	23.16
13	24.28	23.38	24.06	22.90	23.45	22.23	22.65	22.01	22.71	20.90	23.08	23.24
14	24.54	23.39	23.74	22.71	23.28	21.79	22.91	22.04	22.57	20.94	23.13	23.30
15	24.56	23.37	23.68	22.77	23.26	21.97	22.95	22.07	21.96	20.96	23.16	23.35
16	24.57	23.37	23.93	22.79	23.19	21.87	22.99	22.01	21.51	21.53	23.15	23.39
17	24.58	23.33	23.93	22.83	23.20	22.15	23.02	21.91	21.75	21.89	23.18	23.44
18	24.61	23.67	23.93	22.87	23.23	22.12	23.04	21.73	21.83	22.04	23.24	23.49
19	24.60	23.85	23.86	22.90	23.24	22.16	23.06	21.94	21.76	22.10	23.34	23.53
20	24.38	23.91	22.80	22.93	23.24	22.13	22.85	21.96	21.73	22.16	23.38	23.57
21	24.64	23.94	22.94	22.96	23.22	22.12	23.05	22.03	21.94	22.20	23.42	23.61
22	24.65	23.96	23.05	23.00	23.17	21.83	23.06	22.14	21.97	22.15	23.48	23.61
23	24.61	23.97	23.10	23.09	22.10	21.84	23.12	22.20	21.96	22.12	23.54	23.57
24	24.60	23.77	23.03	23.11	22.31	22.16	23.15	22.24	22.20	22.21	23.58	23.48
25	24.62	23.83	23.02	23.15	22.46	22.23	23.16	22.21	22.49	22.28	23.62	23.58
26	24.43	24.06	23.03	23.19	22.53	22.13	23.16	22.30	22.61	22.33	23.65	23.65
27	24.21	24.08	23.05	23.19	22.59	22.18	22.93	22.60	22.69	22.39	23.69	23.63
28	24.44	23.86	23.05	23.20	22.73	22.25	23.20	22.64	22.63	22.62	23.71	23.31
29	24.41	23.88	23.05	23.23	---	22.05	23.24	22.70	22.65	22.67	23.73	23.24
30	24.24	24.13	23.33	23.48	---	22.02	23.25	22.72	22.70	22.73	23.73	23.29
31	24.24	---	22.86	23.26	---	22.32	---	22.57	---	22.89	23.68	---
MAX	24.65	24.24	24.12	23.48	23.46	22.73	23.25	23.29	23.03	22.97	23.73	23.65

CAL YR 2002 LOW 24.67
WTR YR 2003 LOW 24.65



GROUND-WATER RECORDS
Hamilton County

391341084275300. LOCAL NUMBER, H-8

LOCATION.—Latitude 39°13'41", longitude 84°27'53", Hydrologic Unit 05090203, Vine and Water Streets, Wyoming, Ohio. Owner: City of Wyoming.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled unused artesian well, diameter 8 in., depth 194 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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.

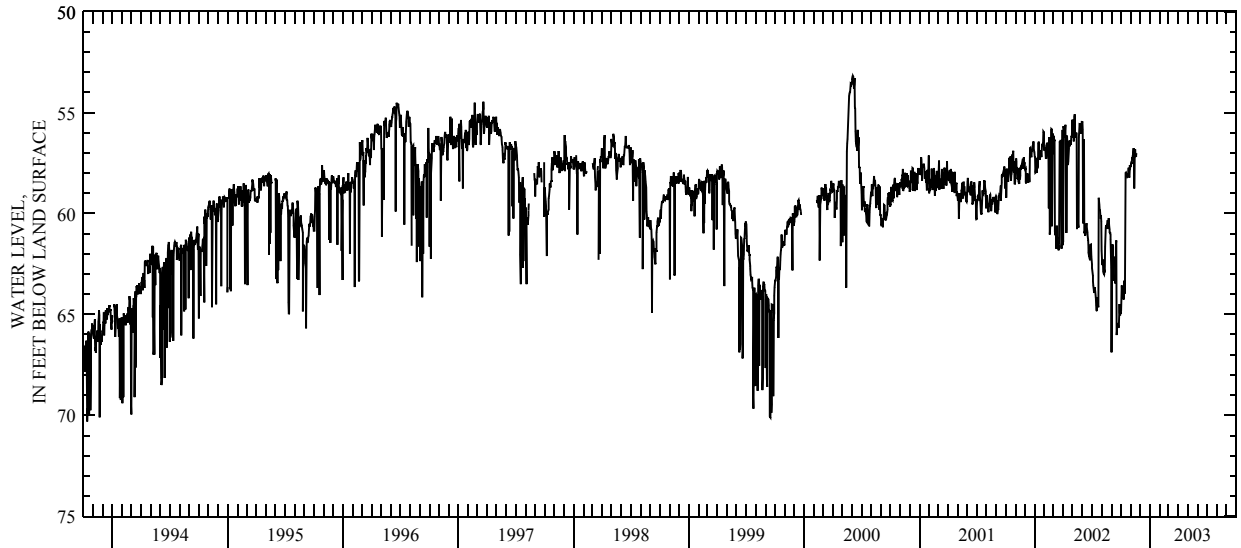
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—July 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, 53.19 ft below land-surface datum, June 4, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	64.94	57.62	---	---	---	---	---	---	---	---	---	---
2	64.79	57.66	---	---	---	---	---	---	---	---	---	---
3	64.07	57.47	---	---	---	---	---	---	---	---	---	---
4	63.56	57.49	---	---	---	---	---	---	---	---	---	---
5	63.83	57.53	---	---	---	---	---	---	---	---	---	---
6	64.23	57.20	---	---	---	---	---	---	---	---	---	---
7	64.10	57.30	---	---	---	---	---	---	---	---	---	---
8	63.98	57.15	---	---	---	---	---	---	---	---	---	---
9	63.99	57.00	---	---	---	---	---	---	---	---	---	---
10	64.27	56.76	---	---	---	---	---	---	---	---	---	---
11	63.60	57.14	---	---	---	---	---	---	---	---	---	---
12	63.33	57.24	---	---	---	---	---	---	---	---	---	---
13	63.98	58.76	---	---	---	---	---	---	---	---	---	---
14	63.66	56.99	---	---	---	---	---	---	---	---	---	---
15	59.07	56.82	---	---	---	---	---	---	---	---	---	---
16	57.98	56.84	---	---	---	---	---	---	---	---	---	---
17	57.96	57.12	---	---	---	---	---	---	---	---	---	---
18	58.04	57.18	---	---	---	---	---	---	---	---	---	---
19	57.98	57.02	---	---	---	---	---	---	---	---	---	---
20	58.13	57.08	---	---	---	---	---	---	---	---	---	---
21	58.07	---	---	---	---	---	---	---	---	---	---	---
22	58.18	---	---	---	---	---	---	---	---	---	---	---
23	58.17	---	---	---	---	---	---	---	---	---	---	---
24	58.05	---	---	---	---	---	---	---	---	---	---	---
25	57.72	---	---	---	---	---	---	---	---	---	---	---
26	57.75	---	---	---	---	---	---	---	---	---	---	---
27	58.18	---	---	---	---	---	---	---	---	---	---	---
28	58.18	---	---	---	---	---	---	---	---	---	---	---
29	57.86	---	---	---	---	---	---	---	---	---	---	---
30	57.60	---	---	---	---	---	---	---	---	---	---	---
31	57.68	---	---	---	---	---	---	---	---	---	---	---
MAX	64.94	58.76	---	---	---	---	---	---	---	---	---	---
CAL YR 2002		LOW 66.88										
WTR YR 2003		LOW 64.94										



GROUND-WATER RECORDS
Hamilton County

391442084262900. LOCAL NUMBER, H-7

LOCATION.—Latitude 39°14'42", longitude 84°26'29", Hydrologic Unit 05090203, at Evendale, Ohio. 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.—Electronic data logger, 60-minute log interval.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

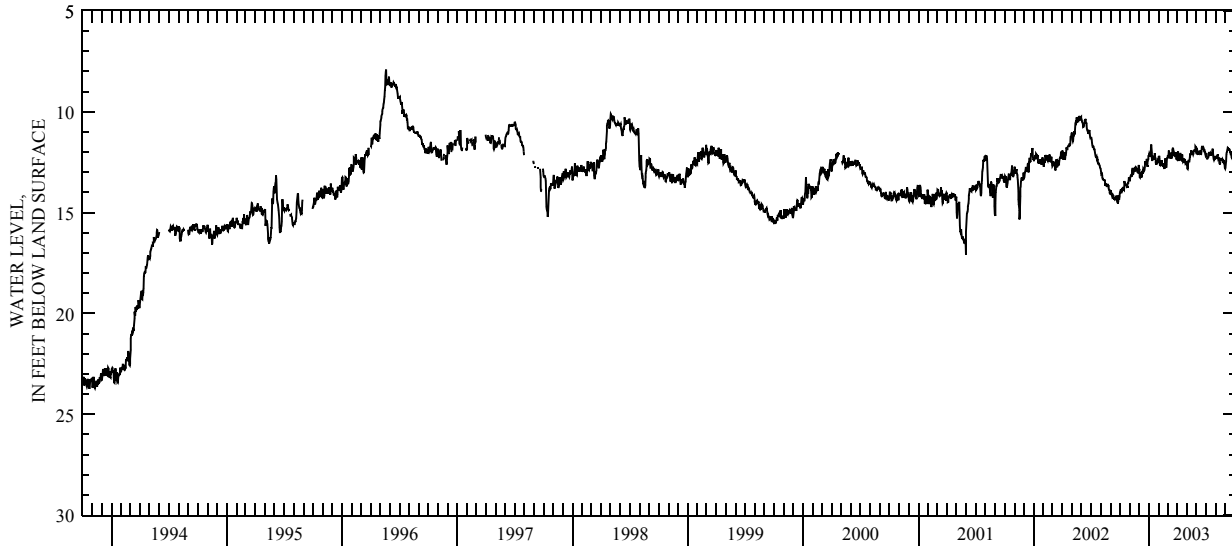
PERIOD OF RECORD.—April 1941 to current year.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.00	13.39	12.89	12.15	12.25	12.29	12.17	12.49	12.06	12.12	12.31	12.74
2	13.97	13.40	12.82	12.07	12.26	12.14	12.03	12.63	12.08	12.03	12.29	12.59
3	13.90	13.29	13.26	12.07	12.17	12.26	12.02	12.82	11.96	12.09	12.29	12.42
4	13.84	13.17	13.27	12.13	12.31	12.12	11.97	12.84	11.91	12.27	12.20	12.09
5	13.99	13.17	13.07	12.03	12.64	11.91	12.29	12.62	12.07	12.34	12.13	11.98
6	14.00	13.10	13.07	12.18	12.65	12.17	12.43	12.42	12.12	12.29	12.14	11.94
7	13.86	13.22	13.07	12.21	12.60	12.21	12.29	12.43	12.02	12.25	12.20	11.87
8	13.87	13.16	13.20	11.78	12.67	12.17	12.16	12.46	11.95	12.23	12.27	11.78
9	13.81	12.94	13.26	11.61	12.58	12.20	12.16	12.46	12.02	12.21	12.34	11.79
10	13.80	12.77	13.14	12.02	12.46	12.31	12.14	12.34	12.04	12.11	12.36	11.86
11	13.77	12.99	12.91	12.30	12.40	12.23	12.03	12.18	11.95	11.98	12.32	11.91
12	13.71	13.09	13.04	12.43	12.65	12.01	12.17	12.06	11.92	12.04	12.36	11.86
13	13.87	13.08	13.03	12.33	12.68	12.19	12.38	12.10	12.01	12.11	12.53	11.87
14	13.89	12.97	12.83	12.17	12.68	12.31	12.40	12.05	12.08	12.10	12.62	11.87
15	13.63	12.78	12.85	12.32	12.69	12.18	12.31	11.90	12.12	12.06	12.60	11.93
16	13.42	12.84	12.88	12.32	12.70	12.06	12.13	11.99	12.09	12.11	12.46	12.01
17	13.56	12.81	12.90	12.23	12.54	11.89	12.10	12.02	11.95	12.17	12.28	12.08
18	13.63	12.94	12.85	12.23	12.64	11.77	12.38	12.02	11.77	12.11	12.34	12.07
19	13.55	12.87	12.73	12.10	12.71	11.87	12.46	12.00	11.69	12.06	12.38	12.04
20	13.61	12.88	12.44	12.05	12.81	11.91	12.42	12.02	11.82	12.06	12.38	12.27
21	13.61	12.74	12.52	12.23	12.69	11.99	12.30	12.11	11.83	11.93	12.36	12.30
22	13.63	12.75	12.51	12.32	12.30	12.14	12.37	12.05	11.81	11.83	12.33	12.17
23	13.74	12.86	12.61	12.49	12.45	12.17	12.50	11.95	11.78	12.03	12.48	12.06
24	13.74	12.86	12.55	12.62	12.64	12.12	12.50	11.90	11.86	12.21	12.54	12.10
25	13.69	12.96	12.32	12.54	12.75	12.05	12.33	11.88	11.90	12.33	12.47	12.09
26	13.51	12.99	12.68	12.40	12.62	12.11	12.39	11.93	11.86	12.37	12.41	12.09
27	13.57	13.01	12.68	12.57	12.32	12.14	12.58	11.95	11.95	12.32	12.43	11.96
28	13.51	13.01	12.54	12.41	12.28	12.00	12.56	11.92	12.00	12.19	12.55	12.02
29	13.31	12.86	12.36	12.37	---	12.33	12.50	11.71	12.09	12.19	12.60	12.18
30	13.26	12.64	12.33	12.47	---	12.36	12.50	11.76	12.15	12.27	12.79	12.23
31	13.37	---	12.17	12.44	---	12.33	---	11.82	---	12.28	12.82	---
MAX	14.00	13.40	13.27	12.62	12.81	12.36	12.58	12.84	12.15	12.37	12.82	12.74

CAL YR 2002 LOW 14.51
WTR YR 2003 LOW 14.00



GROUND-WATER RECORDS
Hamilton County

391608084254400. LOCAL NUMBER, H-6

LOCATION.—Latitude 39°16'08", longitude 84°25'44", Hydrologic Unit 05090203, in Glendale, Ohio. Owner: City of Glendale.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled unused artesian well, diameter 8 in., depth 167 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

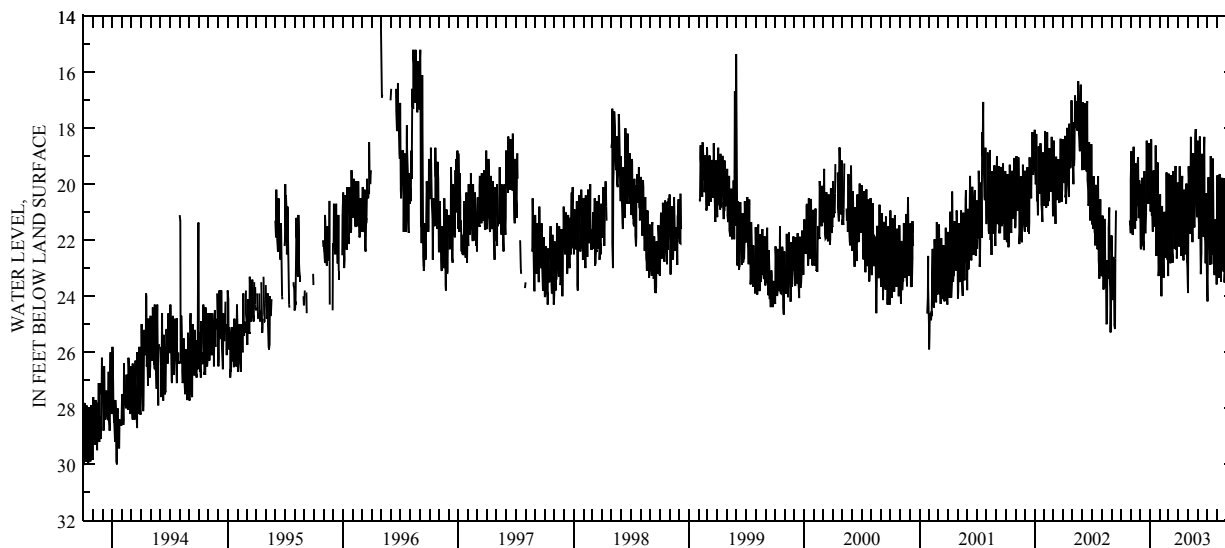
PERIOD OF RECORD.—July 1938 to current year.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	21.75	20.01	20.03	22.56	22.22	21.18	23.28	18.45	23.16	23.57	19.85
2	---	19.85	20.79	19.65	20.37	19.62	22.22	23.88	20.28	23.55	22.26	21.08
3	---	18.83	22.23	20.97	20.91	20.60	21.99	22.01	20.42	24.18	19.68	20.22
4	---	21.39	22.32	20.54	23.06	21.32	22.20	19.36	21.12	22.86	21.59	20.81
5	---	21.11	21.03	18.40	23.33	22.46	20.47	19.79	21.39	21.47	21.89	21.53
6	---	21.06	21.71	20.34	22.94	22.53	19.36	21.72	21.95	19.75	22.52	19.61
7	---	21.51	20.78	21.12	24.00	22.82	20.84	21.14	20.22	21.05	22.77	18.14
8	---	21.80	19.77	20.09	22.72	21.22	22.23	21.77	18.29	21.95	23.33	19.34
9	---	21.56	21.35	21.00	20.78	19.68	22.14	21.47	20.43	22.01	21.72	21.24
10	---	18.66	22.20	21.69	21.60	21.20	22.28	19.13	21.42	21.95	19.64	20.96
11	---	20.37	22.19	20.27	22.10	21.95	22.56	18.31	22.74	22.88	21.38	21.26
12	---	21.05	22.04	19.55	22.67	22.40	20.54	19.62	23.21	20.72	22.97	22.31
13	---	20.91	22.35	19.55	23.12	22.53	19.70	20.94	22.44	18.99	22.92	20.90
14	---	20.79	21.22	20.76	23.34	22.80	20.82	21.02	20.94	21.75	23.01	19.00
15	---	21.59	19.53	21.30	22.44	22.26	21.47	21.17	18.92	22.85	23.47	20.99
16	---	19.75	20.99	21.06	20.99	19.53	22.47	22.07	19.67	21.96	21.22	21.75
17	---	19.25	21.51	21.51	21.03	21.05	22.38	19.85	20.58	21.84	19.77	22.20
18	---	19.64	21.75	21.21	21.96	21.42	22.72	18.89	20.58	22.53	21.14	22.43
19	---	21.30	21.41	18.62	22.61	22.14	22.13	19.64	20.75	20.63	23.04	22.77
20	---	20.47	21.06	19.43	22.41	22.31	20.19	21.48	21.87	19.08	22.65	21.77
21	---	20.76	19.58	22.56	22.34	22.05	20.54	21.33	19.19	19.74	22.53	19.34
22	---	20.37	18.44	21.52	20.72	21.83	21.77	21.54	18.31	22.05	23.12	21.12
23	---	19.35	19.56	21.65	19.58	19.35	22.22	21.24	20.00	22.11	22.04	21.80
24	---	19.04	19.80	22.01	21.14	20.42	22.50	20.22	21.66	23.10	19.79	21.57
25	---	20.11	18.80	20.78	21.66	22.34	22.10	18.35	22.13	23.25	21.74	21.54
26	---	20.85	19.80	19.22	22.70	22.28	21.24	18.03	22.14	22.61	23.51	22.53
27	---	21.21	20.70	20.57	22.38	22.26	19.97	19.77	22.82	21.32	23.25	20.31
28	---	20.96	19.83	22.23	23.28	22.65	21.12	20.18	21.60	21.26	23.07	18.78
29	---	19.86	18.53	23.28	---	21.32	22.76	20.39	20.33	22.52	23.43	20.73
30	21.29	20.25	19.71	22.89	---	19.94	22.92	21.18	22.08	22.56	22.28	22.56
31	21.45	---	19.89	23.21	---	20.66	---	19.75	---	23.54	21.65	---
MAX	21.45	21.80	22.35	23.28	24.00	22.82	22.92	23.88	23.21	24.18	23.57	22.77

CAL YR 2002 LOW 25.29
WTR YR 2003 LOW 24.18



GROUND-WATER RECORDS
Hamilton County

391733084392400. LOCAL NUMBER, H-2

LOCATION.—Latitude 39°17'33", longitude 84°39'24", Hydrologic Unit 05080002, East Miami River Road 1.5 mi south of Ross, Ohio. 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.—Electronic data logger, 60-minute log interval.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

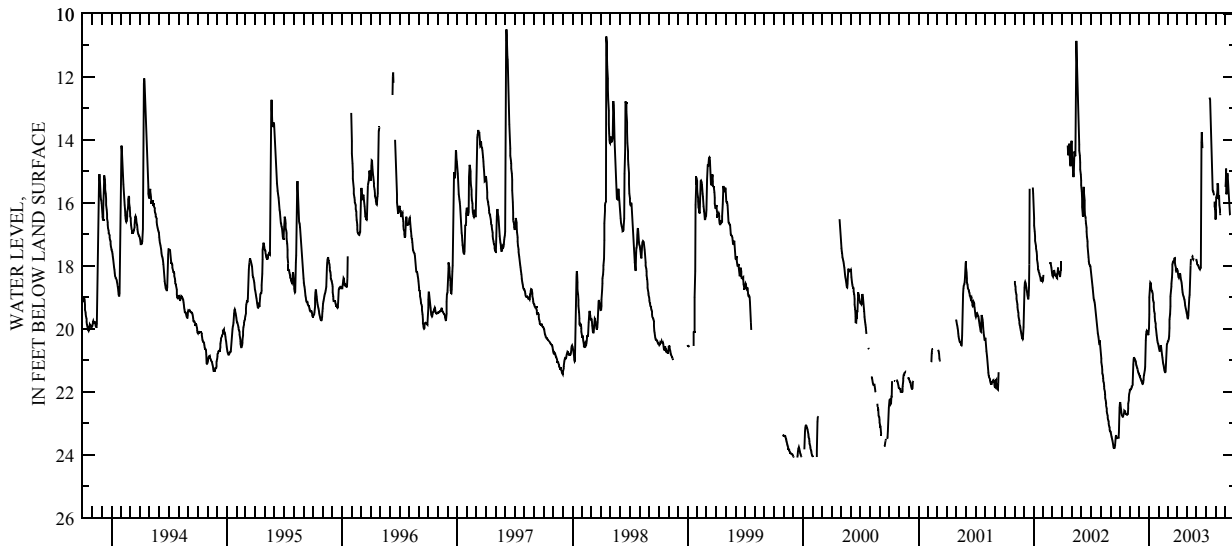
PERIOD OF RECORD.—August 1952 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 24.37 ft below land-surface datum, Sept. 13 and 14, 24 and 25, 1972; minimum daily low 2.63 ft below land-surface datum, June, 16, 1958. (Water level above land surface but could not be measured during Jan. 1959 flood.)

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.37	21.97	21.42	19.97	20.54	20.43	18.12	19.50	17.82	---	16.53	15.49
2	22.32	21.93	21.47	19.53	20.60	20.40	18.17	19.55	17.88	---	15.84	15.35
3	22.40	21.92	21.50	19.00	20.64	20.39	18.21	19.64	17.94	---	15.84	14.92
4	22.50	21.92	21.51	18.68	20.69	20.36	18.27	19.67	17.96	---	15.79	15.73
5	22.59	21.92	21.56	18.53	20.69	20.31	18.36	19.67	17.97	---	15.71	15.64
6	22.67	21.89	21.59	18.53	20.66	20.22	18.38	19.56	17.97	---	15.55	15.20
7	22.72	21.87	21.62	18.56	20.55	19.98	18.33	19.35	18.00	---	15.38	15.05
8	22.77	21.83	21.65	18.61	20.51	19.71	18.31	19.17	18.05	---	15.43	15.14
9	22.79	21.80	21.66	18.72	20.58	19.52	18.27	19.00	18.06	---	15.82	15.34
10	22.79	21.77	21.69	18.80	20.67	19.28	18.22	18.92	18.09	---	15.88	15.55
11	22.77	21.72	21.74	18.80	20.75	18.97	18.29	18.70	18.11	---	15.76	15.76
12	22.74	21.42	21.75	18.80	20.84	18.75	18.38	18.35	18.11	12.66	15.76	15.91
13	22.70	21.12	21.74	18.89	20.91	18.65	18.44	17.99	18.09	12.69	16.06	16.04
14	22.67	20.96	21.69	19.00	20.99	18.57	18.48	17.78	18.05	12.72	16.21	16.20
15	22.61	20.90	21.60	19.10	21.08	18.35	18.54	---	16.83	13.01	16.33	16.38
16	22.59	20.93	21.48	19.17	21.12	18.14	18.63	---	16.02	13.41	16.39	16.39
17	22.62	20.96	21.42	19.31	21.17	17.95	18.74	17.68	14.08	13.85	---	---
18	22.65	20.97	21.36	19.43	21.24	17.86	18.83	17.68	13.76	14.27	---	---
19	22.68	21.00	21.30	19.52	21.30	17.86	18.89	17.70	14.04	14.67	---	---
20	22.70	21.02	21.20	19.62	21.35	17.86	18.95	17.77	14.26	14.99	---	---
21	22.71	21.05	20.75	19.74	21.38	17.90	18.97	17.80	---	15.33	---	---
22	22.71	21.14	20.37	19.83	21.38	17.88	19.00	17.77	---	15.59	---	---
23	22.72	21.17	20.18	19.94	21.35	17.76	19.05	17.77	---	15.63	---	---
24	22.72	21.20	20.10	20.00	21.15	17.75	19.08	---	---	15.63	---	---
25	22.72	21.24	20.07	20.10	20.88	17.88	19.15	---	---	15.68	---	---
26	22.71	21.27	20.09	20.20	20.67	17.97	19.25	---	---	15.76	---	---
27	22.52	21.32	20.10	20.28	20.47	18.06	19.31	---	---	---	---	---
28	22.37	21.36	20.13	20.36	20.45	18.14	19.35	---	---	15.96	---	---
29	22.26	21.39	20.18	20.42	---	18.18	19.40	---	---	16.11	---	---
30	22.19	21.42	20.20	20.46	---	18.17	19.44	---	---	16.22	---	---
31	22.07	---	20.18	20.49	---	18.12	---	17.78	---	16.38	---	---
MAX	22.79	21.97	21.75	20.49	21.38	20.43	19.44	19.67	18.11	16.38	16.53	16.39

CAL YR 2002 LOW 23.78
WTR YR 2003 LOW 22.79



GROUND-WATER RECORDS
Hamilton County

391817084393300. LOCAL NUMBER, H-4

LOCATION.—Latitude 39°18'17", longitude 84°39'33", Hydrologic Unit 05080002, 0.7 mi southwest of Ross, Ohio. 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.—Electronic data logger, 60-minute log interval.

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.

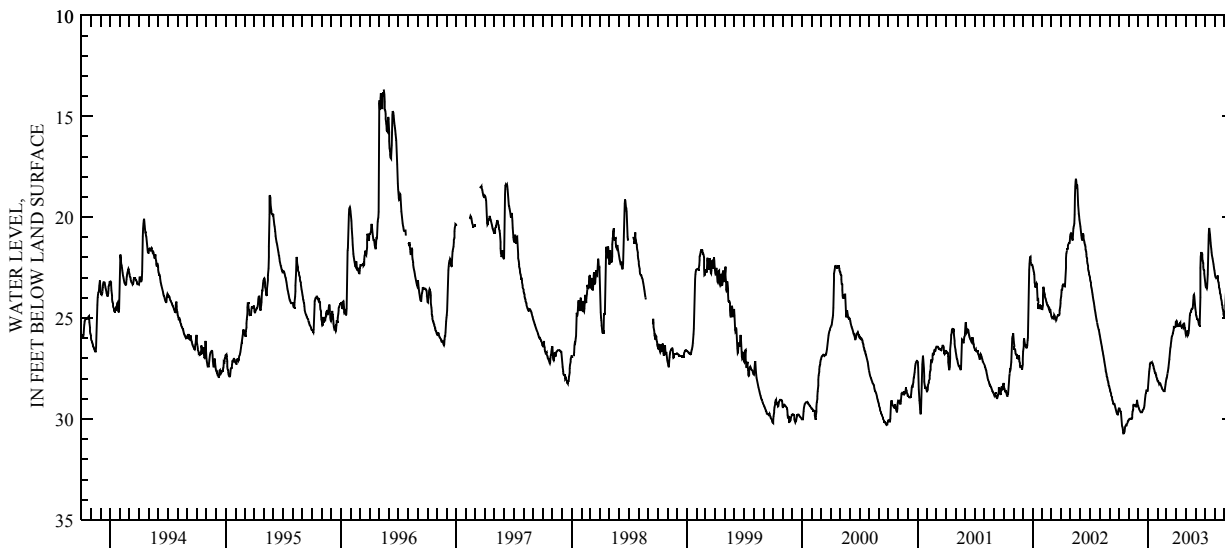
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—December 1954 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 32.23 ft below land-surface datum, Dec. 5, 1971; minimum daily low, 11.60 ft below land-surface datum, June 16, 1958.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.49	30.05	29.34	28.50	28.10	28.01	25.14	25.77	24.62	23.09	22.77	24.92
2	29.48	30.02	29.38	28.31	28.11	27.95	25.19	25.86	24.72	23.22	22.88	24.89
3	29.49	30.00	29.45	28.07	28.14	27.86	25.23	25.82	24.83	23.36	22.95	24.74
4	29.52	29.99	29.49	27.84	28.17	27.75	25.29	25.71	24.92	23.47	23.00	24.36
5	29.60	29.99	29.54	27.65	28.26	27.68	25.40	25.80	24.99	23.49	23.03	23.94
6	29.64	29.99	29.58	27.51	28.26	27.58	25.40	25.81	25.05	23.52	23.01	23.34
7	29.65	29.99	29.61	27.40	28.23	27.47	25.35	25.62	25.05	23.54	23.01	22.91
8	29.73	29.97	29.64	27.29	28.23	27.32	25.37	25.84	25.08	23.47	23.03	22.76
9	29.93	29.96	29.67	27.21	28.23	27.17	25.37	25.81	25.11	23.18	22.98	22.68
10	30.11	29.99	29.68	27.21	28.26	27.02	25.37	25.76	25.19	22.86	22.89	22.91
11	30.32	30.02	29.68	27.21	28.31	26.83	25.33	25.62	25.26	22.16	23.03	23.13
12	30.38	29.94	29.67	27.21	28.35	26.67	25.26	25.33	25.32	21.39	23.15	23.34
13	30.43	29.79	29.67	27.20	28.40	26.49	25.22	25.07	25.37	20.88	23.25	23.49
14	30.57	29.65	29.65	27.23	28.43	26.43	25.28	24.87	25.38	20.58	23.37	23.61
15	30.71	29.55	29.63	27.24	28.49	26.25	25.38	24.74	25.23	20.58	23.47	23.75
16	30.72	29.33	29.55	27.27	28.52	26.13	25.43	24.71	23.97	20.72	23.57	23.88
17	30.68	29.30	29.52	27.32	28.55	26.00	25.41	24.68	22.52	20.85	23.66	23.97
18	30.68	29.30	29.51	27.36	28.58	25.88	25.44	24.68	21.95	21.05	23.75	24.06
19	30.62	29.31	29.49	27.42	28.61	25.85	25.40	24.57	21.72	21.26	23.84	24.18
20	30.47	29.33	29.43	27.48	28.63	25.82	25.43	24.54	21.77	21.44	23.91	24.26
21	30.35	29.33	29.33	27.56	28.63	25.77	25.37	24.54	21.78	21.56	24.00	24.35
22	30.32	29.34	29.16	27.62	28.63	25.73	25.41	24.51	21.84	21.74	24.11	24.44
23	30.32	29.36	29.01	27.68	28.63	25.62	25.41	24.50	22.01	21.89	24.22	24.53
24	30.32	29.37	28.89	27.71	28.53	25.50	25.47	24.32	22.16	21.96	24.30	24.59
25	30.32	29.42	28.74	27.69	28.41	25.46	25.44	24.05	22.29	22.05	24.39	24.66
26	30.27	29.30	28.70	27.78	28.29	25.47	25.23	23.85	22.46	22.14	24.48	24.66
27	30.21	29.30	28.59	27.84	28.17	25.46	25.35	23.82	22.62	22.23	24.57	24.45
28	30.18	29.06	28.59	27.88	28.07	25.44	25.47	23.91	22.64	22.32	24.68	24.20
29	30.15	29.18	28.61	27.96	---	25.44	25.52	24.14	22.79	22.46	24.78	24.09
30	30.12	29.28	28.61	28.01	---	25.29	25.65	24.32	22.94	22.56	24.89	24.09
31	30.09	---	28.61	28.05	---	25.19	---	24.50	---	22.65	24.92	---
MAX	30.72	30.05	29.68	28.50	28.63	28.01	25.65	25.86	25.38	23.54	24.92	24.92
CAL YR 2002		LOW 30.72										
WTR YR 2003		LOW 30.72										



GROUND-WATER RECORDS
Hardin County

404218083503700. LOCAL NUMBER, HN-1

LOCATION.—Latitude 40°42'18", longitude 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.—Electronic data logger, 60-minute log interval.

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.

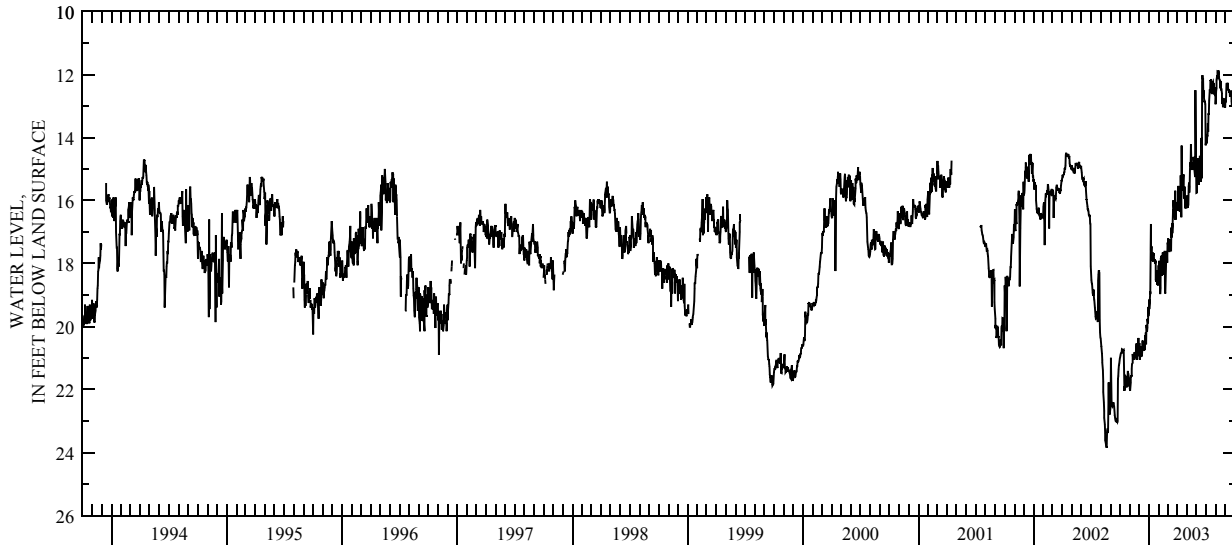
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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, 5.77 ft below land-surface datum, Feb. 24, 1949.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.00	21.90	20.94	19.38	18.06	17.33	16.25	15.95	15.75	14.15	12.95	12.80
2	20.96	21.97	20.52	19.14	18.27	17.40	16.32	15.84	15.74	13.94	12.50	12.81
3	20.90	22.04	21.05	19.45	17.91	17.20	16.10	16.16	15.59	14.01	12.44	12.71
4	20.85	21.78	20.84	19.04	18.14	17.47	15.84	16.23	15.05	14.19	12.17	12.33
5	20.84	21.62	20.97	18.89	18.27	17.55	15.54	16.17	15.47	13.94	12.03	12.27
6	20.84	21.54	20.73	18.97	18.97	17.40	16.02	16.13	14.65	13.94	12.14	12.32
7	20.76	21.59	20.63	16.75	18.78	17.63	16.02	15.56	15.01	13.55	11.92	12.45
8	20.78	21.35	20.93	17.58	17.82	17.28	16.20	15.44	15.50	13.82	11.94	12.26
9	20.73	21.17	20.93	17.54	17.93	17.27	16.35	15.75	15.24	13.23	12.00	12.42
10	20.73	21.15	20.91	17.46	17.75	17.40	16.02	15.57	15.38	13.28	11.87	12.50
11	20.76	20.87	20.76	17.90	18.39	17.47	16.08	15.01	14.58	12.83	12.06	12.51
12	20.76	21.00	20.45	17.86	18.09	17.61	15.20	14.79	15.40	12.62	12.11	12.48
13	20.75	21.05	20.69	17.93	17.93	16.86	15.95	14.93	15.29	12.47	12.15	12.57
14	21.36	21.00	20.66	17.65	17.65	17.18	16.53	14.21	15.40	12.57	12.20	12.53
15	21.90	20.87	20.76	17.73	17.94	16.92	14.26	14.55	15.24	12.17	12.44	12.71
16	22.01	21.05	20.70	17.73	17.73	16.71	15.42	15.01	15.32	12.20	12.29	12.56
17	22.01	20.81	20.54	17.67	17.97	17.04	15.59	14.88	14.01	12.14	12.20	12.65
18	21.77	20.97	20.69	17.93	17.79	16.34	15.62	14.96	15.29	12.47	12.50	12.59
19	21.57	20.82	20.75	17.86	18.36	16.35	15.68	15.03	12.24	12.60	12.44	12.51
20	21.60	21.00	20.28	17.93	17.60	15.99	15.30	14.82	12.02	12.51	12.59	12.85
21	21.77	20.78	20.51	17.99	18.89	16.38	15.17	14.84	12.15	12.62	12.93	13.00
22	21.77	20.72	20.19	17.90	18.95	16.02	15.89	14.97	12.11	12.23	12.74	12.80
23	21.92	20.54	20.57	18.50	18.51	16.19	15.93	14.61	12.71	12.21	13.00	12.85
24	21.69	21.05	19.95	18.57	18.08	16.61	15.56	14.81	12.51	12.38	13.04	12.83
25	21.77	20.91	20.03	18.22	17.75	16.06	15.85	14.96	12.75	12.26	12.99	12.66
26	21.41	20.60	20.16	18.40	17.60	15.69	16.25	15.03	12.89	12.63	12.75	12.80
27	21.89	20.63	20.03	18.60	17.64	16.61	16.05	15.25	12.85	12.60	12.80	12.47
28	21.48	20.66	19.75	18.68	17.97	16.49	16.02	13.08	12.89	12.62	12.95	12.74
29	21.68	20.36	19.90	18.56	---	16.06	16.00	12.50	12.93	12.62	12.96	12.36
30	21.80	20.73	19.38	18.69	---	16.19	16.25	13.49	14.24	12.41	12.95	12.71
31	21.68	---	19.67	18.27	---	16.16	---	15.38	---	12.75	13.05	---
MAX	22.01	22.04	21.05	19.45	18.97	17.63	16.53	16.23	15.75	14.19	13.05	13.00
CAL YR 2002	LOW 23.82											
WTR YR 2003	LOW 22.04											



GROUND-WATER RECORDS
Hocking County

393200082235300. LOCAL NUMBER, HK-1

LOCATION.—Latitude 39°32'00", longitude 82°23'53", Hydrologic Unit 05060002, at railroad yards southeast edge of Logan, Ohio. 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.—Electronic data logger, 60-minute log interval.

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.

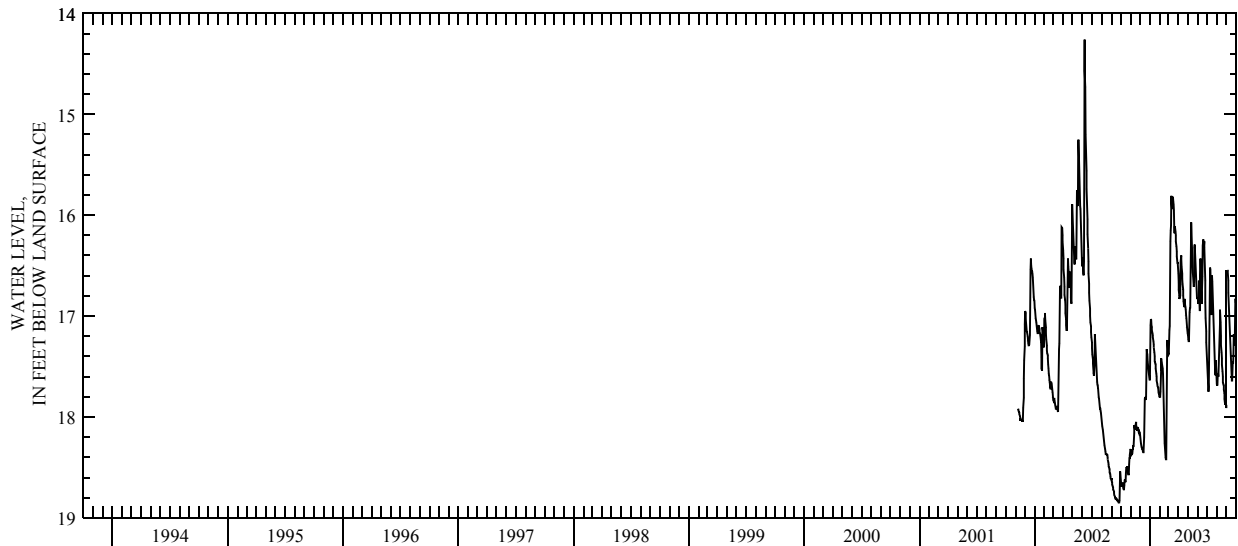
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—August 1962 to November 1982 continuous, December 1982 to October 2001 periodic, continuous thereafter.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 21.35 ft below land-surface datum, Dec. 21 and 22, 1967; minimum daily low, 9.11 ft below land-surface datum, Apr. 22, 1964.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.62	18.32	18.17	17.63	17.80	17.38	16.58	17.17	16.82	17.44	17.67	17.91
2	18.66	18.33	18.20	17.35	17.80	17.37	16.67	17.19	16.83	17.51	17.69	17.67
3	18.68	18.34	18.23	17.09	17.80	17.26	16.74	17.23	16.87	17.58	17.68	16.88
4	18.69	18.36	18.26	17.03	17.75	17.14	16.80	17.25	16.87	17.65	17.58	16.55
5	18.67	18.37	18.28	17.04	17.54	17.10	16.83	17.25	16.70	17.70	17.57	16.55
6	18.66	18.36	18.30	17.10	17.43	16.77	16.82	17.09	16.65	17.75	17.60	16.65
7	18.66	18.33	18.31	17.11	17.43	16.26	16.80	16.96	16.85	17.70	17.50	16.77
8	18.69	18.29	18.32	17.14	17.46	16.15	16.63	16.93	16.95	17.39	17.42	16.87
9	18.71	18.29	18.32	17.17	17.48	16.10	16.46	16.92	16.73	17.16	17.35	16.98
10	18.72	18.29	18.34	17.19	17.50	15.81	16.40	16.74	16.43	16.82	17.25	17.07
11	18.72	18.29	18.35	17.21	17.52	15.89	16.43	16.32	16.54	16.52	17.07	17.17
12	18.68	18.16	18.35	17.25	17.58	15.94	16.51	16.07	16.70	16.54	16.94	17.25
13	18.63	18.08	18.27	17.28	17.77	15.93	16.58	16.17	16.83	16.68	17.06	17.33
14	18.62	18.10	18.20	17.31	17.94	15.90	16.63	16.27	16.88	16.83	17.20	17.39
15	18.64	18.13	17.96	17.36	18.09	15.82	16.68	16.38	16.83	16.97	17.29	17.47
16	18.64	18.13	17.82	17.40	18.19	15.86	16.74	16.48	16.61	16.99	17.36	17.53
17	18.56	18.08	17.80	17.45	18.26	15.89	16.80	16.57	16.51	16.60	17.42	17.59
18	18.51	18.05	17.82	17.47	18.31	15.95	16.85	16.61	16.30	16.66	17.48	17.64
19	18.51	18.08	17.83	17.48	18.36	16.12	16.88	16.66	16.24	16.80	17.55	17.64
20	18.50	18.10	17.80	17.52	18.40	16.18	16.91	16.71	16.33	16.92	17.60	17.55
21	18.49	18.11	17.47	17.57	18.42	16.11	16.90	16.68	16.35	17.04	17.66	17.45
22	18.51	18.13	17.33	17.60	18.42	16.11	16.83	16.32	16.26	17.18	17.68	17.47
23	18.54	18.13	17.37	17.64	18.18	16.16	16.89	16.29	16.32	17.27	17.69	17.38
24	18.57	18.10	17.38	17.67	17.49	16.20	16.91	16.39	16.41	17.36	17.73	17.18
25	18.57	18.11	17.45	17.67	17.25	16.26	16.94	16.50	16.65	17.44	17.77	17.21
26	18.57	18.13	17.48	17.70	17.24	16.31	16.99	16.57	16.86	17.52	17.82	17.27
27	18.47	18.15	17.52	17.71	17.30	16.36	17.02	16.64	17.02	17.58	17.85	17.29
28	18.41	18.16	17.55	17.72	17.37	16.41	17.06	16.69	17.15	17.58	17.85	17.06
29	18.41	18.15	17.58	17.76	---	16.47	17.11	16.75	17.26	17.44	17.87	16.83
30	18.38	18.16	17.60	17.78	---	16.47	17.14	16.82	17.35	17.54	17.87	16.87
31	18.33	---	17.63	17.79	---	16.48	---	16.83	---	17.61	17.89	---
MAX	18.72	18.37	18.35	17.79	18.42	17.38	17.14	17.25	17.35	17.75	17.89	17.91
CAL YR 2002		LOW 18.85										
WTR YR 2003		LOW 18.72										



GROUND-WATER RECORDS
Knox County

402344082300700. LOCAL NUMBER, K-1

LOCATION.—Latitude 40°23'44", longitude 82°30'07", Hydrologic Unit 05040003, in city park, Mt. Vernon, Ohio. Owner: City of Mt. Vernon.

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.

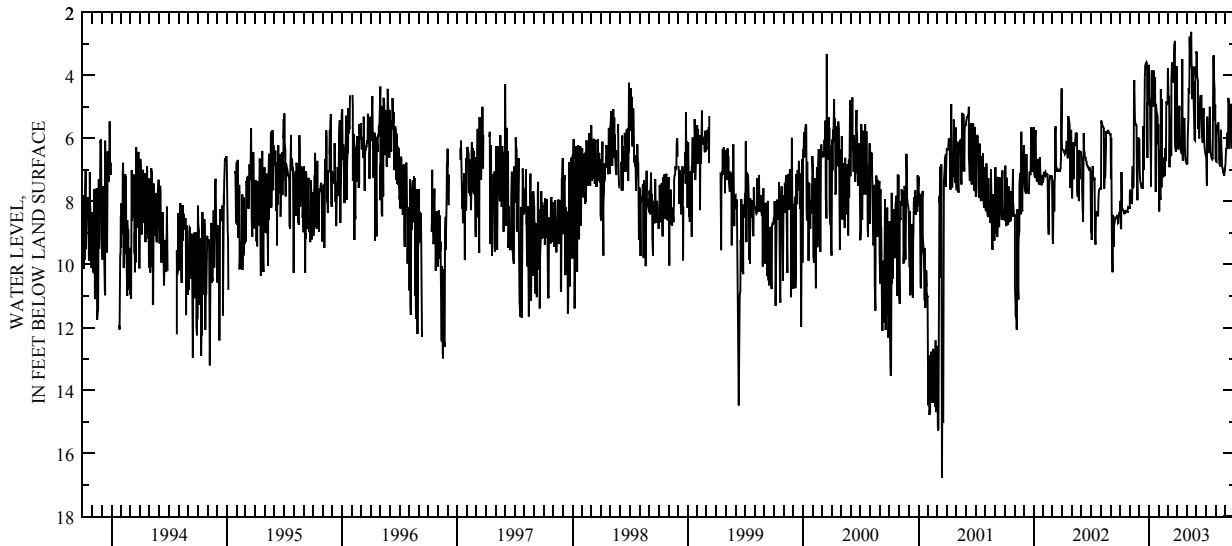
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.34	8.21	6.03	3.67	6.77	4.92	5.05	6.79	3.24	6.56	6.66	6.81
2	8.33	7.79	6.05	4.16	7.52	3.78	4.99	6.79	3.35	6.59	6.73	6.53
3	7.98	7.63	7.04	4.66	8.32	4.30	6.05	6.83	3.86	7.25	6.75	6.37
4	8.86	7.94	7.27	4.82	7.73	4.67	6.33	5.94	4.07	7.49	5.84	6.30
5	8.88	7.96	7.35	5.78	6.39	4.67	6.33	5.60	4.17	5.31	5.63	6.34
6	7.07	8.04	7.43	5.80	7.85	4.69	5.43	5.36	5.69	5.97	5.58	5.85
7	7.95	8.05	7.45	6.88	7.95	6.92	5.21	4.41	5.45	6.35	5.57	5.85
8	8.19	8.07	7.56	7.52	4.44	6.92	4.96	4.56	4.88	6.44	5.52	6.19
9	8.23	8.05	7.56	5.08	6.25	5.26	5.72	4.56	5.85	6.44	5.52	6.25
10	8.28	6.88	7.55	3.84	7.56	6.27	6.07	2.77	6.00	6.44	5.51	4.71
11	8.29	7.53	7.53	4.14	4.76	6.44	6.20	3.22	5.19	6.44	6.25	4.81
12	8.30	7.55	7.58	4.72	6.94	6.54	6.35	3.66	4.90	5.66	6.63	4.87
13	8.31	7.55	7.58	4.88	7.09	6.53	6.44	3.73	4.68	4.99	6.79	6.33
14	8.38	7.53	5.62	4.97	7.13	4.10	6.46	2.77	4.63	6.02	6.85	5.86
15	8.38	4.54	6.68	4.97	7.21	3.59	6.47	2.62	4.64	6.27	6.88	5.53
16	8.30	4.16	7.00	3.85	7.21	3.94	6.50	3.62	4.68	6.45	6.81	5.25
17	8.30	4.94	5.31	4.32	6.61	4.07	3.48	3.83	4.67	6.55	5.86	4.90
18	8.33	5.38	4.85	4.75	7.00	4.19	6.63	4.75	5.60	6.58	5.73	4.94
19	8.34	5.52	4.06	4.89	7.15	4.23	6.72	3.72	5.92	6.64	6.20	5.65
20	8.31	5.56	3.73	4.98	7.17	3.99	6.04	3.77	6.07	6.66	6.70	5.89
21	8.32	5.56	3.63	4.06	7.17	4.14	5.51	4.61	6.14	6.63	6.82	6.30
22	8.33	5.58	3.60	6.90	6.31	3.36	5.38	4.19	5.29	6.63	6.92	6.30
23	8.35	5.59	3.59	7.70	6.56	3.04	5.39	4.59	5.07	5.93	6.99	6.14
24	8.35	7.09	3.58	4.91	6.71	2.91	5.36	5.47	5.07	3.48	7.05	6.17
25	8.32	7.41	3.63	5.03	4.82	5.97	6.23	5.88	5.85	3.36	7.08	6.20
26	8.22	7.96	3.69	5.19	4.84	6.27	6.56	6.05	6.17	3.98	7.11	6.21
27	8.24	6.40	6.62	5.25	4.87	6.39	6.68	6.07	6.31	4.28	7.04	6.16
28	8.23	5.99	4.96	5.25	4.92	6.43	6.72	3.72	6.40	4.42	7.19	5.71
29	8.21	5.99	4.82	5.34	---	4.15	6.77	3.91	6.47	5.42	7.07	5.76
30	8.19	6.01	4.93	6.19	---	3.71	6.79	4.06	6.54	4.94	7.04	5.79
31	8.21	---	4.11	5.56	---	4.06	---	4.06	---	6.43	6.89	---
MAX	8.88	8.21	7.58	7.70	8.32	6.92	6.79	6.83	6.54	7.49	7.19	6.81
CAL YR 2002		LOW 10.25										
WTR YR 2003		LOW 8.88										



GROUND-WATER RECORDS
Knox County

402747082374300. LOCAL NUMBER, K-4

LOCATION.—Latitude 40°27'47", longitude 82°37'43", Hydrologic Unit 05040003, near Fredericktown, Ohio. 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.—Electronic data logger, 60-minute log interval.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

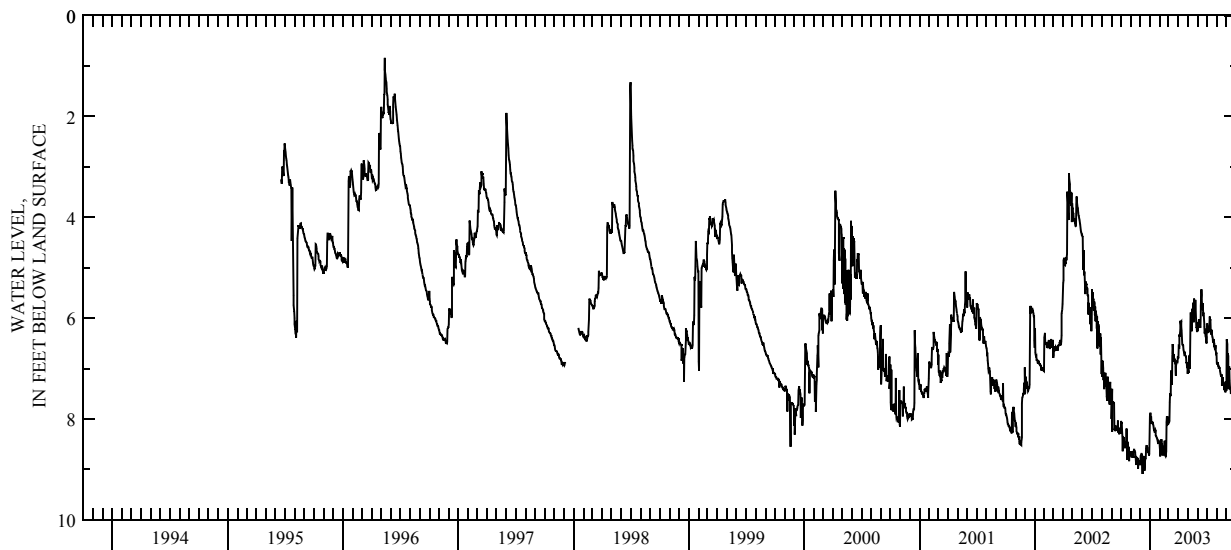
PERIOD OF RECORD.—June 1995 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 9.09 ft below land-surface datum, Dec. 9, 2002; minimum daily low 0.84 ft below land-surface datum, May 12, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.25	8.66	8.90	7.95	8.48	8.09	6.80	7.10	6.15	6.12	6.89	7.23
2	8.04	8.64	8.91	7.89	8.67	8.04	6.57	7.01	6.26	6.12	6.90	6.42
3	8.09	8.70	8.73	7.89	8.74	8.06	6.56	7.05	6.14	6.18	6.92	6.51
4	8.06	8.76	8.72	7.97	8.51	8.04	6.57	7.08	6.09	6.23	6.87	6.76
5	8.24	8.73	8.69	7.97	8.45	7.67	6.32	6.87	6.03	6.29	6.94	6.69
6	8.34	8.64	8.69	8.09	8.46	7.49	6.36	6.75	6.14	6.24	6.94	6.75
7	8.64	8.70	8.70	8.07	8.40	7.53	6.23	6.75	6.14	6.27	6.99	7.11
8	8.37	8.76	8.91	8.10	8.48	7.55	6.05	7.01	6.18	6.24	6.99	7.41
9	8.37	8.76	9.09	8.07	8.49	7.04	6.08	6.27	6.18	6.09	6.98	7.01
10	8.40	8.76	8.76	8.07	8.72	7.22	6.06	5.90	6.18	5.97	6.99	6.96
11	8.37	8.64	8.73	8.07	8.55	7.29	6.17	5.90	5.87	6.05	7.02	7.23
12	8.43	8.59	8.78	8.13	8.55	7.32	6.24	6.06	5.76	6.02	7.04	7.35
13	8.52	8.63	8.76	8.17	8.61	6.72	6.51	6.12	5.43	6.23	7.11	7.40
14	8.58	8.63	8.76	8.19	8.63	6.51	6.51	6.26	5.54	6.32	7.14	7.41
15	8.51	8.66	9.03	8.24	8.67	6.60	6.53	5.94	5.63	6.27	7.16	7.50
16	8.49	8.69	8.91	8.21	8.66	6.87	6.53	5.81	5.84	6.23	7.11	7.46
17	8.52	8.73	8.81	8.27	8.43	6.71	6.56	5.88	5.77	6.32	7.17	7.41
18	8.55	8.91	8.79	8.22	8.69	6.74	6.63	5.69	5.70	6.36	7.34	7.50
19	8.19	8.74	8.78	8.24	8.73	6.83	6.65	5.82	5.96	6.39	7.28	7.25
20	8.52	8.79	8.58	8.33	8.74	6.80	6.69	6.08	5.90	6.47	7.17	7.29
21	8.81	8.81	8.54	8.34	8.72	6.86	6.68	5.61	5.90	6.47	7.26	7.32
22	8.45	8.84	8.52	8.37	8.64	6.89	6.68	5.73	6.12	6.41	7.29	7.35
23	8.64	8.78	8.59	8.37	8.06	6.92	6.74	5.82	6.17	6.51	7.28	6.86
24	8.67	8.79	8.55	8.40	7.95	7.14	6.75	5.85	6.30	6.50	7.32	6.72
25	8.64	8.99	8.59	8.40	7.98	6.96	6.75	5.64	6.21	6.56	7.43	6.83
26	8.55	8.81	8.64	8.43	8.01	6.89	6.78	5.79	6.30	6.61	7.35	6.87
27	8.84	8.84	8.67	8.49	8.00	6.87	6.89	5.96	6.36	6.60	7.32	5.97
28	8.64	8.84	8.64	8.41	8.10	6.86	6.87	6.18	6.36	6.53	7.47	5.21
29	8.70	8.82	8.72	8.46	---	6.87	6.99	6.18	6.45	6.66	7.32	5.63
30	8.72	8.85	8.69	8.46	---	6.81	6.92	6.27	6.50	6.69	7.25	5.77
31	8.64	---	8.28	8.43	---	6.76	---	6.08	---	6.68	7.44	---
MAX	8.84	8.99	9.09	8.49	8.74	8.09	6.99	7.10	6.50	6.69	7.47	7.50

CAL YR 2002 LOW 9.09
WTR YR 2003 LOW 9.09



GROUND-WATER RECORDS
Knox County

289

403136082363100. LOCAL NUMBER, K-5

LOCATION.—Latitude 40°27'47", longitude 82°37'43", Hydrologic Unit 05040003, at Kokosing Wildlife Area near Bellville. Owner: State of Ohio.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 132 ft, cased to 122 ft.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 1,135 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

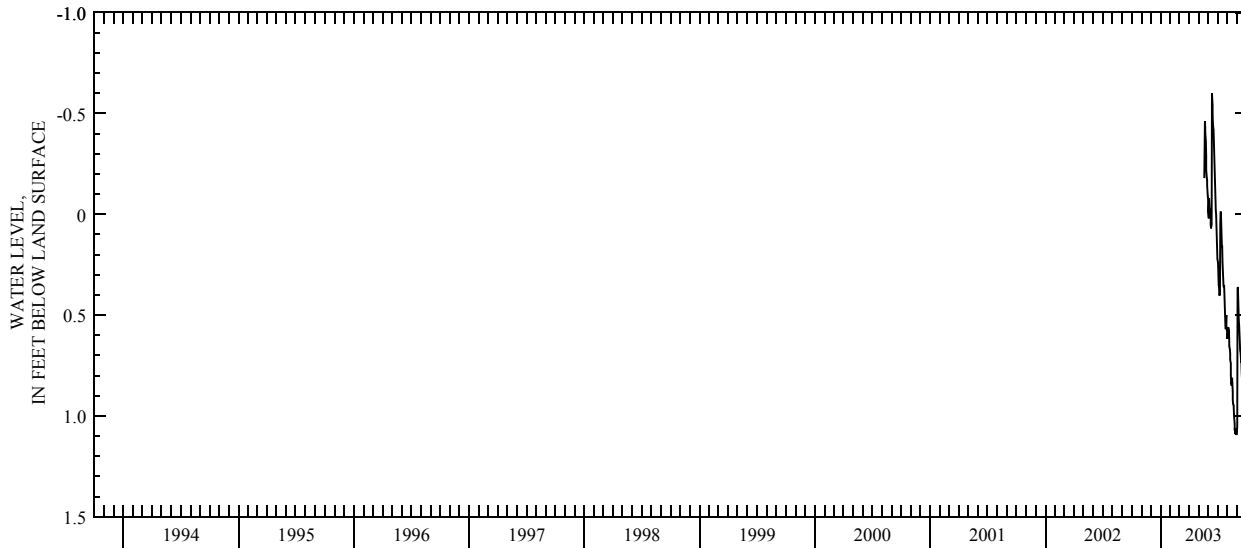
PERIOD OF RECORD.—May 2003 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 1.09 ft below land-surface datum, Aug. 26, 29, and 30, 2003; minimum daily low 0.60 ft above land-surface datum, June 13, 2003.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	-0.02	0.23	0.61	1.05
2	---	---	---	---	---	---	---	---	0.02	0.24	0.61	0.37
3	---	---	---	---	---	---	---	---	-0.01	0.29	0.59	0.36
4	---	---	---	---	---	---	---	---	-0.08	0.35	0.56	0.44
5	---	---	---	---	---	---	---	---	-0.03	0.36	0.58	0.49
6	---	---	---	---	---	---	---	---	0.00	0.40	0.62	0.53
7	---	---	---	---	---	---	---	---	0.00	0.40	0.65	0.55
8	---	---	---	---	---	---	---	---	0.02	0.39	0.67	0.59
9	---	---	---	---	---	---	---	---	0.05	0.05	0.69	0.63
10	---	---	---	---	---	---	---	---	0.07	-0.01	0.72	0.67
11	---	---	---	---	---	---	---	---	0.05	-0.01	0.74	0.68
12	---	---	---	---	---	---	---	---	-0.41	0.07	0.80	0.70
13	---	---	---	---	---	---	---	---	-0.60	0.12	0.84	0.73
14	---	---	---	---	---	---	---	---	-0.54	0.16	0.85	0.73
15	---	---	---	---	---	---	---	---	-0.50	0.16	0.84	0.79
16	---	---	---	---	---	---	---	---	-0.45	0.24	0.81	0.82
17	---	---	---	---	---	---	---	---	-0.43	0.28	0.88	0.84
18	---	---	---	---	---	---	---	---	-0.42	0.31	0.92	0.85
19	---	---	---	---	---	---	---	---	-0.35	0.35	0.94	0.76
20	---	---	---	---	---	---	---	-0.18	-0.29	0.36	0.95	0.75
21	---	---	---	---	---	---	---	-0.46	-0.24	0.35	0.96	0.77
22	---	---	---	---	---	---	---	-0.43	-0.19	0.39	1.00	0.73
23	---	---	---	---	---	---	---	-0.41	-0.11	0.44	1.04	0.50
24	---	---	---	---	---	---	---	-0.36	-0.06	0.50	1.07	0.53
25	---	---	---	---	---	---	---	-0.29	-0.02	0.55	1.06	0.53
26	---	---	---	---	---	---	---	-0.22	0.00	0.57	1.09	0.53
27	---	---	---	---	---	---	---	-0.18	0.08	0.55	1.06	0.47
28	---	---	---	---	---	---	---	-0.17	0.13	0.50	1.08	-0.23
29	---	---	---	---	---	---	---	-0.14	0.18	0.55	1.09	-0.10
30	---	---	---	---	---	---	---	-0.09	0.22	0.58	1.09	-0.06
31	---	---	---	---	---	---	---	-0.08	---	0.59	1.08	---
MAX	---	---	---	---	---	---	---	-0.08	0.22	0.59	1.09	1.05

WTR YR 2003 LOW 1.09



GROUND-WATER RECORDS
Licking County

395717082454200. LOCAL NUMBER, LI-5

LOCATION.—Latitude 39°57'17", longitude 82°45'42", Hydrologic Unit 05060001, at Ohio Department of Agriculture near Reynoldsburg, Ohio. Owner: State of Ohio.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 124 ft, cased to 113 ft.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 1,020 ft above sea level (from topographic map). Measuring point: Floor of instrument shelter 4.00 ft above land-surface datum.

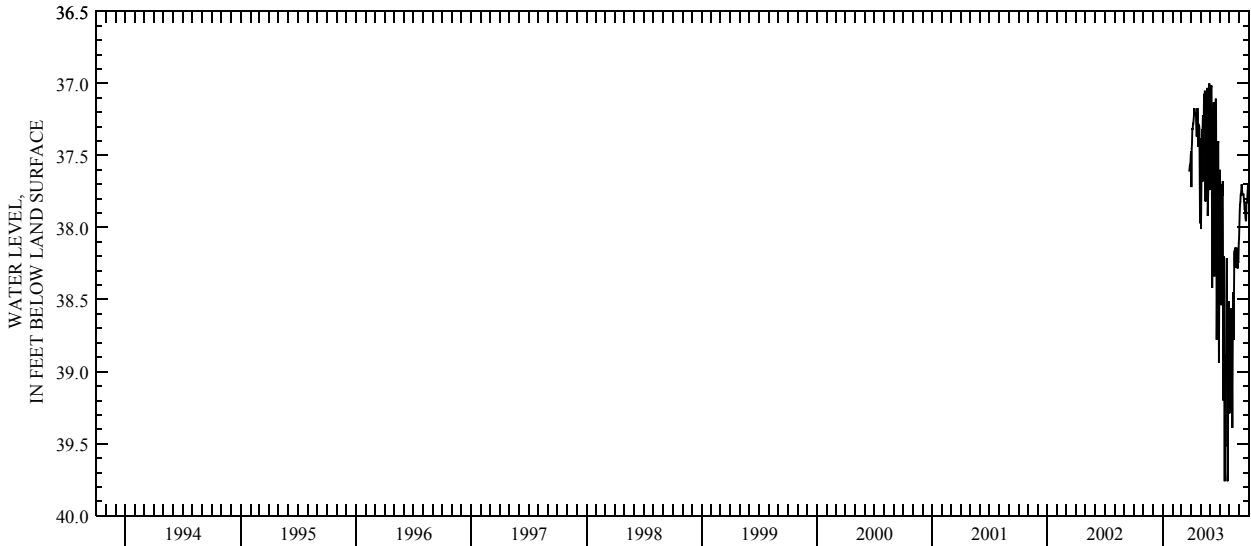
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—March 2003 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 39.76 ft below land-surface datum, July 16 and 25, 2003; minimum daily low, 37.00 ft below land-surface datum, May 29, 2003.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	37.47	37.38	37.58	37.60	39.29	37.98
2	---	---	---	---	---	---	37.72	37.97	37.17	37.88	39.23	37.89
3	---	---	---	---	---	---	37.45	38.01	37.05	38.10	38.98	37.84
4	---	---	---	---	---	---	37.41	37.80	37.02	37.98	38.65	37.82
5	---	---	---	---	---	---	37.31	37.42	37.02	38.54	38.87	37.77
6	---	---	---	---	---	---	37.32	37.32	37.99	38.24	38.87	37.77
7	---	---	---	---	---	---	37.28	37.33	38.42	37.77	38.56	37.73
8	---	---	---	---	---	---	37.28	37.22	38.09	37.70	39.14	37.70
9	---	---	---	---	---	---	37.25	37.68	37.31	37.78	39.39	37.72
10	---	---	---	---	---	---	37.22	37.60	37.20	37.68	39.13	37.76
11	---	---	---	---	---	---	37.17	37.46	37.27	38.92	38.66	37.77
12	---	---	---	---	---	---	37.18	37.15	37.13	39.20	38.45	37.77
13	---	---	---	---	---	---	37.21	37.07	37.60	39.02	38.64	37.77
14	---	---	---	---	---	---	37.22	37.18	38.34	38.42	38.78	37.77
15	---	---	---	---	---	---	37.21	37.05	38.02	38.20	38.64	37.80
16	---	---	---	---	---	---	37.20	37.82	37.48	39.76	38.21	37.82
17	---	---	---	---	---	---	37.26	37.60	37.16	38.88	38.16	37.87
18	---	---	---	---	---	---	37.36	37.42	37.11	39.15	38.27	37.87
19	---	---	---	---	---	---	37.37	37.22	37.11	39.52	38.14	37.89
20	---	---	---	---	---	---	37.28	37.07	38.46	39.34	38.28	37.93
21	---	---	---	---	---	---	37.17	37.15	38.78	38.58	38.17	37.95
22	---	---	---	---	---	---	37.24	37.03	38.62	38.22	38.26	37.95
23	---	---	---	---	---	---	37.44	37.66	37.83	38.22	38.14	37.82
24	---	---	---	---	---	---	37.28	37.92	37.53	38.30	38.16	37.83
25	---	---	---	---	---	---	37.38	37.70	37.43	39.76	38.25	37.82
26	---	---	---	---	---	37.61	37.29	37.39	37.40	39.69	38.28	37.82
27	---	---	---	---	---	37.60	37.31	37.13	38.42	39.54	38.28	37.74
28	---	---	---	---	---	37.57	37.46	37.09	38.94	38.52	38.24	37.70
29	---	---	---	---	---	37.56	37.97	37.00	38.70	38.51	38.24	37.71
30	---	---	---	---	---	37.55	37.58	37.72	37.76	38.53	38.11	37.71
31	---	---	---	---	---	37.50	---	37.74	---	38.64	38.07	---
MAX	---	---	---	---	---	37.61	37.97	38.01	38.94	39.76	39.39	37.98
WTR YR	2003	LOW 39.76										



GROUND-WATER RECORDS
Licking County

395830082291700. LOCAL NUMBER, LI-6

LOCATION.—Latitude 39°58'30", longitude 82°29'17", Hydrologic Unit 05040006, on State Route 79 north of Hebron, Ohio. Owner: State of Ohio.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 133 ft, cased to 122 ft.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 895 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

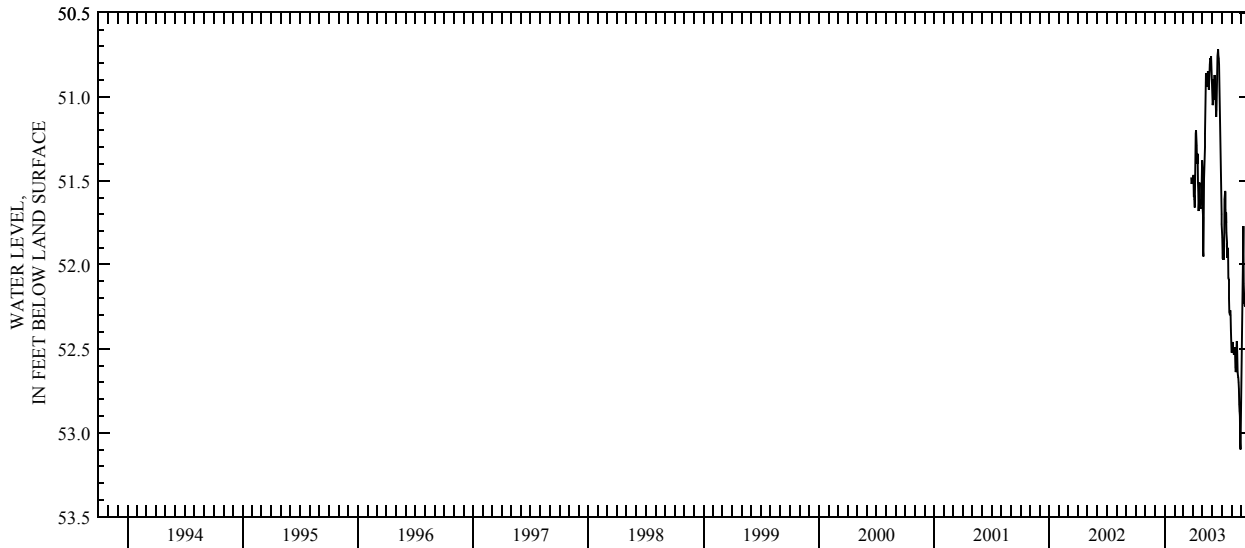
PERIOD OF RECORD.—March 2003 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 53.10 ft below land-surface datum, Aug. 29, 2003; minimum daily low, 50.72 ft below land-surface datum, June 19, 2003.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	51.47	51.64	51.01	51.76	52.52	52.83
2	---	---	---	---	---	---	51.47	51.72	51.05	51.84	52.52	52.60
3	---	---	---	---	---	---	51.59	51.92	51.03	51.93	52.50	52.40
4	---	---	---	---	---	---	51.59	51.95	50.90	51.96	52.48	52.12
5	---	---	---	---	---	---	51.61	51.72	51.01	51.97	52.46	52.02
6	---	---	---	---	---	---	51.66	51.49	51.02	51.87	52.52	51.86
7	---	---	---	---	---	---	51.51	51.44	50.96	51.97	52.52	51.77
8	---	---	---	---	---	---	51.34	51.30	50.87	51.89	52.53	51.92
9	---	---	---	---	---	---	51.22	51.22	50.98	51.77	52.53	52.11
10	---	---	---	---	---	---	51.20	51.11	51.01	51.61	52.49	52.23
11	---	---	---	---	---	---	51.24	50.86	51.01	51.56	52.53	52.19
12	---	---	---	---	---	---	51.29	50.88	51.06	51.57	52.53	52.24
13	---	---	---	---	---	---	51.39	50.91	51.12	51.67	52.61	52.25
14	---	---	---	---	---	---	51.40	50.94	51.08	51.75	52.64	52.20
15	---	---	---	---	---	---	51.34	50.87	50.94	51.69	52.62	52.24
16	---	---	---	---	---	---	51.51	50.92	50.83	51.81	52.52	52.26
17	---	---	---	---	---	---	51.56	50.94	50.76	51.87	52.46	52.27
18	---	---	---	---	---	---	51.67	50.85	50.74	51.95	52.46	52.30
19	---	---	---	---	---	---	51.68	50.92	50.72	51.95	52.52	52.20
20	---	---	---	---	---	---	51.59	50.93	50.76	51.90	52.64	52.23
21	---	---	---	---	---	---	51.51	50.96	50.77	51.94	52.66	52.18
22	---	---	---	---	---	---	51.56	50.92	50.81	52.08	52.67	52.09
23	---	---	---	---	---	---	51.66	50.87	50.92	52.09	52.70	51.93
24	---	---	---	---	---	---	51.66	50.81	51.02	52.20	52.74	51.91
25	---	---	---	---	---	---	51.61	50.78	51.12	52.28	52.83	51.83
26	---	---	---	---	---	51.48	51.62	50.77	51.24	52.30	52.87	51.82
27	---	---	---	---	---	51.52	51.60	50.78	51.46	52.30	52.90	51.64
28	---	---	---	---	---	51.51	51.58	50.76	51.56	52.27	53.06	51.47
29	---	---	---	---	---	51.49	51.38	50.82	51.65	52.30	53.10	51.30
30	---	---	---	---	---	51.50	51.42	50.90	51.70	52.39	53.05	51.29
31	---	---	---	---	---	51.49	---	50.96	---	52.44	52.98	---
MAX	---	---	---	---	---	51.52	51.68	51.95	51.70	52.44	53.10	52.83

WTR YR 2003 LOW 53.10



GROUND-WATER RECORDS

Licking County

400848082251100. LOCAL NUMBER, LI-4

LOCATION.—Latitude 40°08'48", longitude 82°25'11", Hydrologic Unit 05040006, near St. Louisville, Ohio. Owner: City of Newark.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 79 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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.

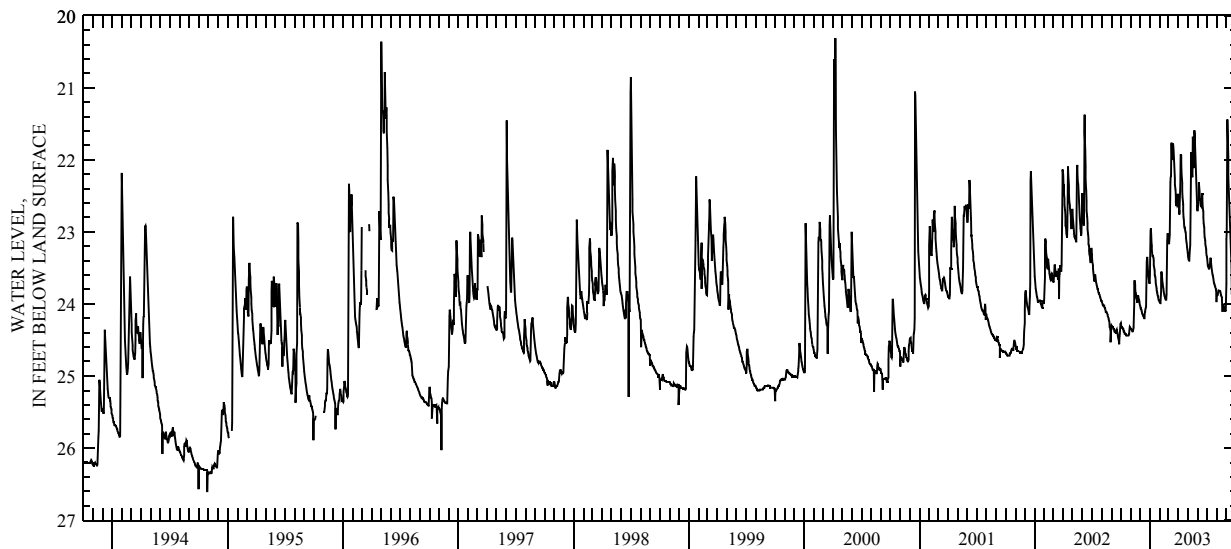
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—August 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, 20.31 ft below land-surface datum, Apr. 9, 2000.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003 DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.26	24.35	24.02	23.61	23.97	23.13	22.53	23.28	22.70	23.34	23.88	23.10
2	24.29	24.35	24.03	23.30	23.99	23.16	22.61	23.33	22.62	23.37	23.88	23.01
3	24.32	24.35	24.06	22.98	23.99	23.16	22.65	23.36	22.65	23.42	23.88	22.35
4	24.32	24.36	24.06	22.95	23.99	23.09	22.71	23.39	22.59	23.47	23.87	21.44
5	24.33	24.36	24.08	23.03	23.82	23.04	22.76	23.40	22.32	23.47	23.84	21.63
6	24.33	24.38	24.09	23.15	23.63	22.72	22.59	23.40	22.31	23.49	23.81	21.95
7	24.33	24.38	24.11	23.19	23.55	22.31	22.34	23.30	22.43	23.51	23.81	22.23
8	24.35	24.38	24.14	23.25	23.58	22.23	22.26	23.24	22.52	23.51	23.82	22.47
9	24.35	24.35	24.15	23.33	23.63	22.22	21.93	23.18	22.56	23.49	23.82	22.68
10	24.38	24.33	24.15	23.33	23.69	21.77	21.93	22.94	22.53	23.46	23.82	22.85
11	24.38	24.32	24.17	23.33	23.72	21.77	22.05	22.25	22.56	23.43	23.81	22.98
12	24.39	24.00	24.18	23.36	23.76	21.95	22.20	21.89	22.64	23.37	23.82	23.09
13	24.41	23.72	24.18	23.39	23.78	21.99	22.32	21.99	22.65	23.36	23.85	23.21
14	24.41	23.67	24.20	23.46	23.82	21.99	22.43	22.13	22.59	23.42	23.87	23.30
15	24.41	23.73	24.20	23.51	23.85	21.77	22.52	22.23	22.47	23.47	23.88	23.37
16	24.42	23.78	24.12	23.54	23.87	21.80	22.61	22.23	22.47	23.51	23.90	23.43
17	24.42	23.84	24.11	23.60	23.90	21.86	22.71	21.68	22.56	23.54	23.91	23.49
18	24.44	23.87	24.06	23.63	23.91	21.97	22.79	21.75	22.65	23.57	23.94	23.87
19	24.44	23.90	24.05	23.67	23.93	22.08	22.83	21.93	22.72	23.60	24.11	23.63
20	24.44	23.93	24.03	23.70	23.94	22.16	22.91	22.10	22.80	23.61	24.03	23.61
21	24.44	23.94	23.72	23.76	23.94	22.26	22.94	22.10	22.88	23.64	24.00	23.49
22	24.44	23.97	23.42	23.78	23.94	22.34	22.94	21.59	22.94	23.67	24.02	23.45
23	24.44	23.97	23.36	23.81	23.87	22.41	22.97	21.65	23.00	23.70	24.03	23.42
24	24.44	23.88	23.36	23.84	23.51	22.50	23.00	21.84	23.07	23.72	24.05	22.68
25	24.44	23.88	23.47	23.85	23.13	22.59	23.01	22.02	23.12	23.73	24.06	22.55
26	24.42	23.90	23.54	23.88	23.03	22.64	23.09	22.19	23.16	23.75	24.08	22.68
27	24.41	23.93	23.58	23.90	23.03	22.59	23.13	22.32	23.19	23.76	24.08	22.72
28	24.36	23.94	23.63	23.91	23.12	22.52	23.16	22.43	23.24	23.78	24.08	22.35
29	24.32	23.96	23.67	23.94	---	22.62	23.21	22.53	23.28	23.79	24.09	21.71
30	24.32	24.00	23.70	23.94	---	22.61	23.24	22.61	23.33	23.81	24.09	21.93
31	24.33	---	23.72	23.96	---	22.47	---	22.70	---	23.97	23.72	---
MAX	24.44	24.38	24.20	23.96	23.99	23.16	23.24	23.40	23.33	23.97	24.11	23.87
CAL YR 2002			LOW 24.56									
WTR YR 2003			LOW 24.44									



GROUND-WATER RECORDS
Logan County

401510083444400. LOCAL NUMBER, LO-3

LOCATION.—Latitude 40°15'10", longitude 83°44'44", Hydrologic Unit 05080001, at West Liberty, Ohio. 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.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 1,090 ft above sea level (from topographic map). Measuring point: Floor of instrument shelter 3.5 ft above land-surface datum.

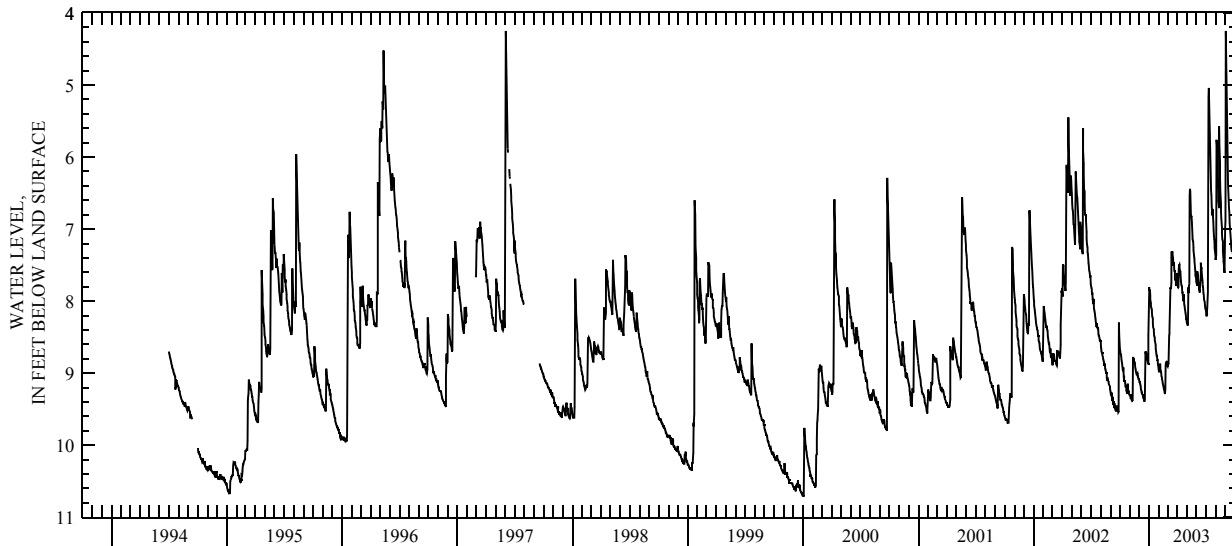
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—June 1994 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 10.71 ft below land-surface datum, Jan. 2 and 3, 2000; minimum daily low, 4.25 ft below land-surface, June 3, 1997 and Sept. 2, 2003.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	8.66	9.31	9.09	8.10	8.94	8.91	7.68	8.30	7.74	8.13	7.43	6.89
2	8.69	9.31	9.12	7.81	8.97	8.88	7.74	8.31	7.77	8.17	7.36	4.25
3	8.73	9.31	9.12	7.85	8.99	8.87	7.80	8.31	7.79	8.21	6.48	4.88
4	8.74	9.34	9.15	7.85	8.90	8.87	7.81	8.34	7.59	8.16	5.76	5.24
5	8.76	9.36	9.16	7.92	8.90	8.74	7.80	8.25	7.65	8.10	5.87	5.51
6	8.81	9.29	9.18	7.98	8.87	8.48	7.55	7.81	7.67	8.00	5.96	5.81
7	8.84	9.38	9.23	8.03	8.96	8.45	7.50	7.89	7.73	7.88	6.26	5.97
8	8.87	9.38	9.24	8.07	8.97	8.39	7.49	7.79	7.79	6.76	6.33	6.15
9	8.91	9.39	9.27	8.09	8.99	7.97	7.56	7.76	7.81	5.16	6.48	6.38
10	8.96	9.38	9.27	8.12	9.05	7.81	7.59	6.54	7.85	5.04	6.61	6.50
11	8.97	9.08	9.30	8.15	9.06	7.83	7.58	6.44	7.88	5.28	6.71	6.60
12	8.92	8.79	9.31	8.21	9.09	7.81	7.67	6.47	7.81	5.63	5.57	6.71
13	9.05	8.79	9.31	8.24	9.11	7.74	7.73	6.61	7.79	5.87	5.85	6.76
14	9.05	8.81	9.34	8.30	9.14	7.34	7.77	6.81	7.62	6.02	6.09	6.92
15	9.06	8.81	9.34	8.37	9.16	7.35	7.79	6.83	7.47	6.20	6.29	6.98
16	9.11	8.85	9.36	8.39	9.18	7.31	7.80	6.83	7.55	6.35	6.48	7.04
17	9.11	8.85	9.39	8.40	9.20	7.32	7.88	6.90	7.53	6.47	6.65	7.11
18	9.15	8.87	9.39	8.48	9.23	7.40	7.88	7.01	7.62	6.53	6.76	7.16
19	9.18	8.92	9.36	8.51	9.24	7.46	7.94	7.10	7.67	6.68	6.86	7.25
20	9.20	8.94	9.11	8.54	9.27	7.49	8.00	7.14	7.71	6.76	6.98	7.29
21	9.16	8.97	8.70	8.56	9.29	7.49	7.97	7.17	7.77	6.81	7.06	7.31
22	9.24	9.00	8.73	8.61	9.23	7.46	7.91	7.26	7.81	6.72	7.14	7.29
23	9.27	9.01	8.72	8.66	8.90	7.58	8.04	7.29	7.88	6.83	7.17	7.28
24	9.27	9.03	8.73	8.69	8.85	7.58	8.06	7.38	7.91	6.90	7.31	7.34
25	9.29	9.01	8.73	8.73	8.84	7.69	8.10	7.41	7.97	7.02	7.38	7.40
26	9.15	9.00	8.79	8.76	8.84	7.71	8.13	7.44	8.00	7.10	7.44	7.43
27	9.26	9.05	8.81	8.76	8.87	7.71	8.16	7.55	8.01	7.14	7.49	7.14
28	9.24	9.05	8.82	8.82	8.90	7.77	8.19	7.59	8.06	7.22	7.55	6.30
29	9.26	9.08	8.87	8.82	---	7.79	8.25	7.64	8.10	7.26	7.61	6.45
30	9.26	9.08	8.87	8.88	---	7.61	8.25	7.68	8.12	7.34	7.35	6.57
31	9.30	---	8.48	8.90	---	7.67	---	7.73	---	7.36	6.99	---
MAX	9.30	9.39	9.39	8.90	9.29	8.91	8.25	8.34	8.12	8.21	7.61	7.43
CAL YR 2002	LOW 9.54											
WTR YR 2003	LOW 9.39											



GROUND-WATER RECORDS
Madison County

395301083272200. LOCAL NUMBER, M-2

LOCATION.—Latitude 39°53'01", longitude 83°27'22", Hydrologic Unit 05060002, U.S. Highway 42 and Westmore Drive, London, Ohio. 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 1,035 ft above sea level (from topographic map). Measuring point: Floor of instrument shelter 1.00 ft above land-surface datum.

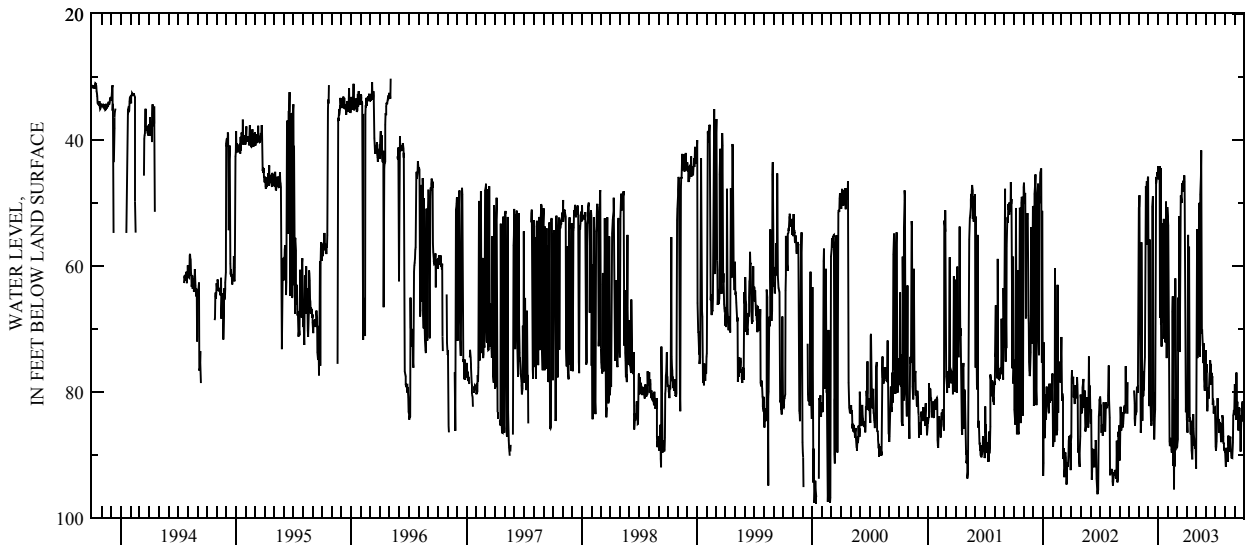
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—August 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 97.58 ft below land-surface datum, Jan. 8, 14, and 15, Feb. 26, 2000; minimum daily low, 0.55 ft above land-surface, Apr. 13, 1980.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	50.70	53.91	44.17	52.62	88.74	80.05	92.17	73.36	86.83	89.06	78.79
2	---	50.59	76.37	46.26	53.66	88.66	84.40	78.79	76.57	88.67	89.53	81.41
3	---	48.80	81.28	45.50	77.12	88.45	85.08	75.46	76.61	89.34	91.88	80.72
4	---	70.62	82.27	45.40	83.20	87.47	86.47	54.24	75.62	88.72	88.91	81.76
5	---	70.58	80.71	44.20	86.12	73.11	64.41	64.87	81.45	87.86	89.34	84.41
6	---	74.96	55.84	61.89	87.85	65.05	55.08	74.67	83.08	85.57	89.30	76.94
7	---	86.46	69.71	68.25	88.61	73.52	80.98	73.22	82.25	82.71	88.89	82.07
8	---	85.43	82.53	56.60	87.29	58.53	84.09	66.77	79.36	80.99	89.03	82.29
9	---	56.26	84.72	44.51	87.56	52.14	56.96	69.34	80.28	83.25	89.81	81.55
10	---	66.76	84.90	69.31	88.36	63.98	71.99	52.10	81.12	84.64	91.10	83.58
11	---	81.96	85.37	67.91	88.07	73.66	84.76	50.03	79.90	84.44	88.85	84.68
12	---	84.61	84.50	72.82	89.12	60.99	84.02	71.49	78.70	84.27	86.95	86.14
13	---	78.64	61.66	63.70	89.64	51.16	84.66	74.43	77.12	86.50	88.48	84.52
14	---	76.80	50.63	67.80	88.49	48.82	86.74	62.39	76.85	84.72	89.13	82.44
15	---	80.72	48.96	69.00	67.27	49.08	84.59	48.69	75.00	86.27	89.54	84.77
16	---	78.94	72.20	53.24	64.84	50.03	87.72	45.81	77.04	85.01	87.38	83.67
17	79.79	79.73	80.02	67.13	83.38	48.95	89.30	41.67	75.60	85.05	87.57	84.40
18	81.88	76.82	81.32	57.85	91.77	46.92	90.02	58.64	78.61	85.84	87.11	86.54
19	84.18	75.66	86.17	52.55	88.08	48.31	90.68	69.76	78.89	87.85	89.07	89.48
20	85.39	74.52	87.53	69.32	95.45	47.93	88.23	70.49	77.00	87.94	89.39	86.23
21	83.06	58.41	83.92	71.59	81.15	46.51	87.37	70.44	77.62	85.93	90.11	84.60
22	83.35	49.80	82.75	54.34	88.16	47.44	83.54	72.76	77.64	85.24	90.56	82.51
23	83.44	47.39	64.65	62.47	91.79	48.18	85.81	75.17	82.06	87.33	90.36	83.10
24	83.07	49.28	50.15	72.15	88.84	47.17	86.87	75.15	81.34	83.65	90.44	81.77
25	80.49	48.22	45.98	56.09	62.03	45.62	87.41	75.47	81.47	84.31	89.08	82.63
26	79.28	46.55	46.90	49.80	84.18	46.68	88.58	72.31	83.46	87.08	88.05	81.49
27	79.22	56.63	45.82	61.94	86.94	56.50	88.25	78.04	82.59	88.07	83.68	82.33
28	79.98	53.00	45.33	74.68	87.39	67.51	89.03	79.86	82.87	88.17	83.47	84.76
29	80.15	46.08	45.34	58.77	---	71.78	88.12	79.11	82.55	89.19	82.86	82.59
30	61.72	45.86	45.54	50.68	---	83.25	90.02	78.45	82.44	89.28	83.68	82.43
31	53.52	---	46.27	51.79	---	79.59	---	77.95	---	88.84	81.19	---
MAX	85.39	86.46	87.53	74.68	95.45	88.74	90.68	92.17	83.46	89.34	91.88	89.48
CAL YR 2002		LOW 96.25										
WTR YR 2003		LOW 95.45										



GROUND-WATER RECORDS
Madison County

295

395352083292000. LOCAL NUMBER, M-5A

LOCATION.—Latitude 39°53'52", longitude 83°29'20", Hydrologic Unit 05060002, at London Correctional Institute near London, Ohio. Owner: State of Ohio.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 116 ft, cased to 111 ft.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 1,090 ft above sea level (from topographic map). Measuring point: Floor of instrument shelter 3.00 ft above land-surface datum.

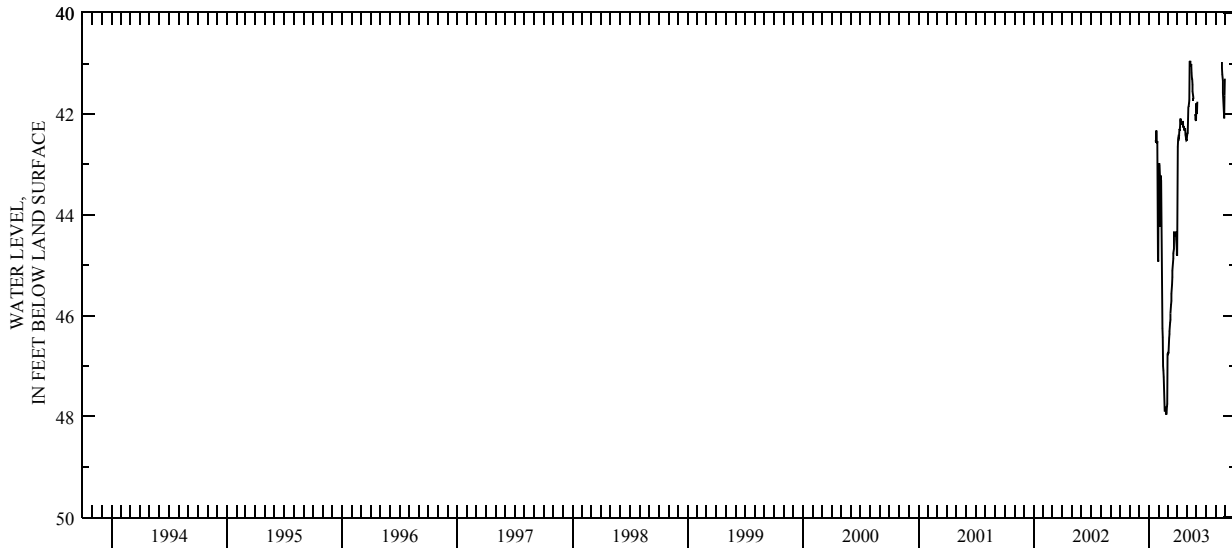
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—November 2002 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 47.96 ft below land-surface datum, Feb. 25, 2003; minimum daily low, 40.95 ft below land-surface datum, May 12, 2003.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	43.10	46.77	44.81	42.52	41.93	---	---	---
2	---	---	---	---	43.01	46.77	42.89	42.43	42.00	---	---	---
3	---	---	---	---	42.98	46.74	42.65	42.39	41.99	---	---	---
4	---	---	---	---	43.02	46.74	42.51	42.38	41.76	---	---	---
5	---	---	---	---	43.20	46.61	42.47	42.10	---	---	---	---
6	---	---	43.50	---	44.24	46.44	42.48	41.85	---	---	---	---
7	---	---	---	---	43.22	46.37	42.42	41.84	---	---	---	---
8	---	---	---	---	43.28	46.31	42.32	41.79	---	---	---	---
9	---	---	---	---	43.32	46.14	42.32	41.73	---	---	---	---
10	---	---	---	---	45.14	46.08	42.26	40.97	---	---	---	---
11	---	---	---	---	45.53	45.96	42.11	40.97	---	---	---	---
12	---	---	---	---	45.89	45.78	42.11	40.95	---	---	---	---
13	---	---	---	---	46.25	45.71	42.20	41.04	---	---	---	---
14	---	---	---	---	46.43	45.57	42.20	41.06	---	---	---	---
15	---	---	---	---	47.00	45.39	42.20	41.01	---	---	---	---
16	---	---	---	---	47.09	45.24	42.17	41.19	---	---	---	---
17	---	---	---	---	47.22	45.11	42.20	41.28	---	---	---	---
18	---	---	---	---	47.48	44.96	42.21	41.31	---	---	---	---
19	---	---	---	---	47.73	44.87	42.14	41.42	---	---	---	---
20	---	---	---	---	47.88	44.76	42.26	41.55	---	---	40.97	---
21	---	---	---	---	47.88	44.67	42.26	41.64	---	---	41.09	---
22	---	---	---	42.53	47.81	44.34	42.24	41.70	---	---	41.21	---
23	---	---	---	42.53	47.85	44.42	42.32	41.75	---	---	41.34	---
24	---	---	---	42.57	47.93	44.42	42.32	---	---	---	41.58	---
25	---	---	---	42.33	47.96	44.42	42.30	---	---	---	41.73	---
26	---	---	---	42.53	47.93	44.39	42.30	---	---	---	41.85	---
27	---	---	---	42.59	47.81	44.39	42.41	42.00	---	---	41.99	---
28	---	---	---	42.54	47.75	44.34	42.44	42.03	---	---	42.09	---
29	---	---	---	44.06	---	44.49	42.51	42.11	---	---	41.63	---
30	---	---	---	44.87	---	44.69	42.53	42.14	---	---	41.30	---
31	---	---	---	44.93	---	44.79	---	41.79	---	---	---	---
MAX	---	---	43.50	44.93	47.96	46.77	44.81	42.52	42.00	---	42.09	---
WTR YR 2003	---	LOW 47.96	---	---	---	---	---	---	---	---	---	---



GROUND-WATER RECORDS
Madison County

395352083292100. LOCAL NUMBER, M-5

LOCATION.—Latitude 39°53'52", longitude 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.—Electronic data logger, 60-minute log interval.

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.

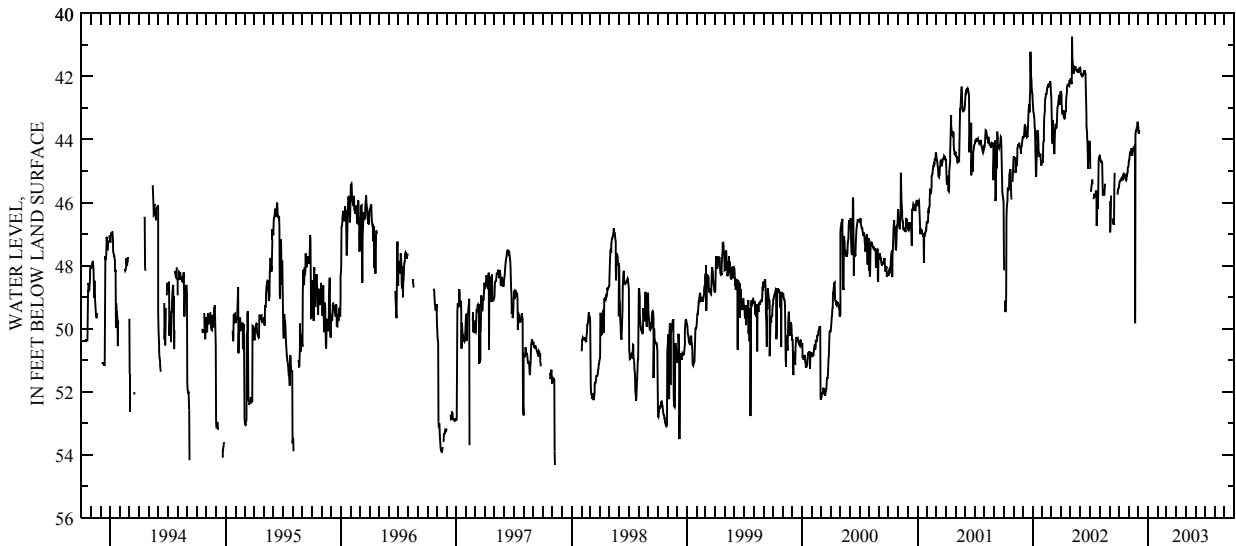
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—September 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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	45.53	44.76	43.49	---	---	---	---	---	---	---	---	---
2	45.45	44.70	43.61	---	---	---	---	---	---	---	---	---
3	45.36	44.63	43.79	---	---	---	---	---	---	---	---	---
4	45.33	44.49	43.79	---	---	---	---	---	---	---	---	---
5	45.30	44.49	43.73	---	---	---	---	---	---	---	---	---
6	45.29	44.37	43.75	---	---	---	---	---	---	---	---	---
7	45.30	44.40	---	---	---	---	---	---	---	---	---	---
8	45.30	44.40	---	---	---	---	---	---	---	---	---	---
9	45.23	44.39	---	---	---	---	---	---	---	---	---	---
10	45.23	44.27	---	---	---	---	---	---	---	---	---	---
11	45.20	44.35	---	---	---	---	---	---	---	---	---	---
12	45.18	44.51	---	---	---	---	---	---	---	---	---	---
13	45.27	44.51	---	---	---	---	---	---	---	---	---	---
14	45.27	44.42	---	---	---	---	---	---	---	---	---	---
15	45.18	44.34	---	---	---	---	---	---	---	---	---	---
16	45.12	44.34	---	---	---	---	---	---	---	---	---	---
17	45.14	44.28	---	---	---	---	---	---	---	---	---	---
18	45.14	44.32	---	---	---	---	---	---	---	---	---	---
19	45.12	44.26	---	---	---	---	---	---	---	---	---	---
20	45.17	44.26	---	---	---	---	---	---	---	---	---	---
21	45.18	44.16	---	---	---	---	---	---	---	---	---	---
22	45.24	49.83	---	42.51	---	---	---	---	---	---	---	---
23	45.29	43.83	---	---	---	---	---	---	---	---	---	---
24	45.30	43.69	---	---	---	---	---	---	---	---	---	---
25	45.26	43.72	---	---	---	---	---	---	---	---	---	---
26	45.09	43.72	---	---	---	---	---	---	---	---	---	---
27	45.11	43.64	---	---	---	---	---	---	---	---	---	---
28	45.06	43.61	---	---	---	---	---	---	---	---	---	---
29	45.02	43.47	---	---	---	---	---	---	---	---	---	---
30	44.88	43.43	---	---	---	---	---	---	---	---	---	---
31	44.85	---	---	---	---	---	---	---	---	---	---	---
MAX	45.53	49.83	43.79	42.51	---	---	---	---	---	---	---	---
CAL YR 2002		LOW 49.83										
WTR YR 2003		LOW 49.83										



**GROUND-WATER RECORDS
Madison County**

395357083304400. LOCAL NUMBER, M-4

LOCATION.—Latitude 39°53'57", longitude 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.—Electronic data logger, 60-minute log interval.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

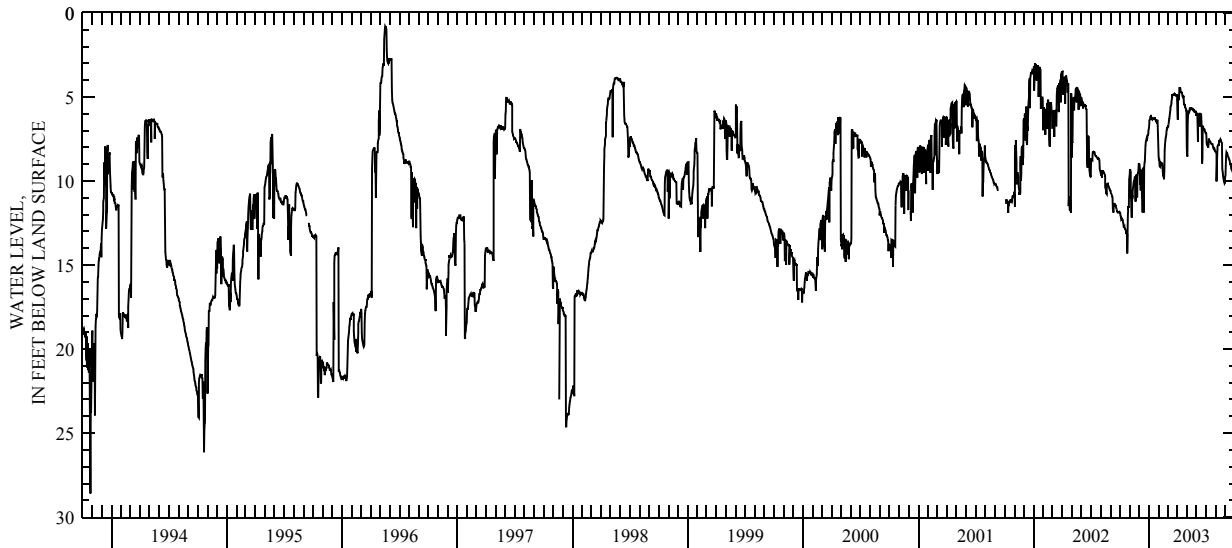
PERIOD OF RECORD.—June 1983 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 28.6 ft below land-surface datum, Oct. 26, 1993; minimum daily low 0.50 ft above land-surface datum, May 13, 14, and 16, 1989.

**DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES**

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	11.91	9.57	9.01	6.83	8.52	6.81	4.91	7.95	6.05	7.14	8.28	9.66
2	11.92	9.42	8.99	6.56	8.72	6.75	6.35	8.45	6.05	7.19	8.31	9.03
3	12.05	9.29	9.09	6.39	8.72	6.75	5.09	8.55	5.99	7.67	8.34	8.49
4	12.11	9.47	10.22	6.35	9.06	6.63	5.04	6.51	5.99	7.83	10.04	8.30
5	12.23	10.97	9.29	6.21	9.15	6.48	5.15	6.11	7.67	7.88	8.54	8.33
6	12.20	11.01	10.56	6.21	9.16	6.32	5.15	5.88	6.09	7.92	8.12	8.36
7	12.24	12.17	9.36	6.20	8.88	6.29	5.00	5.88	6.05	7.95	7.91	8.39
8	12.29	12.12	9.42	6.06	8.90	6.17	4.46	5.91	6.08	8.01	7.86	8.46
9	12.30	10.86	9.42	6.24	8.96	5.90	4.46	5.88	6.15	7.80	7.86	8.54
10	12.35	10.91	11.04	6.33	9.05	5.73	4.46	5.75	6.14	7.47	7.79	8.59
11	12.47	10.55	10.58	6.33	9.06	5.60	4.50	5.63	5.97	7.55	7.73	8.63
12	12.54	10.42	11.87	6.35	8.90	5.48	4.67	5.69	5.94	7.62	7.62	8.69
13	12.72	10.26	9.41	6.23	9.09	5.39	4.73	5.72	6.76	7.65	7.62	8.74
14	12.72	10.09	9.26	6.26	9.42	5.30	4.74	5.69	5.99	7.67	7.62	8.79
15	12.69	9.99	9.20	6.29	9.66	5.04	4.73	5.66	6.05	7.67	7.59	8.90
16	12.78	9.96	11.88	6.29	9.67	4.97	4.76	5.69	6.05	7.74	7.53	8.99
17	12.83	9.83	9.14	6.27	9.76	4.86	4.84	5.70	6.41	7.77	7.62	9.06
18	12.85	9.86	8.92	6.24	9.89	4.86	4.98	5.70	6.94	7.79	7.67	9.08
19	12.90	9.74	8.82	6.23	9.41	4.86	5.02	5.75	8.96	7.81	7.69	9.26
20	12.96	11.22	8.43	6.29	8.21	4.86	5.00	5.81	8.61	7.81	7.74	9.31
21	13.15	9.71	7.88	6.33	7.85	4.83	4.91	5.81	6.72	7.81	7.74	9.34
22	13.11	9.67	7.68	6.35	7.61	4.84	5.34	5.76	6.80	7.86	9.27	9.33
23	13.15	9.67	7.64	6.41	7.44	4.84	5.46	5.75	6.84	7.94	9.56	9.45
24	13.17	9.62	7.51	6.45	7.34	4.82	5.48	5.77	6.92	8.03	9.65	9.48
25	14.31	10.98	7.46	6.36	7.23	4.86	5.42	5.84	6.92	8.09	9.76	9.56
26	12.00	9.67	7.49	6.48	6.99	4.86	5.61	5.90	6.92	8.09	9.87	9.56
27	11.70	9.53	7.38	6.51	6.87	4.88	5.67	5.91	6.98	8.06	9.99	9.48
28	11.57	9.49	7.26	6.36	6.86	4.84	5.69	5.87	7.05	8.12	10.05	9.30
29	11.57	9.36	7.25	6.54	---	4.95	5.79	5.87	7.10	8.17	10.11	9.38
30	11.49	9.00	7.16	7.05	---	4.95	5.81	5.88	7.14	8.21	10.08	9.41
31	9.90	---	7.02	7.92	---	4.91	---	6.03	---	8.24	9.74	---
MAX	14.31	12.17	11.88	7.92	9.89	6.81	6.35	8.55	8.96	8.24	10.11	9.66

CAL YR 2002 LOW 14.31
WTR YR 2003 LOW 14.31



GROUND-WATER RECORDS
Madison County

395740083255700. LOCAL NUMBER, M-3

LOCATION.—Latitude 39°57'40", longitude 83°25'57", Hydrologic Unit 05060002, 5.2 mi north of London, Ohio. 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—November 1974 to October 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 and Mar. 19, 1975.

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

WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL
10/17/02	7.20
04/29/03	5.07

GROUND-WATER RECORDS
Mahoning County

299

410042080453800. LOCAL NUMBER, MA-1

LOCATION.—Latitude 41°00'42", longitude 80°45'38", Hydrologic Unit, 05030103, in county fairgrounds at south edge of Canfield, Ohio. Owner: City of Canfield.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR. 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

WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL
10/23/02	36.42
05/28/03	34.32

GROUND-WATER RECORDS
Marion County

403413083170500. LOCAL NUMBER, MN-4

LOCATION.—Latitude 40°34'13", longitude 83°17'05", Hydrologic Unit 05060001, 1.9 mi southeast of New Bloomington, Ohio. 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.—Electronic data logger, 60-minute log interval.

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.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR. Influenced by seasonal water demand for nearby wildlife refuge.

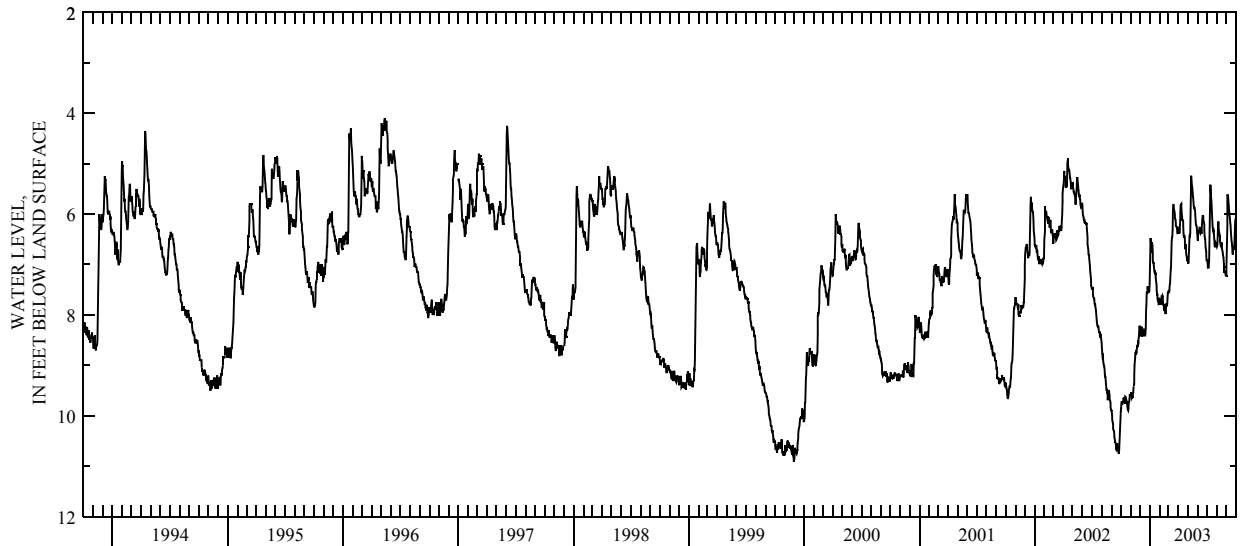
PERIOD OF RECORD.—January 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 32.57 ft below land-surface datum, Sept. 14, 1983; minimum daily low, 2.94 ft below land-surface datum, Jan. 1, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	9.91	9.57	8.25	7.17	7.69	7.55	6.29	6.90	6.50	6.92	6.65	7.08
2	9.84	9.56	8.28	6.69	7.71	7.51	6.30	6.94	6.53	6.89	6.63	6.80
3	9.75	9.56	8.41	6.48	7.69	7.56	6.33	6.98	6.47	6.94	6.59	6.23
4	9.71	9.65	8.41	6.56	7.73	7.49	6.32	6.93	6.32	7.06	6.41	5.63
5	9.76	9.65	8.27	6.59	7.80	7.40	6.36	6.76	6.36	7.06	6.23	5.61
6	9.76	9.62	8.25	6.75	7.76	7.36	6.36	6.56	6.36	7.08	6.15	5.70
7	9.71	9.65	8.25	6.76	7.67	7.25	6.06	6.41	6.27	7.01	6.30	5.73
8	9.74	9.59	8.40	6.56	7.68	7.11	5.97	6.42	6.27	6.93	6.35	5.79
9	9.67	9.53	8.43	6.61	7.65	7.04	5.81	6.39	6.35	6.71	6.38	5.88
10	9.67	9.42	8.33	6.78	7.62	6.80	5.79	6.11	6.38	6.29	6.42	5.97
11	9.65	9.38	8.28	6.92	7.64	6.53	5.79	5.49	6.36	5.67	6.44	6.03
12	9.65	9.38	8.36	6.98	7.76	6.47	5.96	5.24	6.33	5.42	6.54	6.09
13	9.75	9.20	8.34	6.96	7.80	6.44	6.08	5.34	6.39	5.52	6.61	6.17
14	9.76	8.99	8.30	7.01	7.80	6.32	6.11	5.42	6.36	5.66	6.66	6.21
15	9.62	8.84	8.28	7.14	7.91	5.93	6.11	5.46	6.26	5.72	6.65	6.35
16	9.63	8.82	8.41	7.14	7.91	5.82	6.15	5.52	6.09	5.90	6.56	6.44
17	9.69	8.74	8.41	7.17	7.80	5.82	6.23	5.60	6.08	6.03	6.61	6.53
18	9.72	8.79	8.37	7.19	7.88	5.90	6.38	5.67	6.02	6.14	6.68	6.56
19	9.71	8.73	8.27	7.16	7.92	5.93	6.45	5.75	6.06	6.26	6.74	6.63
20	9.75	8.74	7.92	7.26	7.98	5.96	6.45	5.84	6.14	6.30	6.78	6.75
21	9.78	8.63	7.79	7.36	7.91	6.02	6.44	5.88	6.15	6.33	6.80	6.80
22	9.84	8.59	7.56	7.43	7.77	6.08	6.48	5.87	6.20	6.32	6.86	6.71
23	9.89	8.64	7.56	7.51	7.83	6.11	6.68	5.88	6.33	6.39	6.98	6.68
24	9.90	8.58	7.55	7.61	7.80	6.17	6.68	5.93	6.44	6.50	7.05	6.71
25	9.86	8.54	7.43	7.58	7.79	6.24	6.60	6.03	6.51	6.60	7.05	6.65
26	9.71	8.55	7.56	7.69	7.69	6.26	6.75	6.15	6.54	6.66	7.13	6.61
27	9.74	8.45	7.55	7.74	7.56	6.26	6.83	6.21	6.66	6.60	7.13	6.38
28	9.67	8.39	7.49	7.67	7.55	6.24	6.84	6.23	6.74	6.57	7.17	6.21
29	9.63	8.24	7.55	7.79	---	6.38	6.92	6.24	6.83	6.59	7.16	6.11
30	9.57	8.21	7.53	7.79	---	6.38	6.93	6.32	6.92	6.61	7.22	6.09
31	9.62	---	7.43	7.76	---	6.32	---	6.39	---	6.63	7.22	---
MAX	9.91	9.65	8.43	7.79	7.98	7.56	6.93	6.98	6.92	7.08	7.22	7.08

CAL YR 2002 LOW 10.76
WTR YR 2003 LOW 9.91



GROUND-WATER RECORDS
Marion County

403443083230400. LOCAL NUMBER, MN-1

LOCATION.—Latitude 40°34'43", longitude 83°23'04", Hydrologic Unit 05060001, State Route 37 at Baptist Church in LaRue, Ohio. Owner: Village of LaRue.

AQUIFER.—Limestone of Silurian Age.

WELL CHARACTERISTICS.—Drilled unused artesian well, diameter 4 in., depth 100 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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.

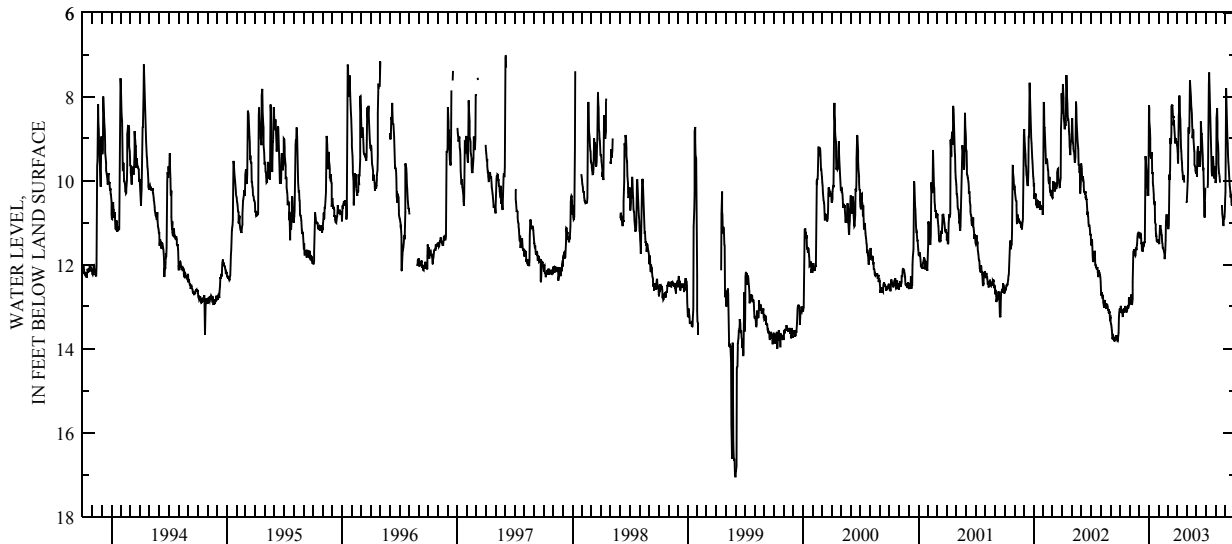
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—March 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 17.04 ft below land-surface datum, May 31 and June 1, 1999; minimum daily low, 5.67 ft below land-surface datum, Jan. 23, 1959.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	13.07	12.90	11.27	8.21	11.40	11.03	9.16	10.52	9.66	---	10.06	10.28
2	13.04	12.84	11.27	8.27	11.46	11.07	9.38	10.38	9.91	---	9.89	9.11
3	13.07	12.93	11.37	8.58	11.51	11.15	9.47	10.17	9.80	---	9.26	7.80
4	12.98	12.92	11.27	8.78	11.34	11.13	9.59	10.02	9.34	---	8.51	8.10
5	13.15	12.90	11.24	9.01	11.13	11.07	9.20	9.75	9.18	---	8.28	8.34
6	13.05	12.71	11.30	9.36	11.09	10.46	8.46	8.82	9.29	10.17	8.63	8.56
7	13.13	12.74	11.27	9.45	11.06	9.86	8.33	8.73	9.41	10.09	9.00	8.99
8	13.14	12.81	11.51	9.48	11.19	9.99	7.98	8.88	9.42	9.54	9.16	9.11
9	13.15	12.96	11.48	9.38	11.19	9.75	8.25	8.82	9.30	8.67	9.38	9.41
10	13.25	12.81	11.67	9.33	11.28	9.00	8.46	8.03	9.67	7.73	9.60	9.56
11	13.10	12.41	11.52	9.38	11.30	9.11	8.54	7.62	9.60	7.43	9.84	9.67
12	13.08	11.99	11.69	9.84	11.46	9.11	8.94	7.74	9.66	7.76	9.83	9.84
13	13.11	11.70	11.58	9.81	11.49	8.85	9.21	7.85	9.63	8.17	9.86	9.98
14	13.14	11.69	11.46	10.04	11.61	8.24	9.29	8.00	9.20	8.58	10.05	10.09
15	13.04	11.63	11.54	10.11	11.58	8.19	9.48	8.22	8.59	8.79	---	10.16
16	13.07	11.69	11.55	10.34	11.64	8.22	9.56	8.30	8.74	9.09	---	10.26
17	13.08	11.63	11.49	10.41	11.66	8.21	9.76	8.41	8.90	9.34	---	10.40
18	13.02	11.78	11.45	10.50	11.70	8.48	9.80	8.70	8.90	9.54	---	10.34
19	12.98	11.79	11.48	10.58	11.72	8.48	9.95	8.81	9.11	9.80	---	10.40
20	13.07	11.76	10.44	10.50	11.87	8.69	9.95	8.99	9.27	9.90	10.58	10.56
21	13.04	11.61	9.42	11.01	11.78	8.56	9.99	8.78	9.42	9.74	10.62	10.59
22	13.14	11.61	9.49	11.04	11.64	8.61	9.87	8.84	9.75	9.56	10.79	10.52
23	13.10	11.66	9.60	11.15	11.42	8.74	10.05	9.01	9.69	9.42	10.92	10.32
24	13.07	11.54	9.72	11.33	10.97	8.97	---	9.26	10.04	9.57	10.98	10.26
25	13.05	11.48	9.83	11.31	10.89	9.09	---	9.31	10.44	9.71	11.06	10.11
26	12.99	11.33	10.16	11.43	10.80	9.11	---	9.62	10.82	9.83	11.06	10.13
27	12.96	11.27	10.17	11.46	10.89	8.99	---	9.67	10.88	9.95	10.89	9.98
28	13.04	11.27	10.32	11.40	11.01	9.09	---	9.67	10.47	9.78	10.92	9.08
29	12.96	11.24	10.31	11.46	---	9.05	---	9.75	10.17	9.66	10.86	8.99
30	12.81	11.24	10.35	11.46	---	9.11	10.50	9.83	---	9.87	10.73	8.96
31	12.78	---	9.99	11.48	---	9.12	---	9.78	---	9.89	10.44	---
MAX	13.25	12.96	11.69	11.48	11.87	11.15	10.50	10.52	10.88	10.17	11.06	10.59
CAL YR 2002		LOW 13.83										
WTR YR 2003		LOW 13.25										



GROUND-WATER RECORDS
Marion County

403601083110400. LOCAL NUMBER, MN-2

LOCATION.—Latitude 40°36'01", longitude 83°11'04", Hydrologic Unit 05060001, 2 mi west of Marion, Ohio. Owner: City of Marion.

AQUIFER.—Limestone of Silurian Age.

WELL CHARACTERISTICS.—Drilled unused artesian well, diameter 12 in., depth 67 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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.

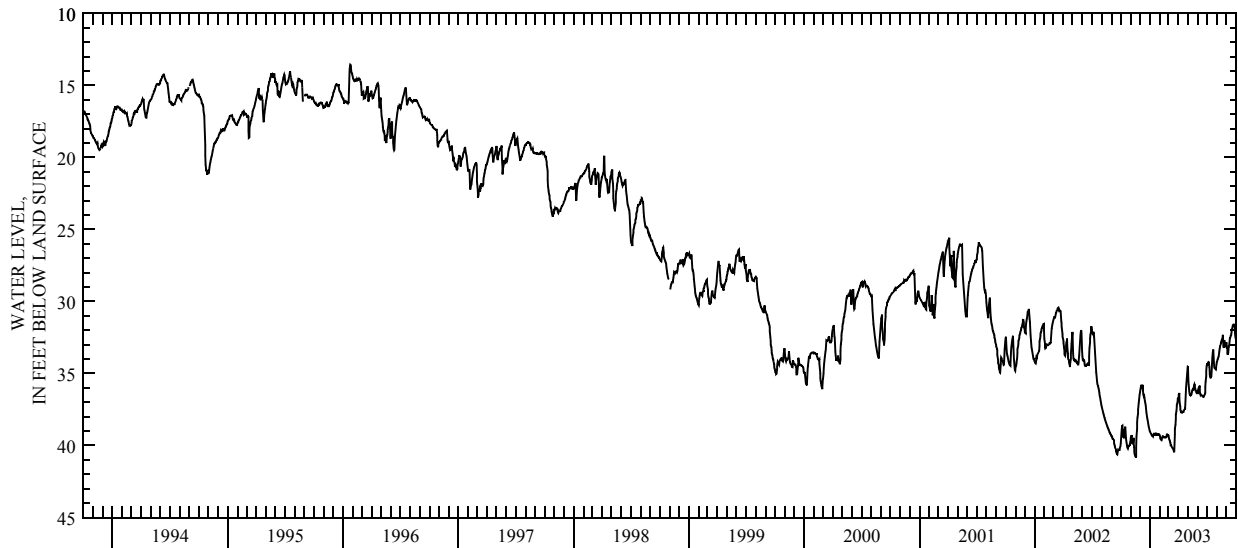
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—May 1950 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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39.82	39.57	36.32	39.05	39.27	39.30	36.63	34.53	36.28	34.37	34.23	32.87
2	39.51	39.45	36.15	39.09	39.39	39.42	36.57	34.55	36.32	34.29	34.14	33.09
3	39.15	39.36	36.03	39.13	39.47	39.54	36.47	35.37	36.17	34.37	34.05	33.24
4	38.85	39.27	35.88	39.18	39.53	39.63	36.36	35.76	36.05	34.38	33.99	33.54
5	38.64	39.62	35.79	39.21	39.56	39.66	36.68	35.99	35.99	34.22	33.93	33.68
6	38.63	39.85	35.94	39.25	39.60	39.75	37.02	36.21	35.96	34.20	33.87	33.54
7	38.94	39.87	35.99	39.27	39.62	39.82	37.29	36.38	35.90	34.23	33.80	33.42
8	39.27	39.90	36.03	39.32	39.51	39.98	37.47	36.48	35.85	34.37	33.60	33.25
9	39.43	39.78	35.79	39.36	39.43	39.99	37.59	36.50	36.33	34.56	33.42	33.09
10	39.45	39.47	36.06	39.38	39.39	40.05	37.71	36.53	36.47	35.03	33.27	32.97
11	39.23	39.82	36.35	39.27	39.36	40.10	37.75	36.51	36.42	35.21	33.15	32.76
12	39.03	40.14	36.56	39.23	39.36	40.13	37.71	36.48	36.45	35.28	33.06	32.53
13	38.88	40.38	36.60	39.18	39.41	40.18	37.68	36.41	36.50	35.28	32.99	32.50
14	38.79	40.57	36.56	39.17	39.42	40.18	37.68	36.32	36.51	35.21	32.91	32.43
15	38.70	40.68	36.68	39.21	39.45	40.20	37.65	36.18	36.54	35.18	32.85	32.35
16	39.09	40.75	36.84	39.20	39.45	40.22	37.65	36.12	36.57	34.82	32.73	32.30
17	39.42	40.80	36.99	39.23	39.41	40.31	37.68	36.07	36.59	34.32	32.64	32.13
18	39.65	40.80	37.08	39.21	39.42	40.41	37.65	36.09	36.60	33.92	32.60	31.98
19	39.80	40.16	37.23	39.23	39.43	40.46	37.57	36.12	36.62	33.66	32.53	31.83
20	39.93	39.39	37.47	39.24	39.45	39.88	37.52	35.96	36.62	33.44	32.30	31.77
21	40.08	38.84	37.68	39.25	39.43	39.25	37.47	35.85	36.57	33.33	32.38	31.68
22	40.17	38.40	37.86	39.24	39.41	38.85	37.46	35.76	36.53	33.78	33.10	31.62
23	40.23	38.07	38.00	39.24	39.35	38.53	37.44	35.81	36.53	34.25	33.21	31.63
24	40.13	37.77	38.13	39.24	39.18	38.16	37.03	35.99	36.43	34.53	32.82	31.63
25	40.05	37.52	38.24	39.23	39.24	37.85	36.42	36.09	36.33	34.62	32.70	31.61
26	40.02	37.28	38.37	39.24	39.27	37.59	35.96	36.18	35.94	34.62	32.76	31.56
27	40.02	37.05	38.50	39.24	39.30	37.31	35.61	36.25	35.58	34.67	32.91	31.82
28	40.00	36.85	38.64	39.21	39.30	37.17	35.31	36.30	35.19	34.71	32.99	32.21
29	40.00	36.63	38.75	39.23	---	37.05	35.06	36.36	34.82	34.73	33.07	32.45
30	39.92	36.43	38.85	39.23	---	36.85	34.78	36.39	34.53	34.53	33.10	32.58
31	39.72	---	38.93	39.23	---	36.72	---	36.36	---	34.35	32.82	---
MAX	40.23	40.80	38.93	39.38	39.62	40.46	37.75	36.53	36.62	35.28	34.23	33.68
CAL YR 2002	LOW 40.80											
WTR YR 2003	LOW 40.80											



GROUND-WATER RECORDS
Medina County

410032081422900. LOCAL NUMBER, MD-5

LOCATION.—Latitude 41°00'32", longitude 81°42'29", Hydrologic Unit 05040001, near Wadsworth, Ohio. Owner: City of Wadsworth.

AQUIFER.—Sandstone of Mississippian Age.

WELL CHARACTERISTICS.—Drilled observation well, diameter 12 in., depth 237 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 1,155 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 (ODNR), Division of Water.

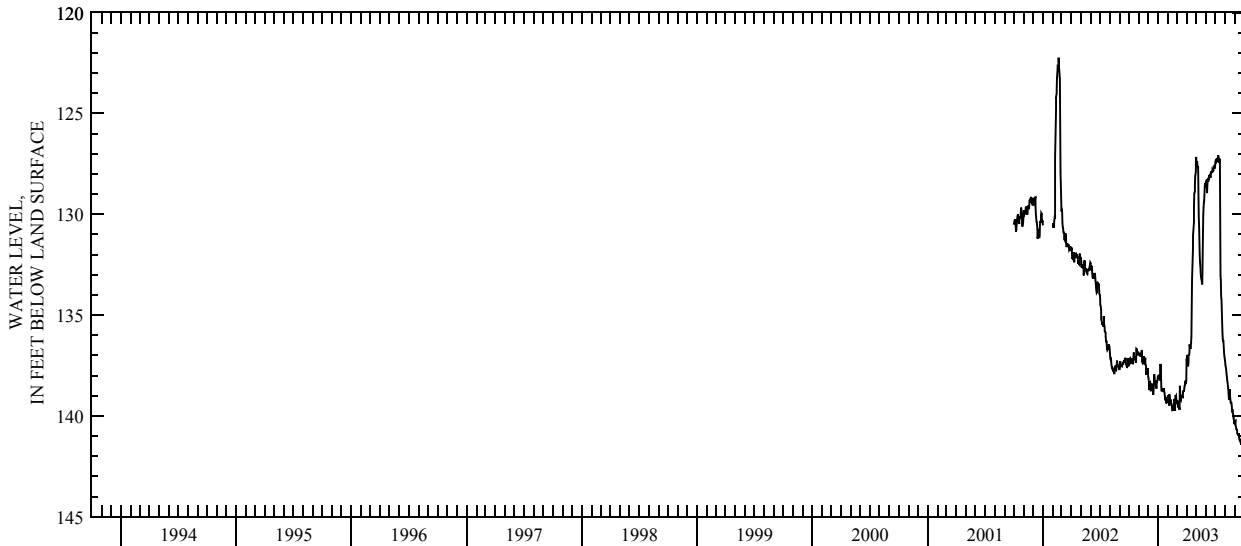
PERIOD OF RECORD.—October 2001 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 141.79 ft below land-surface datum, Sept. 30, 2003; minimum daily low, 122.25 ft below land-surface datum, Feb. 20, 2002.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	137.33	136.97	138.04	138.08	138.99	139.25	137.17	127.38	128.61	127.65	137.25	140.34
2	137.31	136.97	138.26	138.01	139.04	139.26	137.33	127.16	128.64	127.41	137.43	140.26
3	137.17	137.01	138.66	138.00	139.01	139.42	137.12	127.44	128.54	127.26	137.54	140.24
4	137.14	137.03	138.66	138.09	139.29	139.25	136.97	127.50	128.28	127.31	137.61	140.45
5	137.41	137.03	138.33	138.09	139.50	139.34	137.39	127.38	128.96	127.40	137.76	140.61
6	137.41	136.89	138.35	138.21	138.93	139.59	137.54	127.61	128.52	127.35	137.94	140.67
7	137.34	137.07	138.33	138.21	139.22	139.40	137.31	127.68	128.34	127.29	138.08	140.66
8	137.41	136.95	138.78	137.43	139.34	139.51	137.01	127.68	128.19	127.29	138.24	140.73
9	137.26	136.86	138.78	137.49	139.31	139.58	136.95	129.32	128.29	127.14	138.36	140.85
10	137.26	136.73	138.56	138.09	139.19	139.70	136.83	130.14	128.31	127.14	138.50	140.91
11	137.22	137.29	138.38	138.57	139.22	138.51	136.47	130.54	128.10	127.07	138.63	140.96
12	137.13	137.34	138.60	138.78	139.39	138.80	136.54	131.39	128.09	127.31	138.90	140.89
13	137.40	137.33	138.59	138.63	139.50	139.19	136.70	132.04	128.06	127.38	139.11	140.91
14	137.41	137.21	138.47	138.69	139.53	139.23	136.68	132.38	128.14	127.38	139.19	140.91
15	137.07	137.14	138.47	138.76	139.74	139.07	136.39	132.56	128.17	127.28	138.67	141.03
16	136.86	137.14	138.90	138.78	139.74	139.04	136.08	132.91	128.19	127.29	138.74	141.16
17	137.06	137.06	138.96	138.78	139.49	139.02	135.79	133.10	128.13	131.13	139.07	141.27
18	137.12	137.45	138.71	138.78	139.53	139.11	133.80	133.22	127.92	133.05	139.23	141.23
19	137.04	137.41	138.36	138.63	139.61	139.04	133.26	133.26	127.88	133.26	139.35	141.21
20	137.16	137.26	137.94	138.76	139.70	139.05	132.51	133.41	127.94	134.10	139.36	141.41
21	137.21	137.12	138.16	138.87	139.51	138.79	131.67	133.49	127.89	134.22	139.35	141.44
22	137.22	137.37	138.36	139.04	139.16	138.79	131.07	132.79	127.83	134.87	139.49	141.24
23	137.37	137.52	138.44	139.05	139.64	138.79	130.85	130.80	127.80	135.38	139.70	141.33
24	136.68	137.66	138.44	139.25	139.73	138.76	130.41	130.08	127.85	135.86	139.79	141.38
25	136.70	137.92	138.24	139.16	139.02	138.59	129.64	129.67	127.82	136.17	139.76	141.42
26	136.76	137.92	138.63	139.22	139.02	138.48	128.97	129.44	127.64	136.29	139.80	141.42
27	136.91	137.92	138.63	139.39	138.99	138.45	128.89	129.29	127.59	136.29	139.98	141.33
28	136.89	137.92	138.35	139.10	139.23	138.27	128.55	128.99	127.62	136.54	140.11	141.47
29	136.88	137.64	138.30	139.28	---	138.39	128.09	128.58	127.66	136.85	140.10	141.76
30	136.82	137.78	138.24	139.29	---	138.39	127.89	128.48	127.73	137.03	140.39	141.79
31	136.94	---	138.08	139.16	---	138.24	---	128.45	---	137.13	140.40	---
MAX	137.41	137.92	138.96	139.39	139.74	139.70	137.54	133.49	128.96	137.13	140.40	141.79

CAL YR 2002 LOW 138.96
WTR YR 2003 LOW 141.79



GROUND-WATER RECORDS
Medina County**410120081431800. LOCAL NUMBER, MD-3**

LOCATION.—Latitude 41°01'20", longitude 81°43'18", Hydrologic Unit 05040001, Auble Street in Wadsworth, Ohio. Owner: City of Wadsworth.
AQUIFER.—Sandstone of Mississippian Age.

WELL CHARACTERISTICS.—Drilled unused artesian well, diameter 12 in., depth 275 ft, cased.

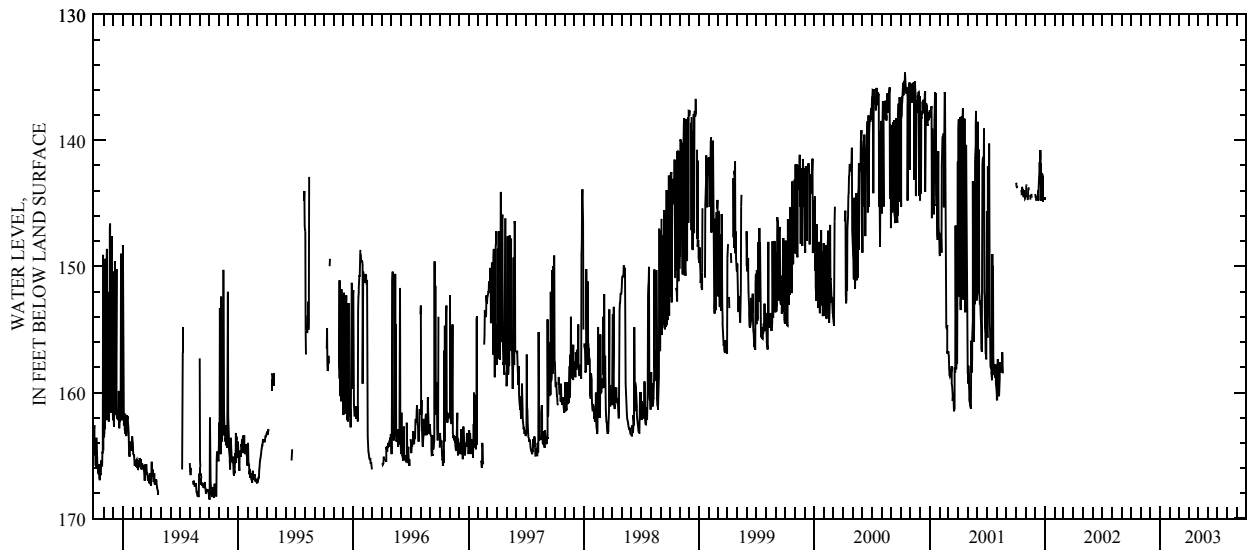
INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 1,180 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR. Discontinued Jan. 1, 2002, well moved to MD-5 (410032081422900).

PERIOD OF RECORD.—February 1974 to January 2002.

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.



GROUND-WATER RECORDS
Mercer County

402833084375200. LOCAL NUMBER, MR-2

LOCATION.—Latitude 40°28'33", longitude 84°37'52", Hydrologic Unit 05120101, at AVCO Manufacturing Company building in Coldwater, Ohio. Owner: New Idea Farm Equipment Company

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.

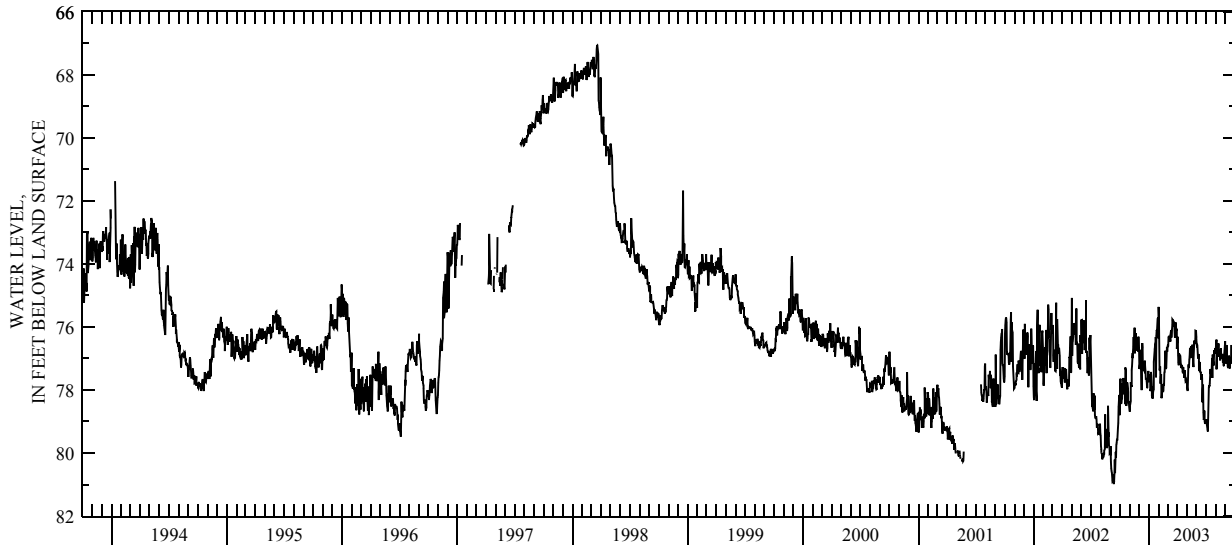
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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 2002 TO SEPTEMBER 2003

DAY	DAILY MAXIMUM VALUES											
	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	78.71	78.69	76.75	77.57	75.37	76.65	76.49	77.70	76.40	79.04	76.76	76.95
2	77.73	78.50	77.34	77.50	75.63	76.56	76.31	77.91	76.65	78.93	76.51	76.97
3	77.64	78.48	77.23	77.71	76.35	76.61	76.34	78.01	76.56	79.03	76.40	77.16
4	78.05	78.35	77.16	77.70	77.38	76.32	76.91	78.00	76.57	79.11	77.35	76.78
5	78.44	77.75	76.73	77.66	77.30	76.31	77.11	77.50	76.96	79.17	76.76	76.57
6	78.38	77.88	77.09	78.03	77.26	76.45	77.21	77.21	76.98	79.26	76.60	77.13
7	78.28	77.88	77.12	77.98	77.80	76.45	76.83	77.21	76.99	79.32	76.65	77.00
8	78.27	77.36	77.58	77.43	77.57	76.39	76.96	77.30	76.86	78.73	76.68	77.25
9	77.83	77.24	78.01	77.54	77.50	76.36	76.92	77.04	77.30	78.30	76.56	77.29
10	77.79	76.83	76.81	78.00	78.26	76.46	76.88	76.93	77.39	77.91	76.52	77.28
11	78.06	76.99	76.51	78.17	78.18	76.26	76.93	76.66	77.25	77.84	76.87	77.03
12	77.62	76.77	76.65	78.26	77.87	76.10	77.14	76.81	77.11	77.88	76.95	76.91
13	77.74	76.62	77.38	77.90	77.87	76.34	77.30	76.99	77.42	77.78	76.82	77.00
14	78.14	76.32	77.09	78.27	77.87	76.34	77.24	76.79	77.44	77.59	76.85	77.27
15	77.83	76.70	77.14	78.05	78.06	76.09	77.22	76.62	77.49	77.34	77.06	77.31
16	77.78	76.30	77.38	77.98	78.01	75.92	77.24	76.87	77.67	77.50	76.76	77.04
17	77.90	76.02	77.40	77.11	77.80	75.76	77.26	76.73	77.57	77.39	76.67	77.16
18	78.45	76.84	77.29	76.97	77.86	75.79	77.41	76.67	77.50	77.37	77.02	77.11
19	77.28	76.64	77.07	76.69	77.45	75.83	77.47	76.56	77.62	77.33	76.87	76.99
20	77.36	76.41	77.27	76.71	77.42	75.80	77.27	76.57	78.39	76.99	76.94	76.57
21	78.36	76.20	77.40	76.55	77.05	75.91	77.40	77.14	77.97	77.62	76.86	77.08
22	78.51	76.43	77.65	76.47	76.75	75.92	77.47	77.27	77.83	76.88	76.89	76.82
23	78.34	76.47	77.65	76.32	77.00	75.91	77.62	77.08	78.72	77.05	77.12	76.78
24	78.17	76.57	77.66	77.60	77.33	76.34	77.47	76.57	78.95	77.12	77.14	76.85
25	77.76	76.75	77.74	76.28	77.29	76.04	77.38	76.43	78.91	77.22	76.97	76.70
26	77.98	76.74	77.94	76.10	76.90	76.01	77.54	76.53	78.66	77.02	77.22	76.87
27	78.07	76.75	77.91	76.13	76.63	75.88	77.69	76.51	78.98	76.74	77.24	76.82
28	78.39	76.75	77.61	75.92	76.78	75.86	77.67	76.36	79.07	76.80	76.86	76.71
29	78.35	76.31	77.68	75.72	---	76.10	77.77	76.11	78.98	76.85	76.76	76.58
30	78.41	76.58	77.39	75.70	---	76.08	77.70	76.13	78.98	76.67	76.60	76.74
31	78.48	---	77.58	76.36	---	76.70	---	76.32	---	76.74	76.45	---
MAX	78.71	78.69	78.01	78.27	78.26	76.70	77.77	78.01	79.07	79.32	77.35	77.31
CAL YR 2002	LOW 80.98											
WTR YR 2003	LOW 79.32											



GROUND-WATER RECORDS
Miami County

395848084085500. LOCAL NUMBER, MI-3

LOCATION.—Latitude 39°58'48", longitude 84°08'55", Hydrologic Unit 05080001, 2 mi northeast of Tipp City, Ohio. 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.—Electronic data logger, 60-minute log interval.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

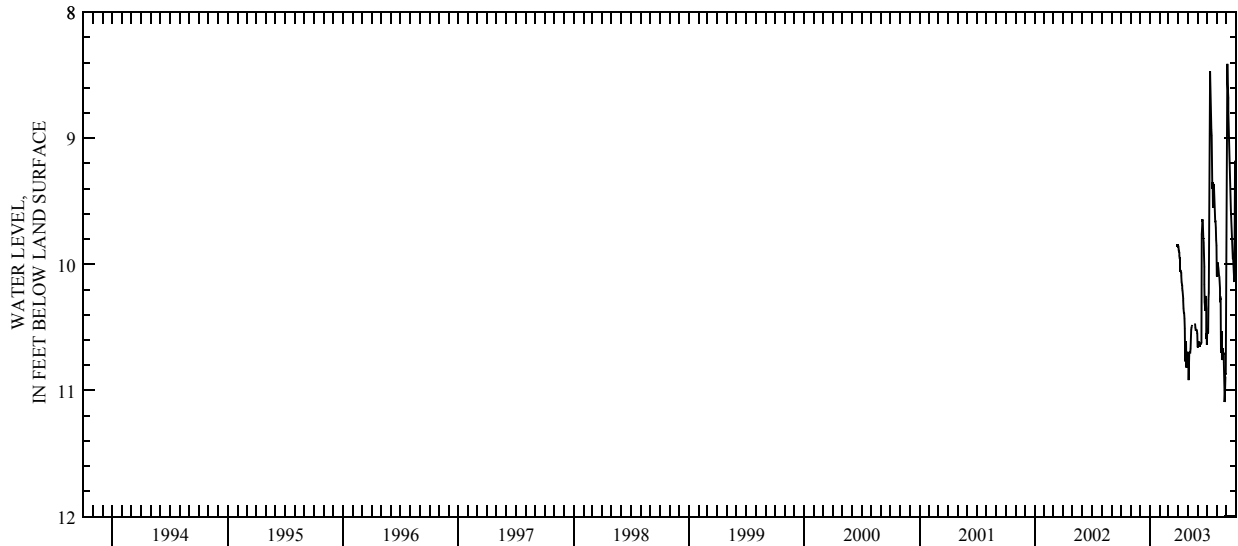
PERIOD OF RECORD.—October 1966 to October 1982 continuous, periodic November 1982 to March 2003, continuous thereafter.

EXTREMES FOR PERIOD OF RECORD—Maximum daily low, 13.45 ft below land-surface datum, July 25, 1988; minimum daily low, 7.53 ft below land-surface datum, Feb. 25, 1975.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	9.86	10.71	10.65	10.64	10.09	9.67
2	---	---	---	---	---	---	9.88	10.74	10.66	10.53	10.10	8.93
3	---	---	---	---	---	---	9.89	10.75	10.65	10.51	9.99	8.41
4	---	---	---	---	---	---	9.91	10.92	10.61	10.55	9.99	8.43
5	---	---	---	---	---	---	9.93	10.81	10.63	10.54	10.01	8.57
6	---	---	---	---	---	---	9.95	10.70	10.65	10.28	10.03	8.68
7	---	---	---	---	---	---	9.95	10.70	10.65	10.23	10.06	8.79
8	---	---	---	---	---	---	10.05	10.70	10.65	9.91	10.09	8.91
9	---	---	---	---	---	---	10.05	10.70	10.64	9.68	10.10	9.01
10	---	---	---	---	---	---	10.07	10.67	10.63	8.65	10.15	9.09
11	---	---	---	---	---	---	10.09	10.59	10.63	8.47	10.19	9.17
12	---	---	---	---	---	---	10.14	10.52	10.63	8.56	10.28	9.26
13	---	---	---	---	---	---	10.17	10.50	10.62	8.67	10.27	9.37
14	---	---	---	---	---	---	10.19	10.49	10.19	8.81	10.58	9.46
15	---	---	---	---	---	---	10.21	10.48	9.76	8.93	10.70	9.57
16	---	---	---	---	---	---	10.27	---	9.66	8.98	10.64	9.62
17	---	---	---	---	---	---	10.29	---	9.65	9.08	10.53	9.68
18	---	---	---	---	---	---	10.35	---	9.65	9.40	10.76	9.73
19	---	---	---	---	---	---	10.38	---	9.80	9.35	10.72	9.79
20	---	---	---	---	---	---	10.39	---	9.79	9.55	10.67	9.86
21	11.84	---	---	---	---	---	10.43	---	9.83	9.52	10.71	9.95
22	---	---	---	---	---	---	10.51	---	10.02	9.37	10.71	9.95
23	---	---	---	---	---	---	10.74	---	10.16	9.37	10.70	10.00
24	---	---	---	---	---	---	10.77	10.47	10.30	9.44	10.78	10.05
25	---	---	---	---	---	---	10.61	10.50	10.37	9.50	11.00	10.11
26	---	---	---	---	---	---	10.63	10.52	10.30	9.59	11.09	10.14
27	---	---	---	---	---	9.84	10.82	10.52	10.25	9.66	11.08	9.98
28	---	---	---	---	---	9.85	10.76	10.52	10.35	9.66	10.89	9.18
29	---	---	---	---	---	9.85	10.70	10.52	10.59	9.71	10.87	9.21
30	---	---	---	---	---	9.85	10.70	10.53	10.55	9.81	10.87	9.28
31	---	---	---	---	---	9.86	---	10.55	---	9.85	9.67	---
MAX	11.84	---	---	---	---	9.86	10.82	10.92	10.66	10.64	11.09	10.14

WTR YR 2003 LOW 11.84



GROUND-WATER RECORDS
Montgomery County

394012084151700. LOCAL NUMBER, MT-55

LOCATION.—Latitude 39°40'12", longitude 84°15'17", Hydrologic Unit 05080002, Elm Street in West Carrollton, Ohio. 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

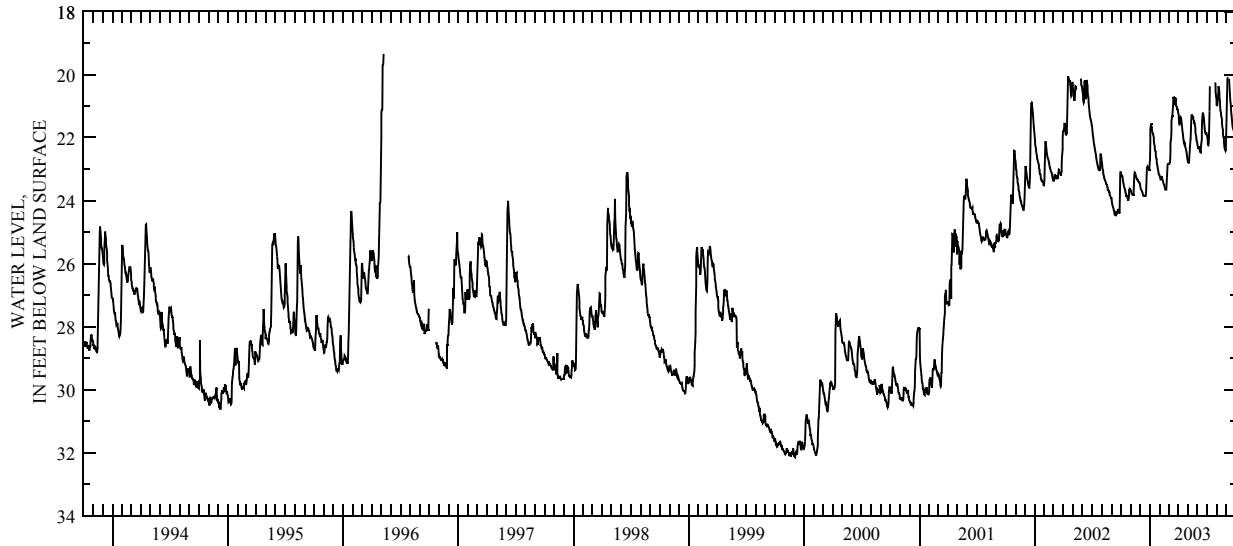
PERIOD OF RECORD.—April 1970 to current year.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	23.11	23.67	23.49	22.70	23.20	22.84	21.19	22.74	22.23	21.92	20.96	21.88
2	23.16	23.69	23.56	22.18	23.25	22.83	21.29	22.79	22.29	21.95	20.97	21.57
3	23.20	23.71	23.63	21.74	23.28	22.83	21.39	22.80	22.31	22.02	20.89	20.93
4	23.20	23.78	23.65	21.58	23.32	22.81	21.50	22.80	22.31	22.23	20.83	20.13
5	23.21	23.79	23.67	21.58	23.32	22.80	21.58	22.78	22.31	22.24	20.65	20.08
6	23.24	23.80	23.69	21.66	23.26	22.72	21.57	22.62	22.32	22.21	20.44	---
7	23.33	23.80	23.70	21.67	23.22	22.43	21.44	22.43	22.37	22.10	20.37	---
8	23.39	23.81	23.73	21.74	23.27	22.16	21.39	22.27	22.41	21.75	20.46	---
9	23.45	23.81	23.76	21.83	23.31	22.03	21.35	22.15	22.44	21.17	20.59	20.14
10	23.50	23.81	23.80	21.85	23.34	21.80	21.37	22.03	22.46	20.37	20.71	20.33
11	23.55	23.68	23.83	21.86	23.35	21.48	21.45	21.78	22.47	---	20.85	20.51
12	23.59	23.41	23.86	21.90	23.40	21.33	21.55	21.45	22.32	---	21.00	20.67
13	23.63	23.19	23.86	21.99	23.44	21.33	21.63	21.27	22.21	---	21.13	20.83
14	23.65	23.10	23.85	22.09	23.48	21.28	21.74	21.28	22.04	---	21.21	20.90
15	23.68	23.11	23.85	22.19	23.50	21.00	21.83	21.31	21.75	---	21.26	21.08
16	23.73	23.13	23.84	22.28	23.51	20.80	21.91	21.31	21.47	---	21.33	21.21
17	23.79	23.17	23.85	22.36	23.57	20.70	22.01	21.33	21.31	---	21.42	21.30
18	23.82	23.22	23.85	22.40	23.62	20.77	22.09	21.35	21.20	---	21.55	21.41
19	23.84	23.27	23.83	22.45	23.65	20.86	22.13	21.44	21.24	---	21.65	21.54
20	23.84	23.29	23.69	22.55	23.65	20.92	22.18	21.52	21.30	---	21.76	21.64
21	23.86	23.30	23.39	22.63	23.65	20.94	22.16	21.52	21.36	---	21.87	21.69
22	23.90	23.34	23.05	22.69	23.65	20.93	22.21	21.49	21.46	---	21.96	21.72
23	23.95	23.34	22.93	22.78	23.46	20.75	22.28	21.54	21.60	---	22.03	21.75
24	23.99	23.34	22.91	22.84	23.25	20.77	22.32	21.63	21.72	---	22.12	21.79
25	23.99	23.38	22.95	22.88	23.02	20.92	22.35	21.73	21.81	---	22.23	21.86
26	23.88	23.40	22.96	22.96	22.86	21.00	22.40	21.84	21.86	---	22.32	21.90
27	23.73	23.41	22.96	23.01	22.81	21.03	22.45	21.94	21.88	20.24	22.36	21.91
28	23.66	23.41	22.97	23.06	22.84	21.10	22.52	22.01	21.87	20.38	22.38	21.61
29	23.66	23.41	23.03	23.13	---	21.11	22.60	22.08	21.83	20.55	22.41	21.33
30	23.63	23.46	23.03	23.17	---	21.11	22.67	22.13	21.88	20.70	22.38	21.34
31	23.64	---	22.94	23.18	---	21.11	---	22.18	---	20.84	22.16	---
MAX	23.99	23.81	23.86	23.18	23.65	22.84	22.67	22.80	22.47	22.24	22.41	21.91

CAL YR 2002 LOW 24.47
WTR YR 2003 LOW 23.99



GROUND-WATER RECORDS
Montgomery County

394025084162800. LOCAL NUMBER, MT-49

LOCATION.—Latitude 39°40'25", longitude 84°16'28", Hydrologic Unit 05080002, 1.2 mi west of city hall in West Carrollton, Ohio. 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.

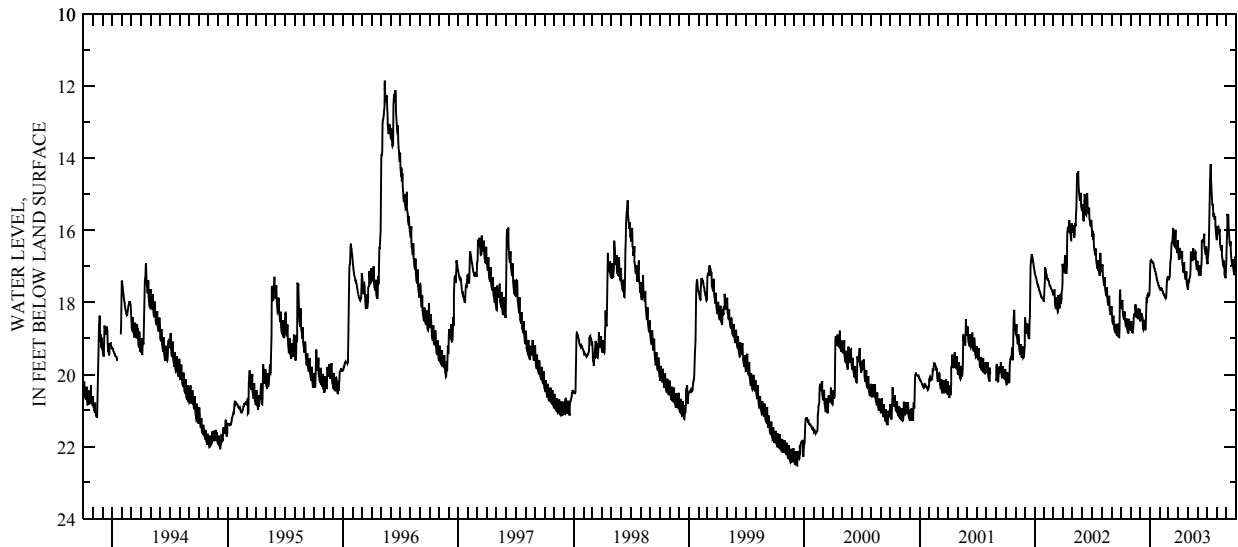
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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, 10.68 ft below land-surface datum, Jan. 23, 1959.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.02	18.78	18.23	17.34	17.61	17.32	16.63	17.60	16.85	16.81	16.27	16.70
2	18.07	18.62	18.53	16.99	17.61	17.34	16.70	17.65	17.10	16.85	16.24	16.42
3	18.14	18.52	18.40	16.84	17.62	17.35	16.76	17.51	17.09	16.94	15.94	15.86
4	18.17	18.78	18.34	16.83	17.65	17.32	16.81	17.37	17.16	16.74	15.95	15.54
5	17.99	18.77	18.33	16.82	17.63	17.27	16.63	17.44	17.19	16.69	15.91	15.59
6	17.93	18.83	18.36	16.86	17.59	17.06	16.48	17.38	17.22	16.57	15.90	15.59
7	18.26	18.84	18.35	16.86	17.62	16.86	16.64	17.31	17.20	16.44	15.99	15.57
8	18.32	18.86	18.40	16.86	17.63	16.81	16.65	17.29	16.97	16.16	16.05	15.94
9	18.39	18.70	18.41	16.88	17.65	16.75	16.68	17.25	17.18	15.70	16.03	16.08
10	18.43	18.57	18.65	16.87	17.68	16.44	16.73	17.07	17.26	15.16	15.96	16.22
11	18.48	18.44	18.72	16.89	17.69	16.35	16.78	16.59	17.16	14.58	16.27	16.33
12	18.30	18.34	18.76	16.91	17.74	16.35	16.63	16.66	17.13	14.38	16.38	16.41
13	18.25	18.31	18.73	16.96	17.76	16.32	16.57	16.76	16.95	14.16	16.47	16.42
14	18.50	18.32	18.59	17.00	17.77	16.21	16.89	16.83	16.76	14.60	16.50	16.31
15	18.54	18.34	18.48	17.05	17.79	16.00	16.96	16.83	16.30	14.81	16.56	16.63
16	18.61	18.18	18.72	17.06	17.79	15.94	17.03	16.83	16.28	15.01	16.52	16.73
17	18.66	18.06	18.74	17.12	17.82	16.23	17.11	16.74	16.30	15.16	16.41	16.82
18	18.69	18.31	18.75	17.14	17.86	16.34	17.17	16.50	16.29	15.31	16.70	16.89
19	18.52	18.38	18.71	17.16	17.87	16.41	17.01	16.77	16.31	15.29	16.80	16.97
20	18.45	18.41	18.40	17.21	17.89	16.45	16.89	16.78	16.35	15.29	16.89	16.97
21	18.72	18.41	18.03	17.26	17.86	16.47	17.14	16.77	16.27	15.56	16.94	16.80
22	18.78	18.44	17.85	17.30	17.84	16.38	17.23	16.78	16.09	15.62	17.01	17.01
23	18.84	18.29	18.00	17.34	17.66	15.99	17.31	16.82	16.42	15.52	17.01	17.08
24	18.85	18.17	17.82	17.39	17.44	16.37	17.33	16.66	16.52	15.57	16.84	17.14
25	18.85	18.42	17.79	17.38	17.35	16.49	17.37	16.59	16.58	15.70	17.12	17.21
26	18.58	18.47	17.82	17.45	17.30	16.53	17.26	16.61	16.62	15.66	17.21	17.24
27	18.46	18.31	17.80	17.47	17.30	16.53	17.14	16.90	16.66	15.61	17.26	17.19
28	18.70	18.21	17.78	17.49	17.34	16.61	17.45	16.97	16.61	15.87	17.31	16.73
29	18.69	18.17	17.82	17.54	---	16.61	17.53	17.05	16.45	16.02	17.33	16.88
30	18.72	18.22	17.81	17.55	---	16.27	17.57	17.10	16.75	16.13	17.25	16.96
31	18.74	---	17.67	17.56	---	16.53	---	16.87	---	16.21	16.79	---
MAX	18.85	18.86	18.76	17.56	17.89	17.35	17.57	17.65	17.26	16.94	17.33	17.24
CAL YR 2002	LOW 18.99											
WTR YR 2003	LOW 18.86											



GROUND-WATER RECORDS
Montgomery County

394425084113200. LOCAL NUMBER, MT-3

LOCATION.—Latitude 39°44'25", longitude 84°11'32", Hydrologic Unit 05080002, Patterson Boulevard. at Stewart Street in Dayton, Ohio. 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.

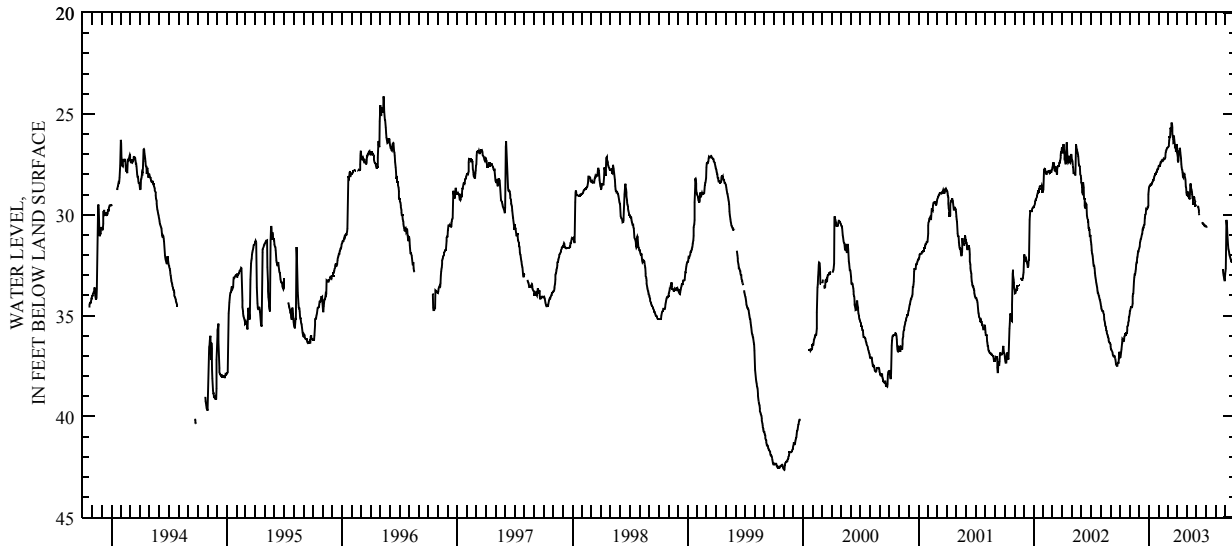
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—May 1945 to June 1974. Reactivated June 1980.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low 78.90 ft below land-surface datum, May 24, 1968, and Sept. 30, 1969; minimum daily low, 24.13 ft below land-surface datum, May 12, 1996.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	37.01	34.88	31.67	28.66	27.59	26.69	26.93	29.02	---	30.57	---	32.79
2	37.08	34.78	31.64	28.59	27.59	26.67	27.12	29.03	---	30.58	---	32.67
3	37.07	34.76	31.57	28.59	27.55	26.66	27.29	28.94	---	30.60	---	31.15
4	36.91	34.61	31.37	28.55	27.59	26.60	27.40	28.84	29.57	30.63	---	30.26
5	36.80	34.59	31.30	28.55	27.59	26.57	27.30	28.99	29.58	---	---	30.43
6	36.67	34.58	31.20	28.55	27.52	26.33	26.91	29.03	29.59	---	---	30.61
7	36.50	34.59	31.19	28.46	27.42	26.19	26.86	29.11	29.60	---	---	31.00
8	36.34	34.59	31.11	28.49	27.41	26.15	26.84	29.18	29.77	---	---	31.24
9	36.14	34.59	31.04	28.51	27.35	26.15	26.69	29.20	29.92	---	---	31.50
10	36.15	34.39	30.95	28.46	27.31	25.75	26.72	29.20	30.02	---	---	31.68
11	36.24	34.04	30.91	28.42	27.30	25.69	26.91	28.96	---	---	---	31.75
12	36.26	33.93	30.72	28.42	27.35	25.77	27.07	28.56	---	---	---	31.83
13	36.27	33.92	30.72	28.33	27.35	25.75	27.19	28.45	---	---	---	31.94
14	36.26	33.60	30.63	28.32	27.32	25.43	27.48	28.58	---	---	---	32.04
15	36.03	33.31	30.63	28.31	27.29	25.49	27.64	28.72	---	---	---	32.09
16	36.02	33.11	30.52	28.29	27.29	25.67	27.75	28.78	---	---	---	32.13
17	35.97	32.96	30.51	28.21	27.23	25.99	27.79	28.84	---	---	---	32.21
18	35.96	32.96	30.48	28.14	27.24	26.18	27.92	28.98	30.37	---	---	32.22
19	35.94	32.91	30.15	28.05	27.24	26.28	28.13	29.23	30.40	---	---	32.31
20	35.93	32.80	30.02	27.98	27.24	26.43	28.15	29.44	30.43	---	---	32.31
21	35.90	32.68	30.00	27.98	27.22	26.42	28.06	29.44	30.43	---	---	32.22
22	35.88	32.44	29.94	27.98	27.14	26.08	27.98	29.25	30.43	---	32.74	32.33
23	35.87	32.37	29.73	27.95	26.92	26.28	28.01	29.13	30.48	---	32.75	32.33
24	35.71	32.36	29.74	27.94	26.86	26.55	28.00	29.13	30.49	---	32.73	32.28
25	35.54	32.14	29.75	27.86	26.81	26.62	28.10	29.13	30.50	---	32.87	32.36
26	35.50	32.10	29.73	27.83	26.76	26.60	28.18	29.25	30.53	---	32.99	32.36
27	35.41	31.94	29.63	27.84	26.70	26.76	28.27	29.33	30.53	---	33.08	32.27
28	35.35	31.83	29.63	27.75	26.69	26.89	28.59	29.37	30.53	---	33.17	31.92
29	35.25	31.83	29.63	27.74	---	26.73	28.66	29.54	30.57	---	33.25	31.62
30	35.11	31.75	29.53	27.74	---	26.50	28.89	29.54	30.55	---	33.26	31.62
31	35.06	---	28.99	27.69	---	26.52	---	29.57	---	---	32.95	---
MAX	37.08	34.88	31.67	28.66	27.59	26.89	28.89	29.57	30.57	30.63	33.26	32.79
CAL YR 2002		LOW 37.49										
WTR YR 2003		LOW 37.08										



GROUND-WATER RECORDS
Montgomery County

394533084113800. LOCAL NUMBER, MT-6

LOCATION.—Latitude 39°45'33", longitude 84°11'38", Hydrologic Unit 05080002, 3rd and Ludlow Street, Dayton, Ohio. 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.—Electronic data logger, 60-minute log interval.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

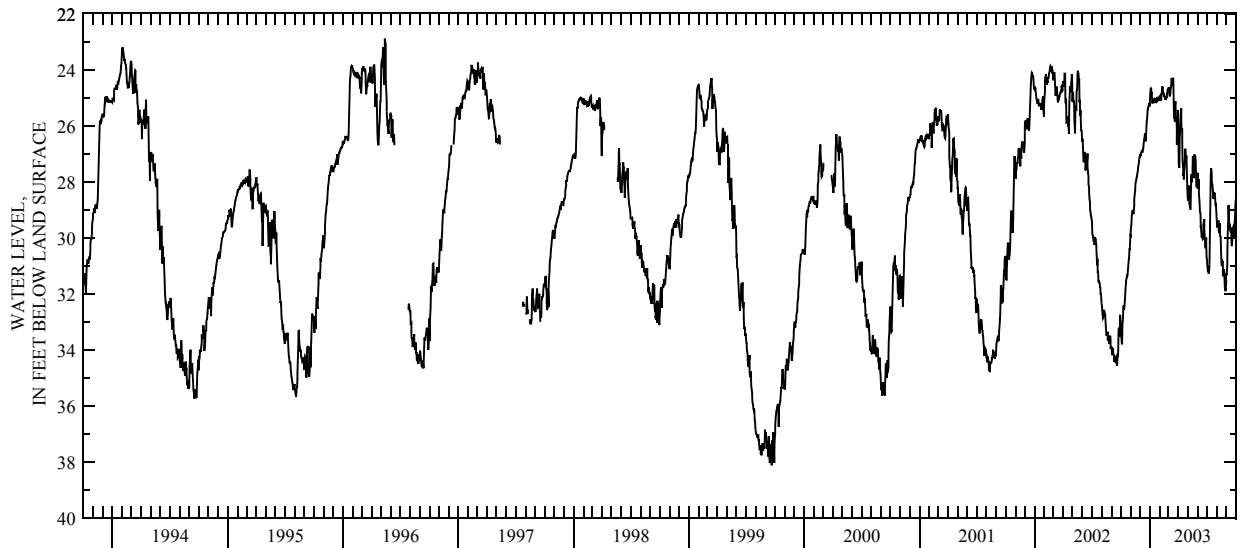
PERIOD OF RECORD.—February 1946 to current year.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	33.32	29.93	27.11	25.11	24.96	24.66	26.08	28.55	27.68	30.74	29.42	31.31
2	33.48	29.73	27.02	24.92	24.92	24.62	27.12	28.67	28.18	30.93	29.55	31.31
3	33.54	29.52	27.08	24.68	25.05	24.68	27.36	28.47	27.75	31.02	29.63	30.95
4	33.77	29.34	27.00	24.66	25.10	24.87	27.50	28.14	28.26	31.20	29.55	30.56
5	33.81	29.22	26.93	24.69	25.10	24.95	27.38	28.23	27.92	31.08	29.63	29.91
6	33.13	29.07	26.94	24.83	25.07	24.89	26.45	28.73	28.41	31.26	29.38	29.30
7	32.99	29.04	26.91	24.81	24.95	24.83	26.12	28.83	28.71	31.25	29.72	28.85
8	32.79	29.01	26.93	24.95	24.83	24.65	25.90	28.86	28.95	31.22	29.83	28.83
9	32.48	29.12	26.93	25.20	24.66	24.62	25.61	28.97	29.07	30.96	29.63	29.38
10	32.42	29.15	26.87	25.11	24.59	24.50	25.38	28.97	29.12	30.27	29.49	29.67
11	32.57	29.07	26.83	25.11	24.63	24.30	25.83	28.41	29.63	29.36	29.58	29.60
12	32.50	28.85	26.70	25.14	24.77	24.57	26.16	27.92	29.58	28.58	29.93	29.57
13	32.37	28.63	26.57	25.10	24.83	24.47	26.10	27.74	29.85	27.80	29.96	29.75
14	32.21	28.49	26.49	25.10	24.84	24.35	26.61	28.02	29.99	27.51	30.33	29.76
15	31.97	28.32	26.42	25.13	24.92	24.32	27.23	27.77	29.96	27.57	30.43	29.81
16	31.80	28.25	26.34	25.05	24.92	24.32	27.54	27.77	29.90	27.72	30.98	29.64
17	31.62	28.05	26.27	25.04	24.97	24.83	27.78	27.09	30.00	28.11	30.98	30.17
18	31.50	27.95	26.42	25.05	25.02	25.53	27.69	27.11	30.03	28.07	30.78	30.30
19	31.44	27.95	26.55	25.10	25.04	25.73	27.92	27.63	29.99	28.20	30.87	30.18
20	31.37	27.87	26.36	25.16	25.07	25.71	27.65	27.87	29.54	28.33	30.88	29.93
21	31.38	27.81	26.12	25.17	25.02	25.85	27.48	27.32	29.45	28.55	31.37	29.63
22	31.33	27.75	25.85	25.13	24.96	25.29	27.26	27.05	29.33	28.61	31.25	29.93
23	31.20	27.68	25.76	25.13	25.01	25.13	26.85	27.05	29.72	28.43	31.11	29.96
24	31.08	27.57	25.61	25.11	24.90	25.82	26.82	27.12	29.88	28.38	31.18	29.54
25	30.95	27.50	25.40	24.97	24.83	25.67	27.05	27.08	30.27	28.44	31.29	29.96
26	30.77	27.43	25.38	25.02	24.74	25.83	27.20	27.26	30.27	28.41	31.43	29.51
27	30.68	27.36	25.32	25.10	24.68	26.04	27.06	27.56	30.38	28.62	31.77	29.46
28	30.45	27.27	25.25	24.97	24.72	26.68	27.48	28.11	30.00	28.86	31.85	29.25
29	30.38	27.15	25.23	25.07	---	26.40	27.84	28.18	30.21	28.83	31.90	28.85
30	30.43	27.11	25.20	25.05	---	25.62	28.28	28.22	30.68	28.97	31.82	28.63
31	29.91	---	25.31	25.04	---	25.44	---	27.78	---	29.19	31.52	---
MAX	33.81	29.93	27.11	25.20	25.10	26.68	28.28	28.97	30.68	31.26	31.90	31.31

CAL YR 2002 LOW 34.57
WTR YR 2003 LOW 33.81



GROUND-WATER RECORDS
Montgomery County

394811084095000. LOCAL NUMBER, MT-74

LOCATION.—Latitude 39°48'11", longitude 84°09'50", Hydrologic Unit 05080002, in Dayton, Ohio. 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.—Electronic data logger, 60-minute log interval.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

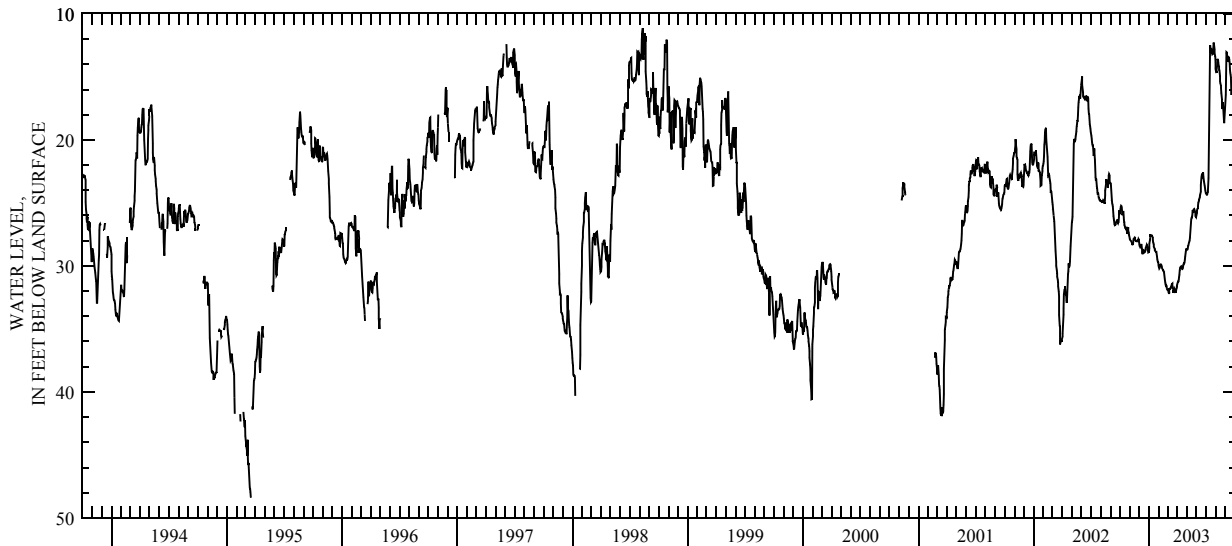
PERIOD OF RECORD.—April 1990 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 60.50 ft below land-surface datum, Oct. 31 and 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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	25.83	27.81	28.10	28.89	30.00	31.89	31.47	28.71	25.98	24.26	14.37	16.86
2	25.68	27.90	28.32	28.62	30.12	31.90	31.29	28.71	25.80	24.29	14.64	16.44
3	25.46	27.95	28.47	28.23	30.18	31.95	31.28	28.71	25.62	24.17	14.65	15.40
4	25.31	27.99	28.52	27.95	30.15	32.06	31.23	28.61	25.50	24.39	14.46	13.05
5	25.23	28.01	28.47	27.72	30.02	32.15	31.23	28.46	25.43	24.32	14.10	13.08
6	25.26	28.04	28.41	27.62	29.93	32.15	31.10	28.38	25.25	24.17	13.56	13.32
7	25.37	28.17	28.35	27.62	29.90	32.03	30.87	28.25	24.99	24.11	13.60	13.44
8	25.73	28.31	28.25	27.56	29.88	31.86	30.69	28.14	24.86	23.58	13.74	13.62
9	25.97	28.32	28.44	27.60	29.91	31.85	30.38	28.08	24.77	23.06	13.92	13.80
10	25.86	28.32	28.63	27.60	29.99	31.76	30.18	27.98	24.69	21.78	14.06	13.49
11	25.71	28.32	28.93	27.58	30.06	31.73	30.11	27.75	24.56	18.99	14.18	13.46
12	25.71	28.29	29.06	27.66	30.20	31.70	30.09	27.38	24.45	16.20	14.45	13.50
13	26.12	27.99	28.79	27.78	30.27	31.63	30.03	27.03	24.33	13.98	14.46	13.62
14	26.48	27.86	28.73	27.93	30.32	31.58	30.03	26.64	24.11	12.48	14.93	13.89
15	26.54	27.81	28.77	28.14	30.35	31.44	30.09	26.30	23.60	12.75	15.35	14.42
16	26.75	27.77	28.82	28.32	30.40	31.41	30.23	26.19	23.27	13.10	15.51	14.67
17	26.88	27.75	28.85	28.47	30.43	31.59	30.27	26.18	22.95	12.71	15.72	14.82
18	26.97	27.80	28.88	28.56	30.51	31.77	30.24	26.03	22.79	12.87	15.89	15.03
19	27.02	27.92	28.83	28.63	30.74	31.92	30.15	25.80	22.83	13.08	16.28	16.00
20	27.03	27.99	28.85	28.73	30.96	32.03	29.96	25.70	22.88	13.10	16.77	16.45
21	27.02	28.02	28.73	28.82	31.17	32.03	29.87	25.73	22.67	13.22	17.25	16.11
22	27.12	28.02	28.50	28.89	31.33	31.90	29.81	25.65	22.56	13.20	17.54	16.17
23	27.23	28.05	28.47	28.90	31.53	31.77	29.81	25.53	22.92	13.13	17.36	15.62
24	27.33	28.05	28.47	28.89	31.58	31.88	29.73	25.50	23.12	12.66	17.04	15.33
25	27.39	28.05	28.33	28.90	31.56	31.98	29.52	25.53	23.33	12.27	17.50	15.30
26	27.39	28.01	28.38	29.07	31.62	32.09	29.28	25.59	23.49	12.39	17.88	16.13
27	26.93	27.98	28.52	29.25	31.82	32.10	29.08	25.73	23.63	12.63	18.36	16.11
28	27.20	27.98	28.68	29.48	31.89	31.95	28.86	25.79	23.82	12.81	18.69	15.30
29	27.38	27.87	28.80	29.60	---	31.88	28.73	26.07	24.00	13.13	18.14	14.79
30	27.51	27.93	28.90	29.70	---	31.73	28.62	26.16	24.14	13.37	17.69	14.85
31	27.60	---	28.93	29.72	---	31.61	---	25.98	---	13.88	17.28	---
MAX	27.60	28.32	29.06	29.72	31.89	32.15	31.47	28.71	25.98	24.39	18.69	16.86

CAL YR 2002 LOW 36.22
WTR YR 2003 LOW 32.15



GROUND-WATER RECORDS
Muskingum County

395804081593200. LOCAL NUMBER, MU-1A

LOCATION.—Latitude 39°58'04", longitude 81°59'32", Hydrologic Unit 05040004, 2.2 mi northeast of the "Y" bridge in Zanesville, Ohio. Owner: City of Zanesville.

AQUIFER.—Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.—Drilled unused water table well, diameter 6 in., depth 109 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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.

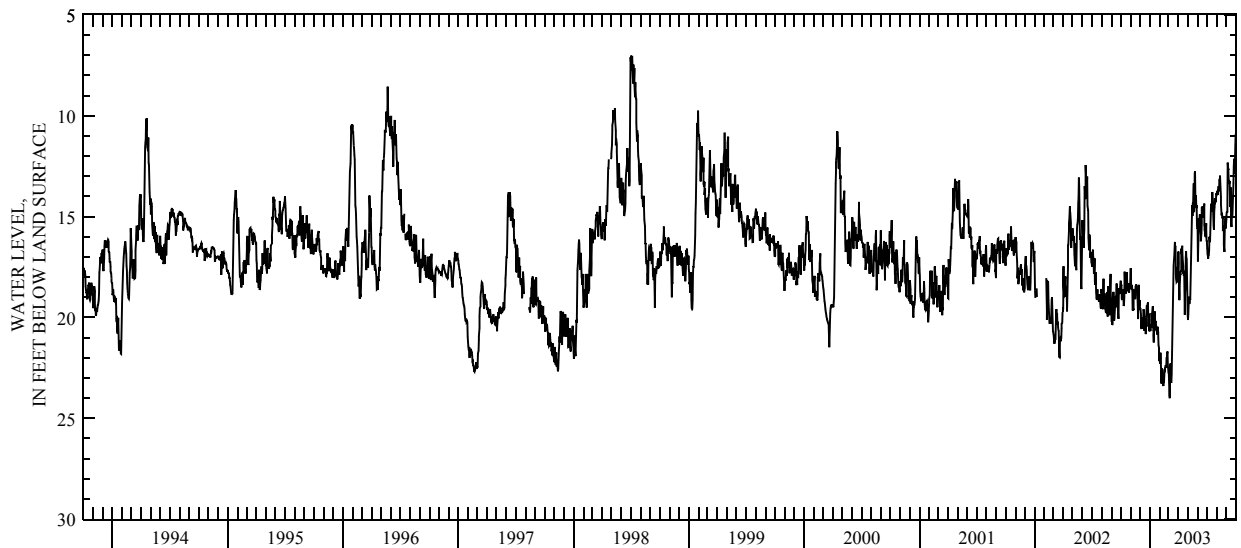
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR. Water level affected by nearby wells and by stage of the Muskingum River. Prior to water year 1978, well depth reported as 132 ft.

PERIOD OF RECORD.—June 1952 to current year. This well replaced Mu-1, which has continuous record from May 1942 to June 1952.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 37.25 ft below land-surface datum, Aug. 1 and 2, 1954; minimum daily low, 5.85 ft below land-surface datum, June 26, 1981.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	18.17	17.56	19.62	20.33	22.10	22.74	16.72	19.86	15.56	16.22	13.94	14.93
2	18.40	18.25	19.52	20.63	22.28	22.76	17.33	20.13	16.79	16.58	13.71	14.78
3	18.36	18.38	19.65	20.63	22.29	23.34	17.93	19.85	17.22	16.85	13.85	14.76
4	19.10	18.48	19.85	20.39	21.74	23.85	18.92	19.31	16.19	16.92	13.92	13.94
5	19.13	18.40	20.49	20.51	22.65	24.00	19.14	18.97	15.08	17.09	13.67	12.32
6	18.61	18.59	20.57	19.77	23.18	22.94	18.47	19.00	15.38	16.92	13.53	12.69
7	19.05	19.50	20.03	20.06	23.27	22.29	17.82	19.31	15.23	16.89	13.50	12.62
8	19.00	19.65	20.03	20.16	22.67	22.82	17.90	19.00	14.90	16.70	13.74	13.13
9	18.84	19.56	20.52	19.67	22.52	23.18	17.72	19.13	15.17	16.00	13.13	13.25
10	19.43	19.64	20.42	19.44	22.61	23.24	17.70	17.97	15.72	16.20	13.15	13.35
11	19.35	19.06	20.20	20.28	23.00	22.83	16.59	17.39	15.92	16.17	13.32	13.23
12	19.00	18.97	19.59	20.64	23.22	21.50	16.86	16.74	16.22	15.63	12.96	13.95
13	17.72	18.61	19.65	21.24	23.39	20.18	16.45	16.05	15.83	15.06	13.74	14.52
14	18.15	18.80	20.15	20.87	23.21	19.49	16.49	15.40	15.33	14.37	14.04	13.53
15	18.33	18.89	20.67	20.46	23.21	18.69	17.00	14.43	14.54	14.69	14.40	14.57
16	18.83	19.10	20.15	19.70	22.88	18.00	17.45	14.96	14.64	14.75	14.93	15.35
17	18.48	18.48	20.06	19.94	22.55	17.47	17.75	14.31	14.49	14.10	14.84	15.51
18	18.31	18.38	20.47	20.20	22.58	17.19	17.72	14.34	14.87	13.77	14.81	14.88
19	18.33	18.36	20.82	20.24	22.44	17.00	17.94	13.82	15.05	14.04	15.09	15.03
20	17.75	18.47	19.95	20.19	22.46	16.64	17.70	13.35	14.96	14.70	14.99	14.88
21	18.30	18.59	19.79	20.49	22.44	16.28	19.02	14.78	14.57	15.12	15.71	14.16
22	18.40	18.70	19.45	20.47	22.44	16.49	19.88	14.50	14.35	15.44	15.45	13.73
23	18.70	18.86	19.44	20.63	22.02	16.49	18.70	12.84	15.42	15.65	15.65	13.35
24	18.30	19.95	19.40	20.84	22.02	17.49	18.56	12.75	15.62	14.72	16.41	12.53
25	18.40	20.09	19.32	20.78	21.75	17.84	17.04	13.97	15.95	14.54	16.75	12.12
26	18.72	19.47	19.26	20.46	21.69	18.20	16.71	14.01	15.63	14.09	16.43	12.23
27	18.72	18.38	20.40	20.73	22.34	18.17	17.06	13.95	16.02	14.15	15.60	12.87
28	18.47	19.34	20.47	20.91	22.56	17.65	17.11	14.57	15.33	14.25	15.08	12.05
29	18.30	19.41	19.81	21.38	---	17.49	18.05	14.43	15.59	14.22	15.25	11.33
30	18.51	19.14	20.69	21.54	---	18.17	19.31	15.44	16.20	13.98	15.59	10.89
31	18.53	---	20.51	22.10	---	18.25	---	15.56	---	13.83	15.12	---
MAX	19.43	20.09	20.82	22.10	23.39	24.00	19.88	20.13	17.22	17.09	16.75	15.51
CAL YR 2002	LOW 21.99											
WTR YR 2003	LOW 24.00											



GROUND-WATER RECORDS
Pickaway County

393327082571600. LOCAL NUMBER, PK-7

LOCATION.—Latitude 39°33'27", longitude 82°57'16", Hydrologic Unit 05060002, 3.1 mi south of Circleville, Ohio. 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.—Electronic data logger, 60-minute log interval.

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.

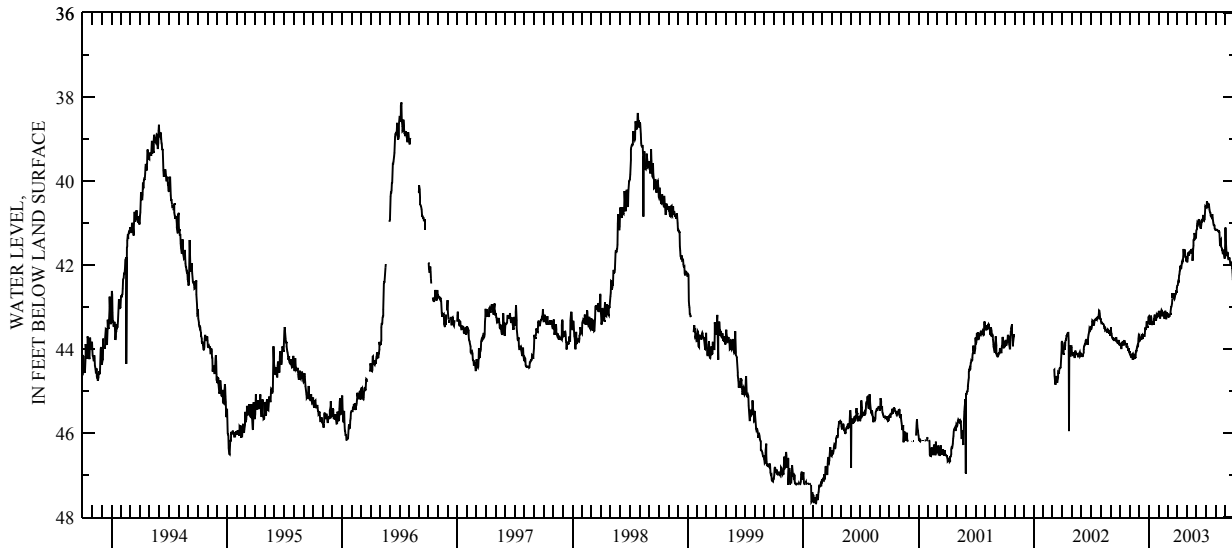
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—July 1972 to October 1982 continuous, November 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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	43.87	44.08	43.70	43.21	43.12	43.16	42.49	41.88	41.16	40.63	41.17	41.11
2	43.88	44.11	43.68	43.23	43.12	43.17	42.48	41.90	41.14	40.62	41.17	41.40
3	43.89	44.14	43.81	43.35	43.09	43.23	42.48	41.91	41.07	40.63	41.15	41.52
4	43.88	44.17	43.80	43.35	43.21	43.23	42.40	41.84	41.00	40.48	41.15	41.68
5	43.98	44.17	43.75	43.35	43.26	43.18	42.38	41.72	41.03	40.51	41.16	41.77
6	43.98	44.19	43.74	43.39	43.26	43.22	42.39	41.71	41.03	40.54	41.17	41.77
7	43.88	44.19	43.74	43.39	43.16	43.23	42.25	41.73	40.96	40.61	41.18	41.71
8	43.89	44.19	43.76	43.20	43.16	43.19	42.22	41.77	40.91	40.61	41.20	41.71
9	43.85	44.13	43.76	43.24	43.11	43.17	42.15	41.74	40.96	40.59	41.20	41.80
10	43.86	44.11	43.67	43.37	43.07	43.17	42.13	41.71	40.99	40.54	41.19	41.86
11	43.83	44.25	43.66	43.39	43.09	43.13	42.01	41.66	40.98	40.61	41.20	41.86
12	43.82	44.20	43.76	43.41	43.20	43.01	42.08	41.70	41.00	40.68	41.22	41.84
13	43.88	44.19	43.73	43.39	43.20	43.00	42.08	41.70	41.11	40.72	41.22	41.84
14	43.91	44.16	43.68	43.35	43.17	43.00	42.07	41.68	41.11	40.75	41.55	41.84
15	43.80	44.15	43.68	43.39	43.19	42.91	41.99	41.62	41.09	40.76	41.55	41.91
16	43.79	44.17	43.65	43.39	43.19	42.79	41.93	41.71	41.07	40.83	41.41	41.97
17	43.86	44.18	43.69	43.29	43.11	42.70	41.91	41.71	41.00	40.80	41.38	41.98
18	43.87	44.21	43.69	43.29	43.24	42.70	41.92	41.64	40.93	40.86	41.52	41.97
19	43.86	44.20	43.63	43.18	43.26	42.71	41.90	41.62	40.93	40.87	41.58	41.95
20	43.89	44.22	43.52	43.24	43.28	42.68	41.79	41.90	40.94	40.82	41.61	42.00
21	43.89	44.05	43.53	43.25	43.22	42.75	41.62	41.62	40.92	40.79	41.64	42.02
22	43.94	44.03	43.51	43.26	43.09	42.80	41.72	41.53	40.83	40.87	41.65	42.08
23	43.95	44.04	43.51	43.30	43.24	42.81	41.74	41.40	40.81	40.94	41.74	42.18
24	43.93	43.98	43.43	43.33	43.27	42.76	41.73	41.39	40.94	40.99	41.74	42.34
25	43.92	43.94	43.34	43.26	43.27	42.71	41.63	41.25	40.95	41.04	41.63	42.40
26	43.98	43.92	43.47	43.19	43.19	42.71	41.74	41.24	40.92	41.07	41.69	42.40
27	44.03	43.93	43.47	43.20	43.12	42.69	41.81	41.30	40.91	41.04	41.69	42.33
28	44.04	43.92	43.43	43.15	43.17	42.63	41.81	41.36	40.75	41.07	41.78	42.36
29	43.98	43.75	43.38	43.22	---	42.63	41.90	41.36	40.60	41.12	41.83	42.46
30	44.05	43.68	43.32	43.22	---	42.63	41.91	41.34	40.61	41.16	41.83	42.48
31	44.08	---	43.23	43.17	---	42.54	---	41.16	---	41.16	41.54	---
MAX	44.08	44.25	43.81	43.41	43.28	43.23	42.49	41.91	41.16	41.16	41.83	42.48
CAL YR 2002		LOW 45.95										
WTR YR 2003		LOW 44.25										



GROUND-WATER RECORDS
Pickaway County

393402082572500. LOCAL NUMBER, PK-4

LOCATION.—Latitude 39°34'02", longitude 82°57'25", Hydrologic Unit 05060002, 2 mi south of Circleville, Ohio. 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.—Electronic data logger, 60-minute log interval.

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.

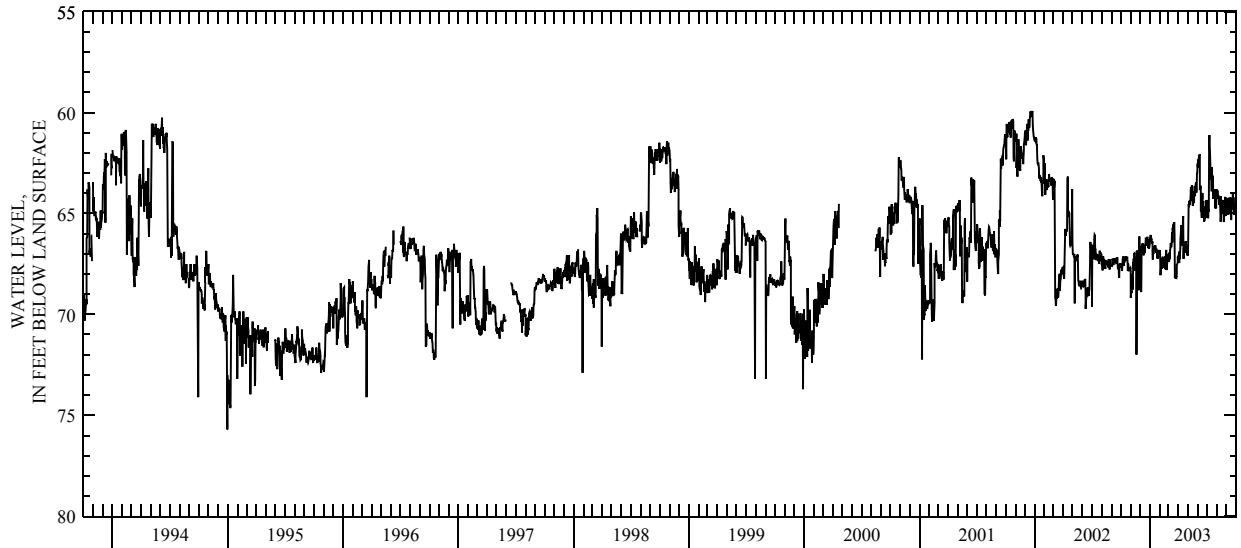
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	67.62	67.86	66.62	66.26	66.80	67.38	67.26	66.62	62.51	64.46	64.13	64.41
2	67.65	69.17	66.77	66.29	67.05	67.07	67.05	67.07	62.72	64.91	64.25	64.76
3	67.58	68.82	67.02	66.06	67.20	67.37	67.37	66.42	62.43	64.61	63.86	64.25
4	67.49	68.93	68.85	66.11	68.06	66.93	67.39	64.53	62.48	64.33	64.07	64.55
5	67.86	68.00	68.89	66.29	67.55	67.27	66.88	64.62	62.22	65.24	64.14	64.69
6	67.58	68.22	66.78	66.24	67.61	66.84	67.26	64.35	62.12	64.80	64.10	65.06
7	67.23	68.46	66.54	66.41	67.44	66.68	66.72	64.53	62.10	64.91	64.25	65.01
8	67.29	68.77	66.94	66.50	67.74	66.45	66.33	64.50	62.06	61.52	64.56	64.22
9	67.11	67.41	66.47	66.38	67.27	66.62	66.12	64.38	63.83	61.10	64.43	64.95
10	67.59	67.71	66.56	67.29	67.26	66.66	65.58	64.20	63.62	61.76	64.16	64.38
11	67.26	67.23	66.52	66.77	67.13	66.52	65.70	63.71	63.72	62.04	64.29	64.41
12	67.43	67.82	67.08	67.01	67.69	65.91	66.62	64.38	64.89	62.52	64.35	64.47
13	67.37	66.98	66.56	66.81	67.33	66.44	66.19	64.10	64.77	63.29	65.40	64.50
14	67.26	66.96	66.94	66.63	67.55	65.70	65.97	63.60	65.22	63.32	65.13	64.20
15	67.27	67.53	66.64	66.74	67.26	65.85	65.79	63.96	64.43	63.11	64.14	64.67
16	67.11	67.56	66.96	66.74	67.44	65.54	65.12	64.11	64.20	63.90	64.85	65.31
17	67.26	67.58	66.56	66.72	67.23	65.54	66.26	64.61	63.98	62.70	65.02	64.73
18	67.32	67.68	66.50	66.56	67.76	65.87	67.25	63.90	64.67	63.78	64.63	64.79
19	67.27	68.89	66.26	66.93	67.11	65.42	66.71	63.98	64.37	63.15	64.74	64.26
20	67.29	72.00	66.29	66.75	67.49	66.05	66.81	64.39	64.55	63.12	64.33	64.69
21	67.14	66.84	66.60	66.74	67.08	68.18	66.51	64.41	65.04	64.29	64.80	64.01
22	67.37	67.58	66.52	66.80	66.81	68.02	66.92	63.74	64.63	64.05	64.33	64.17
23	67.86	67.80	66.45	66.84	67.80	68.22	66.74	63.63	65.33	63.89	65.42	64.73
24	67.47	67.25	66.15	67.17	67.19	68.14	66.44	64.14	65.33	63.99	64.67	64.69
25	67.61	67.13	66.52	66.86	67.47	68.07	66.36	63.89	64.63	63.81	64.83	65.07
26	67.82	67.55	66.56	67.25	67.01	68.14	66.51	63.53	65.19	63.96	65.14	64.88
27	67.82	68.81	66.71	66.80	67.25	67.98	66.92	63.45	65.24	64.74	64.49	64.92
28	67.74	66.71	66.29	66.93	67.29	67.52	66.72	63.96	64.32	63.90	64.17	65.04
29	67.69	66.13	66.74	67.02	---	67.46	67.08	63.83	65.13	64.13	64.56	64.20
30	67.76	66.71	66.68	66.87	---	67.44	67.05	63.02	64.50	64.73	65.12	64.35
31	67.69	---	66.58	67.13	---	67.13	---	62.94	---	63.78	64.27	---
MAX	67.86	72.00	68.89	67.29	68.06	68.22	67.39	67.07	65.33	65.24	65.42	65.31
CAL YR 2002	LOW 72.00											
WTR YR 2003	LOW 72.00											



GROUND-WATER RECORDS
Pickaway County

315

393637082572200. LOCAL NUMBER, PK-6A

LOCATION.—Latitude 39°36'37", longitude 82°57'22", Hydrologic Unit 05060002, at Circleville, Ohio. Owner: City of Circleville.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 110 ft, cased to 105 ft.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 670 ft above sea level (from topographic map). Measuring point: Floor of instrument shelter 10.00 ft above land-surface datum.

REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

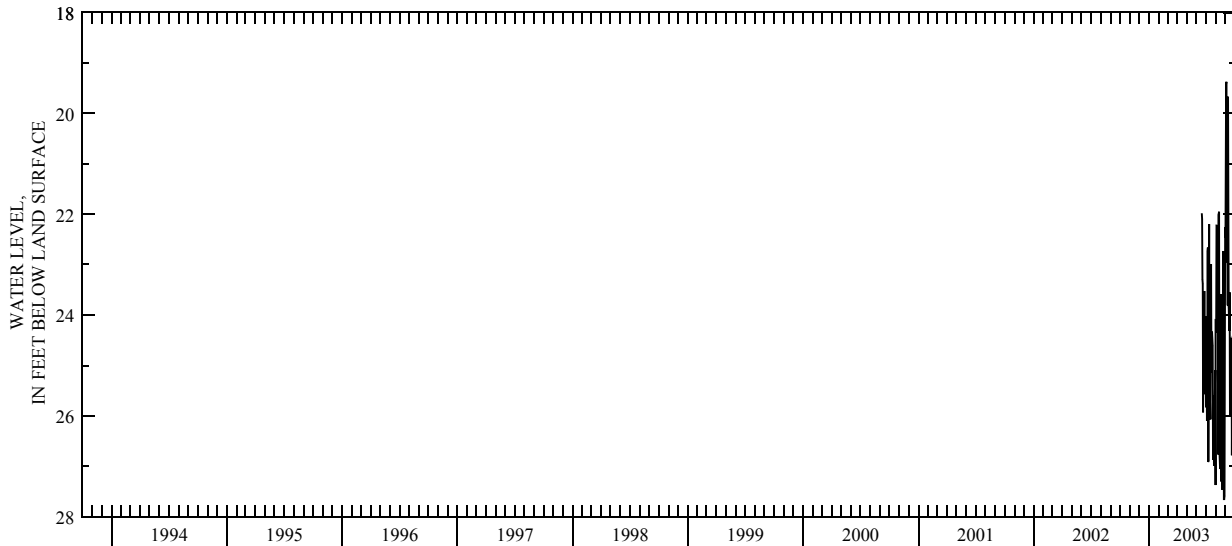
PERIOD OF RECORD.—June 2003 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 27.65 ft below land-surface datum, Aug. 27 and 28, 2003; minimum daily low, 19.37 ft below land-surface datum, Sept. 4, 2003.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	25.83	24.13	22.47
2	---	---	---	---	---	---	---	---	---	24.03	24.15	19.87
3	---	---	---	---	---	---	---	---	---	24.15	22.21	19.41
4	---	---	---	---	---	---	---	---	---	26.09	24.32	19.37
5	---	---	---	---	---	---	---	---	---	26.00	24.32	21.19
6	---	---	---	---	---	---	---	---	---	22.73	23.22	22.95
7	---	---	---	---	---	---	---	---	---	22.66	23.28	20.47
8	---	---	---	---	---	---	---	---	---	26.91	26.69	23.81
9	---	---	---	---	---	---	---	---	---	26.88	26.77	19.67
10	---	---	---	---	---	---	---	---	---	25.33	22.01	21.43
11	---	---	---	---	---	---	---	---	---	22.20	21.95	23.83
12	---	---	---	---	---	---	---	---	---	25.48	21.99	24.09
13	---	---	---	---	---	---	---	---	---	25.51	26.67	24.31
14	---	---	---	---	---	---	---	---	---	25.85	27.04	23.55
15	---	---	---	---	---	---	---	---	---	26.07	27.05	25.99
16	---	---	---	---	---	---	---	---	---	25.69	23.66	24.76
17	---	---	---	---	---	---	---	---	---	22.99	23.59	24.79
18	---	---	---	---	---	---	---	---	---	21.98	24.88	24.96
19	---	---	---	---	---	---	---	---	---	22.09	25.15	25.21
20	---	---	---	---	---	---	---	---	---	23.29	24.33	24.45
21	---	---	---	---	---	---	---	---	---	23.38	24.49	26.78
22	---	---	---	---	---	---	---	---	---	25.93	24.61	25.42
23	---	---	---	---	---	---	---	---	---	24.80	26.87	25.19
24	---	---	---	---	---	---	---	---	---	24.89	25.59	26.28
25	---	---	---	---	---	---	---	---	---	25.05	26.52	24.55
26	---	---	---	---	---	---	---	---	---	23.52	26.99	24.64
27	---	---	---	---	---	---	---	---	---	25.38	25.83	23.11
28	---	---	---	---	---	---	---	---	---	25.51	25.93	22.35
29	---	---	---	---	---	---	---	---	---	25.57	25.95	22.35
30	---	---	---	---	---	---	---	---	---	24.81	25.09	23.32
31	---	---	---	---	---	---	---	---	---	---	27.37	22.25
MAX	---	---	---	---	---	---	---	---	25.93	27.37	27.65	26.78

WTR YR 2003 LOW 27.65



GROUND-WATER RECORDS
Pickaway County

393638082572300. LOCAL NUMBER, PK-6

LOCATION.—Latitude 39°36'38", longitude 82°57'23", Hydrologic Unit 05060002, 1 mi northwest of Circleville, Ohio. Owner: City of Circleville.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled unused water table well, diameter 6 in., depth 120 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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.

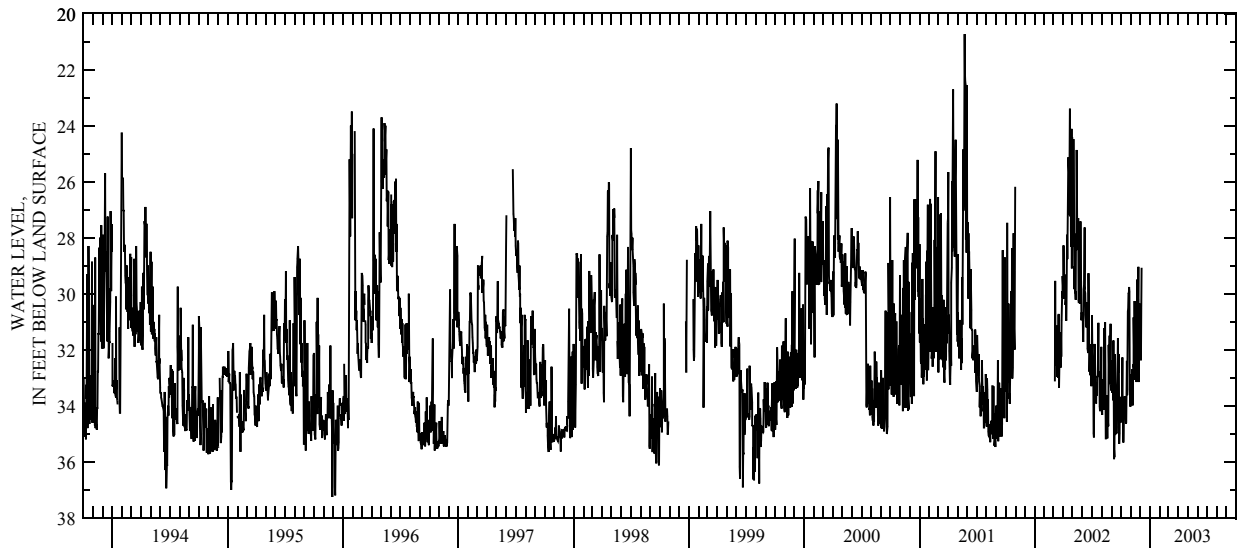
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—July 1966 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 37.25 ft below land-surface datum, Nov. 28, 1995; minimum daily low, 14.30 ft below land-surface datum, Apr. 5, 1970.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
 DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	34.50	32.87	30.84	---	---	---	---	---	---	---	---	---
2	34.08	33.85	31.79	---	---	---	---	---	---	---	---	---
3	34.59	33.62	30.35	---	---	---	---	---	---	---	---	---
4	34.41	33.69	32.38	---	---	---	---	---	---	---	---	---
5	33.68	33.47	30.50	---	---	---	---	---	---	---	---	---
6	32.27	32.69	29.07	---	---	---	---	---	---	---	---	---
7	34.26	33.98	---	---	---	---	---	---	---	---	---	---
8	33.92	33.51	---	---	---	---	---	---	---	---	---	---
9	35.31	32.52	---	---	---	---	---	---	---	---	---	---
10	34.62	32.61	---	---	---	---	---	---	---	---	---	---
11	33.99	30.84	---	---	---	---	---	---	---	---	---	---
12	33.68	32.64	---	---	---	---	---	---	---	---	---	---
13	34.17	32.03	---	---	---	---	---	---	---	---	---	---
14	34.46	30.26	---	---	---	---	---	---	---	---	---	---
15	33.66	32.48	---	---	---	---	---	---	---	---	---	---
16	34.03	33.07	---	---	---	---	---	---	---	---	---	---
17	34.63	30.32	---	---	---	---	---	---	---	---	---	---
18	34.59	32.55	---	---	---	---	---	---	---	---	---	---
19	33.17	31.01	---	---	---	---	---	---	---	---	---	---
20	32.40	33.15	---	---	---	---	---	---	---	---	---	---
21	33.62	31.79	---	---	---	---	---	---	---	---	---	---
22	31.98	29.49	---	---	---	---	---	---	---	---	---	---
23	30.63	30.38	---	---	---	---	---	---	---	---	---	---
24	30.54	30.18	---	---	---	---	---	---	---	---	---	---
25	30.00	30.35	---	---	---	---	---	---	---	---	---	---
26	30.00	29.04	---	---	---	---	---	---	---	---	---	---
27	29.76	33.15	---	---	---	---	---	---	---	---	---	---
28	29.93	30.35	---	---	---	---	---	---	---	---	---	---
29	31.46	30.48	---	---	---	---	---	---	---	---	---	---
30	33.42	30.36	---	---	---	---	---	---	---	---	---	---
31	34.03	---	---	---	---	---	---	---	---	---	---	---
MAX	35.31	33.98	32.38	---	---	---	---	---	---	---	---	---
CAL YR 2002	LOW 35.91											
WTR YR 2003	LOW 35.31											



GROUND-WATER RECORDS
Pickaway County

317

394503082583800. LOCAL NUMBER, PK-10

LOCATION.—Latitude 39°45'03", longitude 82°58'38", Hydrologic Unit 05060002, 3 mi north of Ashville, Ohio. Owner: City of Columbus.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled unused water table well, diameter 6 in., depth 108 ft, cased to 103 ft.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 690 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

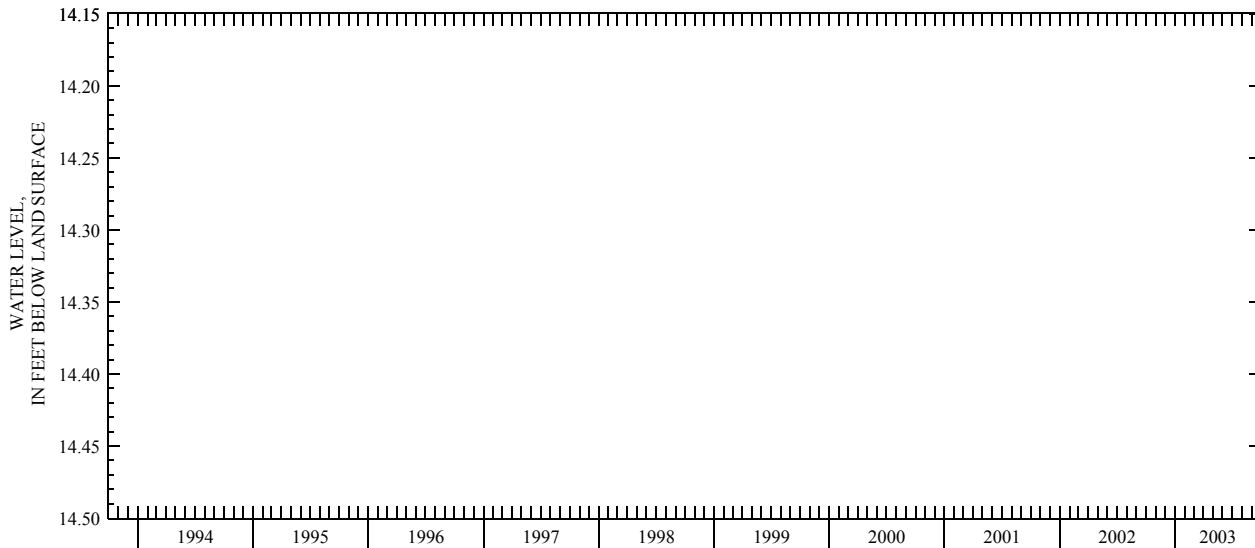
PERIOD OF RECORD.—September 2003 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 14.47 ft below land-surface datum, Sept. 20 and 21, 2003; minimum daily low, 14.19 ft below land-surface datum, Sept. 28, 2003.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	14.40
18	---	---	---	---	---	---	---	---	---	---	---	14.40
19	---	---	---	---	---	---	---	---	---	---	---	14.44
20	---	---	---	---	---	---	---	---	---	---	---	14.47
21	---	---	---	---	---	---	---	---	---	---	---	14.47
22	---	---	---	---	---	---	---	---	---	---	---	14.46
23	---	---	---	---	---	---	---	---	---	---	---	14.25
24	---	---	---	---	---	---	---	---	---	---	---	14.27
25	---	---	---	---	---	---	---	---	---	---	---	14.30
26	---	---	---	---	---	---	---	---	---	---	---	14.30
27	---	---	---	---	---	---	---	---	---	---	---	14.27
28	---	---	---	---	---	---	---	---	---	---	---	14.19
29	---	---	---	---	---	---	---	---	---	---	---	14.24
30	---	---	---	---	---	---	---	---	---	---	---	14.26
31	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	14.47

WTR YR 2003 LOW 14.47



GROUND-WATER RECORDS
Pickaway County

394503082583801. LOCAL NUMBER, PK-11

LOCATION.—Latitude 39°45'03", longitude 82°58'38", Hydrologic Unit 05060002, 3 mi north of Ashville, Ohio. Owner: City of Columbus.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled unused water table well, diameter 6 in., depth 39.5 ft, cased to 34.5 ft.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 690 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

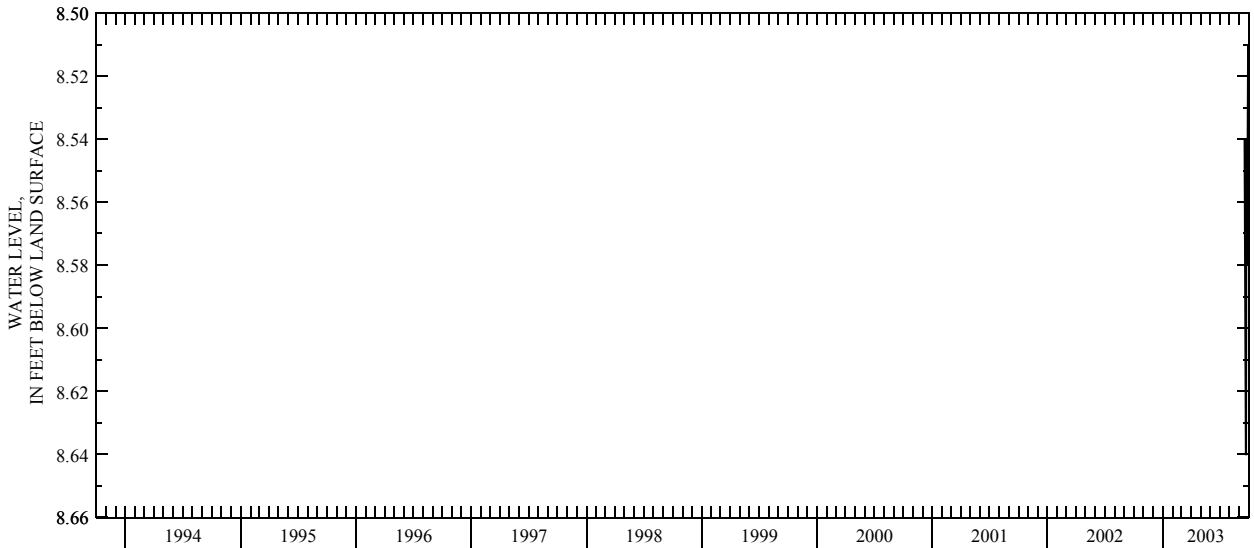
PERIOD OF RECORD.—September 2003 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 8.64 ft below land-surface datum, Sept. 21 and 22, 2003; minimum daily low, 8.51 ft below land-surface datum, Sept. 28, 2003.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	---	---
2	---	---	---	---	---	---	---	---	---	---	---	---
3	---	---	---	---	---	---	---	---	---	---	---	---
4	---	---	---	---	---	---	---	---	---	---	---	---
5	---	---	---	---	---	---	---	---	---	---	---	---
6	---	---	---	---	---	---	---	---	---	---	---	---
7	---	---	---	---	---	---	---	---	---	---	---	---
8	---	---	---	---	---	---	---	---	---	---	---	---
9	---	---	---	---	---	---	---	---	---	---	---	---
10	---	---	---	---	---	---	---	---	---	---	---	---
11	---	---	---	---	---	---	---	---	---	---	---	---
12	---	---	---	---	---	---	---	---	---	---	---	---
13	---	---	---	---	---	---	---	---	---	---	---	---
14	---	---	---	---	---	---	---	---	---	---	---	---
15	---	---	---	---	---	---	---	---	---	---	---	---
16	---	---	---	---	---	---	---	---	---	---	---	---
17	---	---	---	---	---	---	---	---	---	---	---	8.54
18	---	---	---	---	---	---	---	---	---	---	---	8.55
19	---	---	---	---	---	---	---	---	---	---	---	8.58
20	---	---	---	---	---	---	---	---	---	---	---	8.63
21	---	---	---	---	---	---	---	---	---	---	---	8.64
22	---	---	---	---	---	---	---	---	---	---	---	8.64
23	---	---	---	---	---	---	---	---	---	---	---	8.54
24	---	---	---	---	---	---	---	---	---	---	---	8.56
25	---	---	---	---	---	---	---	---	---	---	---	8.58
26	---	---	---	---	---	---	---	---	---	---	---	8.58
27	---	---	---	---	---	---	---	---	---	---	---	8.54
28	---	---	---	---	---	---	---	---	---	---	---	8.51
29	---	---	---	---	---	---	---	---	---	---	---	8.56
30	---	---	---	---	---	---	---	---	---	---	---	8.58
31	---	---	---	---	---	---	---	---	---	---	---	---
MAX	---	---	---	---	---	---	---	---	---	---	---	8.64

WTR YR 2003 LOW 8.64



GROUND-WATER RECORDS
Pickaway County

394742083094800. LOCAL NUMBER, PK-9

LOCATION.—Latitude 39°47'42", longitude 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.—Electronic data logger, 60-minute log interval.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

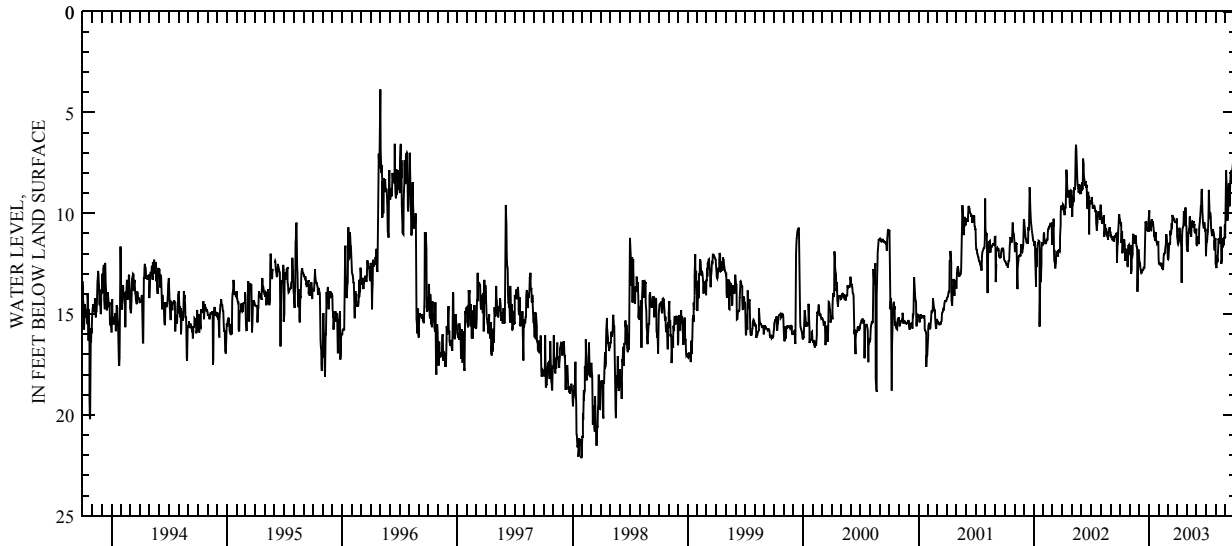
PERIOD OF RECORD.—September 1986 to current year.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.28	11.57	12.17	10.05	12.23	11.96	11.15	11.55	11.55	12.12	12.47	10.01
2	10.41	11.91	12.35	9.86	12.50	12.26	11.37	11.73	11.61	11.66	12.65	8.74
3	10.49	12.06	12.63	10.31	12.44	12.29	11.48	11.87	11.52	11.46	12.71	7.86
4	10.52	11.69	12.44	10.52	12.54	12.20	11.51	11.87	11.15	11.40	12.59	8.39
5	10.46	11.57	12.69	10.71	12.48	11.92	11.45	11.55	11.27	11.27	12.23	8.54
6	11.48	13.00	12.81	10.82	12.51	11.54	11.34	10.91	11.39	11.03	12.27	9.18
7	11.03	12.77	12.85	10.83	12.50	11.48	11.09	11.01	11.45	10.91	12.42	10.35
8	10.88	12.09	12.96	10.73	12.44	11.46	10.71	10.74	11.51	10.59	11.75	10.19
9	11.97	12.21	12.95	10.65	12.59	11.54	10.83	10.83	11.42	10.08	11.45	9.91
10	11.78	12.03	12.81	10.28	12.63	10.85	11.01	10.16	10.68	8.84	11.25	9.62
11	11.37	11.69	12.85	10.35	12.60	11.03	11.15	10.14	10.40	9.21	11.34	8.73
12	11.30	11.06	12.84	10.40	12.72	11.01	11.33	10.42	10.28	9.83	11.40	8.51
13	11.39	11.01	12.75	10.44	12.74	10.80	11.48	10.94	10.19	10.29	11.49	9.23
14	11.33	11.09	12.81	10.40	12.69	10.61	11.60	11.10	9.67	9.96	11.09	9.65
15	11.30	11.19	12.72	10.52	12.80	10.67	13.44	11.15	9.62	9.99	11.09	9.20
16	11.37	11.46	12.65	10.89	12.44	10.19	11.48	10.42	9.66	10.17	10.67	8.41
17	11.69	11.46	12.72	11.09	12.08	10.08	10.88	10.41	8.97	10.70	10.76	8.07
18	12.35	11.34	12.66	11.10	11.99	10.20	10.71	10.52	8.78	10.85	11.27	7.92
19	11.94	11.33	11.99	11.15	11.97	10.34	10.68	10.64	9.41	11.00	12.50	7.89
20	12.02	11.10	11.09	11.27	11.97	10.31	10.65	10.71	9.91	11.12	12.26	8.52
21	11.85	11.17	10.40	11.36	11.91	10.28	10.47	10.40	10.22	11.01	11.43	8.16
22	11.75	11.49	10.46	10.92	11.70	10.22	9.89	10.41	10.49	11.01	11.21	7.86
23	12.36	11.64	10.52	11.28	11.61	10.35	10.25	10.50	10.59	10.79	11.51	7.76
24	12.12	11.66	10.49	11.31	11.43	10.42	10.40	10.64	10.73	10.91	11.57	7.55
25	12.57	11.73	10.67	11.37	11.03	10.46	10.46	10.52	10.70	10.94	11.60	7.58
26	12.66	13.88	10.80	11.42	11.12	10.42	10.62	10.85	10.44	11.04	11.51	7.53
27	11.76	12.98	10.82	11.49	11.33	10.42	9.71	10.97	10.62	11.19	11.55	6.98
28	11.60	12.08	10.85	11.45	11.45	10.44	10.31	10.89	10.76	11.84	11.16	6.03
29	11.54	11.78	10.89	11.51	---	10.46	10.58	10.95	10.85	11.34	11.27	6.12
30	11.60	11.97	10.89	11.45	---	10.25	10.65	10.88	10.83	11.28	10.56	6.42
31	12.03	---	10.49	11.37	---	10.31	---	10.76	---	11.24	11.22	---
MAX	12.66	13.88	12.96	11.51	12.80	12.29	13.44	11.87	11.61	12.12	12.71	10.35
CAL YR 2002		LOW 15.62										
WTR YR 2003		LOW 13.88										



GROUND-WATER RECORDS
Pike County

390359083015100. LOCAL NUMBER, PI-2

LOCATION.—Latitude 39°03'59", longitude 83°01'51", Hydrologic Unit 05060002, 1 mi west of Piketon, Ohio. 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

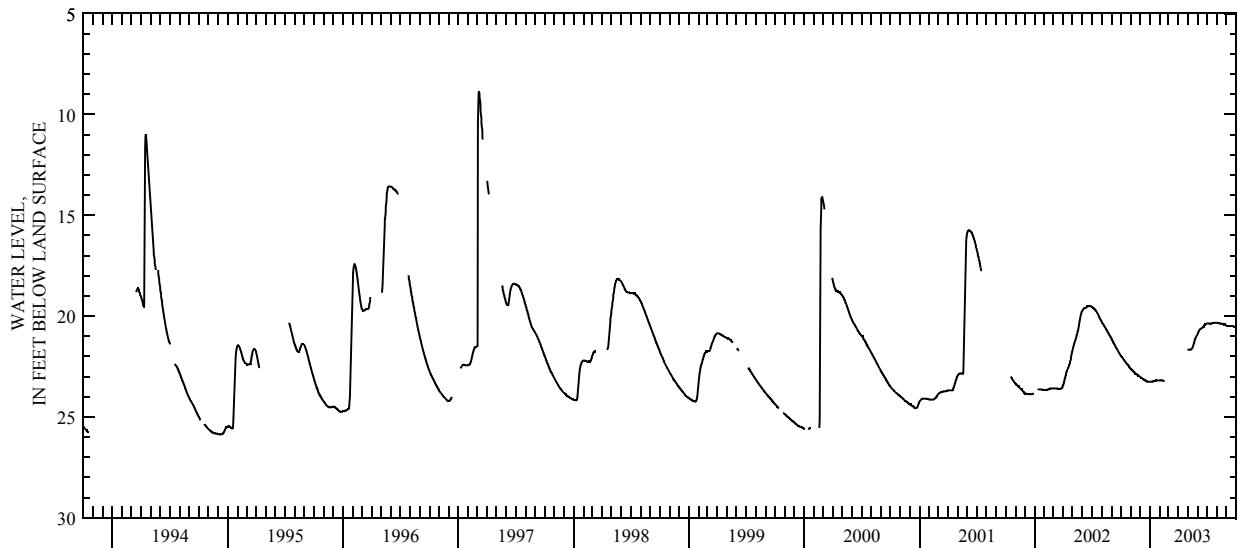
PERIOD OF RECORD.—September 1969 to current year.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	21.97	22.60	23.01	23.25	23.18	---	---	21.66	20.87	20.36	20.32	20.46
2	21.99	22.62	23.03	23.25	23.17	---	---	21.66	20.84	20.36	20.32	20.47
3	22.01	22.63	23.04	23.25	23.17	---	---	21.66	20.81	20.36	20.33	20.48
4	22.02	22.65	23.05	23.25	23.17	---	---	21.66	20.78	20.36	20.33	20.49
5	22.04	22.66	23.06	23.25	23.18	---	---	21.66	20.74	20.36	20.34	20.49
6	22.06	22.68	23.07	23.25	23.18	---	---	21.66	20.71	20.36	20.34	20.49
7	22.08	22.70	23.08	23.25	23.18	---	---	21.66	20.68	20.36	20.35	20.49
8	22.11	22.71	23.09	23.25	23.18	---	---	21.66	20.67	20.36	20.35	20.49
9	22.13	22.73	23.10	23.25	23.18	---	---	21.66	20.65	20.36	20.35	20.49
10	22.15	22.74	23.11	23.24	23.18	---	---	21.66	20.64	20.37	20.36	20.49
11	22.18	22.76	23.12	23.24	23.19	---	---	21.65	20.62	20.37	20.36	20.49
12	22.19	22.78	23.13	23.23	23.19	---	---	21.65	20.61	20.37	20.36	20.49
13	22.21	22.79	23.14	23.22	23.21	---	---	21.64	20.60	20.37	20.36	20.49
14	22.25	22.81	23.15	23.22	23.22	---	---	21.62	20.59	20.37	20.37	20.49
15	22.27	22.82	23.16	23.22	23.22	---	---	21.59	20.58	20.36	20.37	20.49
16	22.29	22.84	23.18	23.21	23.20	---	---	21.56	20.57	20.36	20.37	20.49
17	22.31	22.84	23.18	23.20	---	---	---	21.52	20.56	20.35	20.37	20.49
18	22.33	22.85	23.19	23.20	---	---	---	21.47	20.54	20.35	20.38	20.49
19	22.35	22.87	23.20	23.20	---	---	---	21.43	20.53	20.34	20.38	20.49
20	22.37	22.87	23.21	23.18	---	---	---	21.37	20.50	20.34	20.39	20.49
21	22.39	22.89	23.23	23.18	---	---	---	21.32	20.48	20.33	20.39	20.49
22	22.40	22.90	23.23	23.18	---	---	---	21.26	20.47	20.33	20.39	20.50
23	22.43	22.91	23.23	23.18	---	---	---	21.21	20.45	20.32	20.40	20.51
24	22.45	22.92	23.24	23.18	---	---	---	21.15	20.43	20.32	20.41	20.51
25	22.47	22.94	23.25	23.18	---	---	---	21.10	20.42	20.32	20.41	20.52
26	22.48	22.95	23.25	23.18	---	---	---	21.05	20.40	20.32	20.42	20.52
27	22.51	22.95	23.25	23.18	---	---	---	21.02	20.39	20.32	20.42	20.53
28	22.52	22.96	23.25	23.18	---	---	---	20.99	20.38	20.32	20.43	20.54
29	22.54	22.98	23.25	23.18	---	---	---	20.96	20.37	20.32	20.44	20.54
30	22.56	23.00	23.25	23.18	---	---	21.66	20.93	20.36	20.32	20.45	20.55
31	22.58	---	23.25	23.18	---	---	---	20.90	---	20.32	20.46	---
MAX	22.58	23.00	23.25	23.25	23.22	---	21.66	21.66	20.87	20.37	20.46	20.55

CAL YR 2002 LOW 23.67
WTR YR 2003 LOW 23.25



GROUND-WATER RECORDS
Portage County

411401081025000. LOCAL NUMBER, PO-1

LOCATION.—Latitude 41°14'01", longitude 81°02'50", Hydrologic Unit 05030103. Bauer Street in Windham, Ohio. Owner: Cristopher Minter.

AQUIFER.—Sandstone of Pennsylvanian Age.

WELL CHARACTERISTICS.—Drilled unused artesian well, diameter 6 in., depth 55 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval. Satellite telemeter at site.

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.

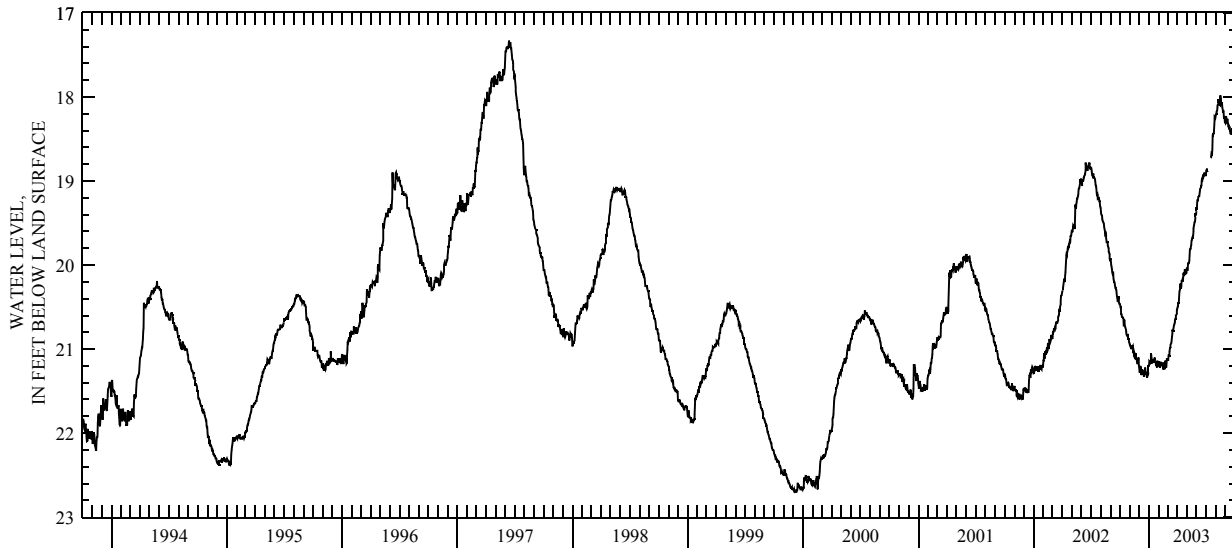
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	20.47	20.94	21.21	21.20	21.15	21.13	20.52	20.04	19.33	18.92	18.22	18.28
2	20.48	20.95	21.24	21.16	21.16	21.12	20.50	20.04	19.33	18.87	18.20	18.24
3	20.50	20.96	21.28	21.15	21.16	21.14	20.49	20.07	19.29	18.86	18.20	18.23
4	20.49	20.98	21.25	21.16	21.19	21.08	20.47	20.04	19.23	18.86	18.18	18.26
5	20.59	20.98	21.20	21.14	21.22	21.06	20.44	19.98	19.23	18.89	18.16	18.29
6	20.58	20.98	21.22	21.16	21.20	21.08	20.46	19.98	19.24	18.88	18.12	18.28
7	20.61	21.00	21.23	21.16	21.16	21.08	20.39	19.98	19.19	---	18.10	18.26
8	20.62	20.96	21.31	21.05	21.16	21.03	20.32	19.97	19.18	---	18.09	18.29
9	20.62	20.97	21.30	21.07	21.16	20.98	20.30	19.95	19.18	---	18.07	18.32
10	20.63	20.96	21.25	21.14	21.17	20.99	20.29	19.88	19.18	---	18.04	18.35
11	20.63	21.04	21.25	21.14	21.17	20.95	20.22	19.80	19.12	---	18.04	18.36
12	20.64	21.04	21.30	21.17	21.19	20.93	20.26	19.81	19.12	---	18.08	18.35
13	20.72	21.03	21.28	21.12	21.20	20.92	20.28	19.80	19.09	---	18.09	18.36
14	20.72	21.02	21.27	21.12	21.20	20.92	20.25	19.78	19.08	---	18.10	18.36
15	20.65	21.06	21.27	21.15	21.24	20.85	20.19	19.76	19.06	---	18.06	18.39
16	20.68	21.05	21.32	21.15	21.23	20.82	20.19	19.71	19.06	18.72	17.98	18.41
17	20.73	21.05	21.32	21.14	21.16	20.77	20.18	19.70	19.05	18.72	18.04	18.44
18	20.74	21.12	21.30	21.13	21.22	20.79	20.19	19.68	18.98	18.68	18.06	18.43
19	20.74	21.09	21.25	21.10	21.23	20.79	20.19	19.68	18.97	18.69	18.08	18.41
20	20.77	21.09	21.22	21.13	21.24	20.76	20.14	19.66	18.98	18.68	18.07	18.44
21	20.79	21.05	21.26	21.15	21.19	20.72	20.09	19.65	18.95	18.62	18.06	18.44
22	20.81	21.12	21.29	21.15	21.14	20.72	20.12	19.60	18.93	18.46	18.12	18.37
23	20.84	21.12	21.30	21.16	21.22	20.71	20.12	19.56	18.93	18.46	18.16	18.40
24	20.84	21.13	21.30	21.20	21.20	20.68	20.10	19.52	18.94	18.43	18.19	18.41
25	20.83	21.17	21.31	21.16	21.22	20.66	20.05	19.50	18.93	18.44	18.16	18.42
26	20.83	21.17	21.34	21.20	21.16	20.64	20.09	19.49	18.90	18.41	18.17	18.42
27	20.86	21.17	21.32	21.22	21.11	20.64	20.11	19.48	18.92	18.34	18.24	18.32
28	20.88	21.16	21.27	21.14	21.13	20.60	20.08	19.43	18.92	18.27	18.26	18.32
29	20.88	21.10	21.31	21.20	---	20.59	20.09	19.40	18.93	18.24	18.23	18.38
30	20.89	21.18	21.28	21.20	---	20.58	20.09	19.40	18.94	18.25	18.30	18.38
31	20.92	---	21.20	21.17	---	20.54	---	19.36	---	18.23	18.31	---
MAX	20.92	21.18	21.34	21.22	21.24	21.14	20.52	20.07	19.33	18.92	18.31	18.44
CAL YR 2002		LOW 21.34										
WTR YR 2003		LOW 21.34										



GROUND-WATER RECORDS
Preble County

394438084335900. LOCAL NUMBER, PR-2

LOCATION.—Latitude 39°44'38", longitude 84°33'59", Hydrologic Unit 05080002, Stover Road, 4 mi east of Eaton, Ohio. Owner: City of Eaton.

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.

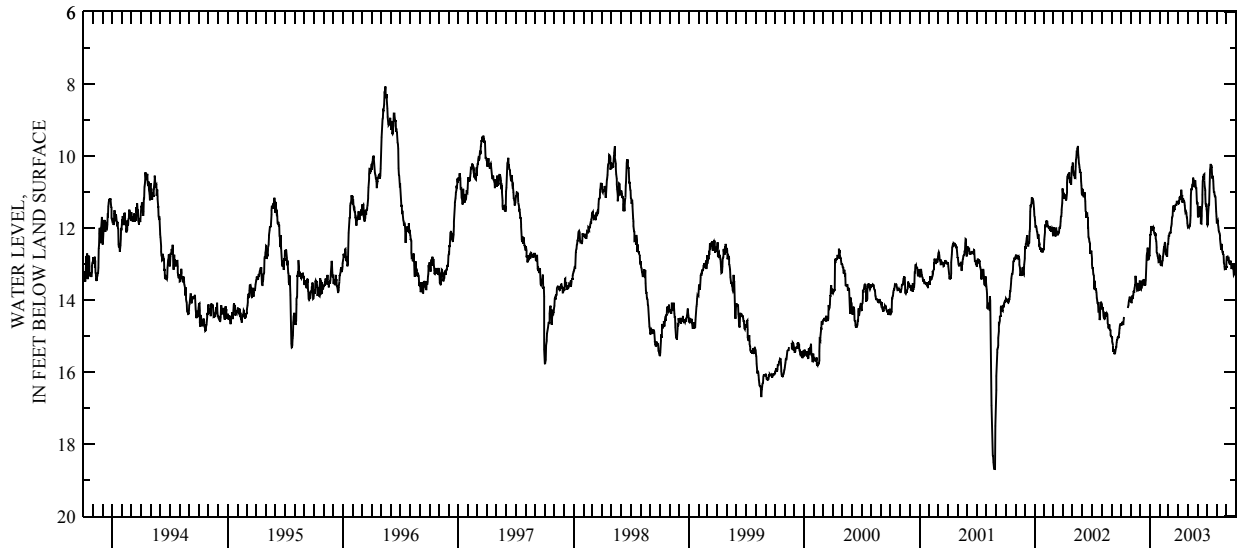
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—May 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 18.71 ft below land-surface datum, Aug. 27, 2001; minimum daily low, 7.94 ft below land-surface datum, May 4, 1975.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.67	14.05	13.48	12.45	12.76	12.29	11.29	11.93	11.30	11.54	11.87	12.95
2	14.67	14.05	13.70	12.17	12.79	12.19	11.34	11.99	11.70	11.89	11.84	12.80
3	14.71	14.07	13.70	12.20	12.78	12.24	11.29	11.98	11.70	11.92	11.80	12.79
4	14.66	14.07	13.71	12.11	13.01	12.16	11.24	11.96	11.59	11.89	11.78	12.89
5	14.65	14.07	13.58	11.95	13.01	12.13	11.20	11.94	11.54	11.61	11.91	12.89
6	14.60	13.87	13.68	11.99	13.00	12.12	11.13	11.97	11.54	11.47	11.97	12.89
7	14.66	13.93	13.60	12.01	13.05	12.13	11.20	11.94	11.49	11.35	12.07	12.80
8	14.67	13.97	13.47	11.98	12.98	12.13	11.16	11.93	11.39	11.35	12.11	12.89
9	14.67	13.85	13.46	11.99	13.00	11.98	11.17	11.84	11.59	11.03	12.12	12.95
10	14.55	13.76	13.54	11.95	12.91	11.94	11.04	11.66	11.69	10.63	12.16	12.98
11	14.47	13.75	13.56	12.07	12.90	11.88	10.94	11.09	11.57	10.39	12.20	13.00
12	---	13.80	13.54	11.98	12.78	11.72	11.21	10.96	11.87	10.30	12.29	13.00
13	---	13.74	13.54	12.00	12.72	11.69	11.08	10.89	11.88	10.22	12.46	12.96
14	---	13.67	13.43	12.08	12.60	11.66	11.29	10.95	11.67	10.30	12.56	12.90
15	---	13.57	13.57	12.15	12.53	11.45	11.27	10.80	11.53	10.32	12.60	12.99
16	---	13.60	13.52	12.15	12.53	11.42	11.18	10.78	11.28	10.31	12.53	13.04
17	---	13.33	13.60	12.17	12.45	11.37	11.26	10.80	11.08	10.49	12.44	13.13
18	---	13.54	13.56	12.22	12.39	11.54	11.23	10.60	10.70	10.63	12.58	13.10
19	---	13.51	13.45	12.15	12.58	11.47	11.25	10.64	10.56	10.57	12.67	12.97
20	---	13.55	13.22	12.28	12.68	11.50	11.25	10.67	10.60	10.57	12.67	13.05
21	---	13.57	12.98	12.37	12.73	11.44	11.29	10.73	10.52	10.70	12.72	12.97
22	---	13.73	12.76	12.54	12.73	11.39	11.37	10.87	10.50	10.89	12.73	13.12
23	14.22	13.72	12.69	12.68	12.58	11.37	11.50	10.80	10.68	11.03	12.91	13.15
24	14.17	13.53	12.75	12.71	12.78	11.33	11.55	10.70	10.83	10.98	12.97	13.29
25	14.14	13.76	12.55	12.71	12.78	11.36	11.53	10.70	10.95	11.06	13.01	13.28
26	14.03	13.64	12.88	12.78	12.53	11.36	11.56	10.83	11.06	11.12	13.06	13.29
27	14.01	13.72	12.88	12.84	12.42	11.25	11.58	10.89	11.32	11.12	13.15	13.11
28	14.01	13.72	12.83	12.84	12.47	11.29	11.69	10.89	11.41	11.14	13.15	13.03
29	13.91	13.56	12.87	12.96	---	11.29	11.72	11.08	11.33	11.33	13.16	13.15
30	13.99	13.48	12.76	12.96	---	11.30	11.85	11.34	11.47	11.54	13.08	13.17
31	14.04	---	12.76	12.93	---	11.25	---	11.29	---	11.68	13.08	---
MAX	14.71	14.07	13.71	12.96	13.05	12.29	11.85	11.99	11.88	11.92	13.16	13.29
CAL YR 2002		LOW 15.51										
WTR YR 2003		LOW 14.71										



GROUND-WATER RECORDS
Richland County

404625082305100. LOCAL NUMBER, R-4

LOCATION.—Latitude 40°46'25", longitude 82°30'51", Hydrologic Unit 05040002, at Ohio Brass Plant in Mansfield, Ohio. 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 1,150 ft above sea level (from topographic map). Measuring point: Top of platform 5.00 ft above land-surface datum.

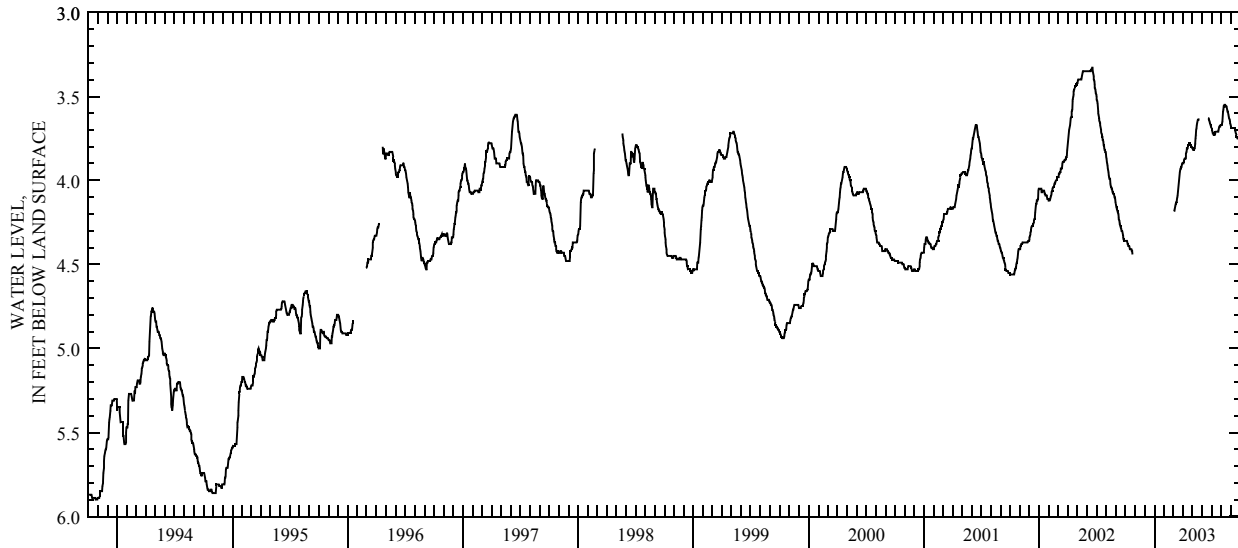
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—May 1942 to current year. (No record in 1948.)

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 60.10 ft below land-surface datum, Oct. 12, 13, 19, and 20, 1962; minimum daily low, 3.33 ft below land-surface datum, June 17 and 18, 2002.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
 DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	4.36	---	---	---	---	---	3.90	3.81	---	3.70	3.67	3.69
2	4.36	---	---	---	---	---	3.90	3.81	---	3.70	3.67	3.69
3	4.36	---	---	---	---	4.18	3.89	3.81	---	3.71	3.66	3.69
4	4.36	---	---	---	---	4.18	3.89	3.82	---	3.71	3.65	3.69
5	4.36	---	---	---	---	4.18	3.88	3.82	---	3.72	3.62	3.69
6	4.36	---	---	---	---	4.17	3.87	3.82	---	3.72	3.59	3.69
7	4.37	---	---	---	---	4.16	3.87	3.81	---	3.72	3.58	3.69
8	4.38	---	---	---	---	4.15	3.87	3.81	---	3.73	3.56	3.69
9	4.38	---	---	---	---	4.14	3.87	3.80	---	3.73	3.56	3.69
10	4.39	---	---	---	---	4.14	3.86	3.78	---	3.73	3.55	3.69
11	4.39	---	---	---	---	4.13	3.84	3.75	---	3.73	3.55	3.69
12	4.39	---	---	---	---	4.13	3.83	3.73	---	3.72	3.55	3.70
13	4.39	---	---	---	---	4.11	3.81	3.70	---	3.71	3.55	3.70
14	4.40	---	---	---	---	4.10	3.81	3.69	---	3.71	3.56	3.71
15	4.41	---	---	---	---	4.09	3.81	3.67	---	3.71	3.56	3.71
16	4.41	---	---	---	---	4.07	3.80	3.66	---	3.71	3.56	3.72
17	4.41	---	---	---	---	4.05	3.79	3.65	---	3.71	3.56	3.73
18	4.41	---	---	---	---	4.03	3.79	3.64	---	3.71	3.57	3.74
19	4.41	---	---	---	---	4.01	3.79	3.64	---	3.71	3.58	3.74
20	4.41	---	---	---	---	3.99	3.79	3.64	3.63	3.71	3.59	3.75
21	4.42	---	---	---	---	3.97	3.79	3.63	3.63	3.71	3.59	3.75
22	4.42	---	---	---	---	3.95	3.78	---	3.64	3.71	3.60	3.75
23	4.44	---	---	---	---	3.94	3.78	---	3.64	3.70	3.61	3.75
24	---	---	---	---	---	3.93	3.78	---	3.65	3.69	3.62	3.75
25	---	---	---	---	---	3.93	3.79	---	3.66	3.68	3.63	3.74
26	---	---	---	---	---	3.92	3.79	---	3.66	3.68	3.63	3.73
27	---	---	---	---	---	3.92	3.79	---	3.67	3.68	3.64	3.73
28	---	---	---	---	---	3.91	3.80	---	3.67	3.68	3.65	3.70
29	---	---	---	---	---	3.90	3.80	---	3.68	3.67	3.66	3.69
30	---	---	---	---	---	3.90	3.81	---	3.69	3.67	3.67	3.68
31	---	---	---	---	---	3.90	---	---	---	3.67	3.68	---
MAX	4.44	---	---	---	---	4.18	3.90	3.82	3.69	3.73	3.68	3.75
CAL YR 2002		LOW 4.44										
WTR YR 2003		LOW 4.44										



GROUND-WATER RECORDS
Richland County

405753082360800. LOCAL NUMBER, R-3

LOCATION.—Latitude 40°57'53", longitude 82°36'08", Hydrologic Unit 05040002, Voisard plant in Shiloh, Ohio. Owner: Voisard Corporation.

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 1,080 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR. Published in WDR-OH-2 prior to 1995 water year.

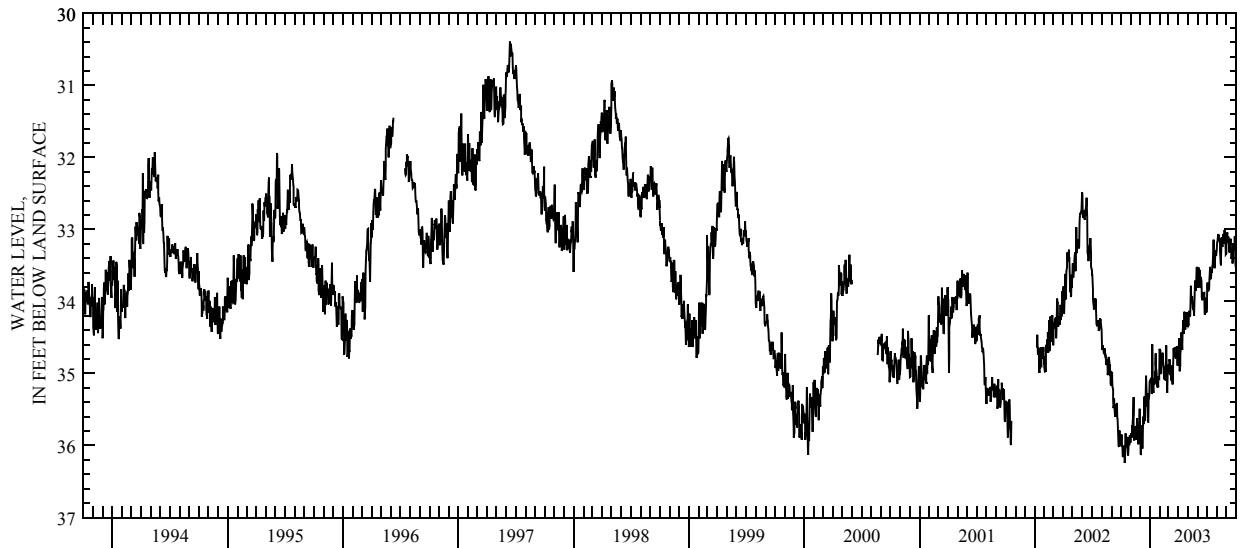
PERIOD OF RECORD.—April 1946 to current year. (No record in 1948.)

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 36.24 ft below land-surface datum, Oct. 13, 2002; minimum daily low, 23.68 ft below land-surface datum, June 15 and 23, 1947.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35.93	35.91	35.71	35.12	34.66	34.91	34.70	34.15	33.81	34.09	33.27	33.13
2	35.92	35.87	35.73	35.09	34.69	34.87	34.62	34.28	33.78	33.83	33.18	33.10
3	35.86	35.83	36.13	35.08	34.67	35.00	34.63	34.33	33.66	33.74	33.17	33.04
4	35.86	35.89	36.12	35.12	34.70	34.80	34.51	34.32	33.53	33.84	33.13	33.09
5	36.02	35.88	35.86	35.07	35.01	34.83	34.87	34.13	33.62	33.85	33.06	33.18
6	36.00	35.72	35.82	35.28	35.01	35.00	34.97	34.16	33.74	33.85	33.09	33.18
7	36.16	35.87	35.72	35.27	34.85	35.02	34.88	34.20	33.61	33.77	33.07	33.10
8	36.15	35.67	36.04	34.61	34.84	34.97	34.73	34.20	33.56	33.84	33.13	33.18
9	36.07	35.58	36.03	34.61	34.81	35.00	34.68	34.19	33.79	33.69	33.15	33.23
10	36.12	35.33	35.80	34.94	34.72	35.10	34.59	33.94	33.81	33.61	33.14	33.30
11	36.04	35.87	35.60	35.15	34.71	35.03	34.43	33.78	33.70	33.52	33.18	33.32
12	36.00	35.93	35.70	35.27	34.82	34.89	34.52	33.93	33.66	33.62	33.30	33.21
13	36.24	35.90	35.68	35.09	34.88	35.11	34.66	34.02	33.71	33.68	33.46	33.19
14	36.20	35.80	35.33	35.07	34.91	35.15	34.67	33.98	33.87	33.68	33.50	33.13
15	35.95	35.80	35.32	35.15	35.06	34.90	34.45	33.93	33.94	33.59	33.42	33.23
16	35.83	35.78	35.65	35.13	35.08	34.76	34.29	34.02	33.98	33.58	33.12	33.30
17	35.94	35.73	35.66	34.98	34.90	34.65	34.26	34.08	33.98	33.60	33.11	33.41
18	35.97	35.92	35.52	34.98	34.95	34.71	34.38	34.11	33.87	33.51	33.22	33.36
19	35.88	35.86	35.33	34.72	34.99	34.71	34.45	34.08	33.89	33.50	33.24	33.29
20	36.01	35.84	35.03	34.87	35.10	34.65	34.33	34.13	33.97	33.40	33.19	33.47
21	36.01	35.62	35.21	34.95	34.95	34.65	34.14	34.20	33.90	33.23	33.11	33.44
22	36.04	35.65	35.34	35.00	34.61	34.76	34.29	34.09	33.89	33.14	33.06	33.25
23	36.13	35.75	35.44	35.02	34.96	34.78	34.39	33.92	33.96	33.27	33.20	33.22
24	36.13	35.80	35.46	35.19	35.11	34.78	34.38	33.71	34.17	33.41	33.18	33.27
25	36.04	35.97	35.28	35.08	35.27	34.70	34.15	33.77	34.17	33.54	33.04	33.28
26	35.89	35.98	35.67	35.10	35.12	34.77	34.22	33.84	34.07	33.51	33.01	33.28
27	35.99	35.94	35.67	35.19	34.93	34.79	34.34	33.85	33.97	33.36	33.08	33.10
28	35.98	35.91	35.36	35.04	34.92	34.62	34.31	33.70	33.98	33.29	33.19	33.20
29	35.95	35.62	35.34	35.05	---	34.89	34.35	33.52	34.13	33.34	33.17	33.46
30	35.86	35.49	35.30	35.06	---	34.87	34.32	33.53	34.15	33.37	33.34	33.52
31	35.96	---	35.12	34.94	---	34.83	---	33.59	---	33.31	33.33	---
MAX	36.24	35.98	36.13	35.28	35.27	35.15	34.97	34.33	34.17	34.09	33.50	33.52

CAL YR 2002 LOW 36.24
WTR YR 2003 LOW 36.24



GROUND-WATER RECORDS
Ross County

391341083172200. LOCAL NUMBER, RO-7

LOCATION.—Latitude 39°13'41", longitude 83°17'22", Hydrologic Unit 05060003, Highland County well field, 1 mi west of Bainbridge, Ohio. 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.

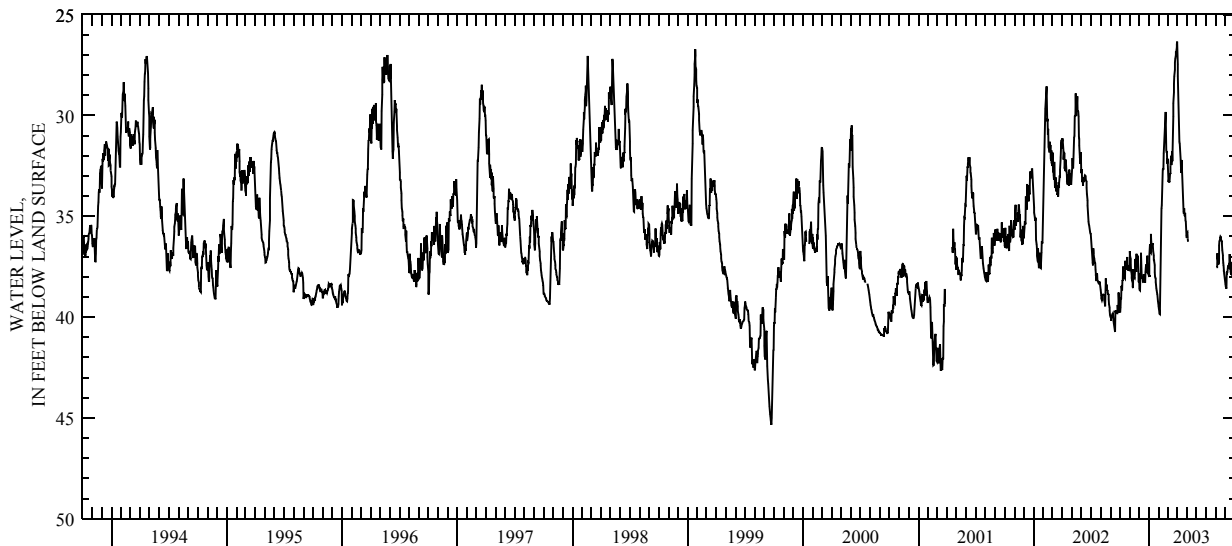
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	39.69	37.38	37.83	37.98	39.47	32.15	26.34	36.07	---	---	---	38.37
2	39.76	36.74	38.58	37.98	39.60	32.60	27.47	35.80	---	---	---	38.48
3	39.52	36.98	38.67	36.98	39.67	33.01	28.06	35.79	---	---	---	38.55
4	39.07	37.11	38.69	36.40	39.85	33.30	28.66	36.10	---	---	37.52	38.59
5	39.08	37.41	37.92	36.60	39.87	33.18	29.22	36.26	---	---	37.53	37.75
6	38.45	37.70	38.09	36.76	38.55	33.28	29.97	---	---	---	36.83	37.80
7	38.55	37.89	36.82	36.81	37.00	33.32	30.68	---	---	---	37.06	37.77
8	38.67	38.05	37.46	35.88	36.00	33.32	31.31	---	---	---	37.24	37.63
9	38.16	38.19	37.93	36.25	35.19	32.87	31.39	---	---	---	37.38	37.47
10	38.20	38.28	38.07	36.54	34.63	32.91	31.62	---	---	---	37.39	37.44
11	37.50	38.48	38.07	36.59	34.45	32.50	31.91	---	---	---	37.23	37.55
12	38.05	38.56	37.98	36.40	33.65	32.01	32.21	---	---	---	36.45	37.56
13	37.98	37.63	38.26	36.41	33.18	32.31	32.68	---	---	---	36.24	37.42
14	37.68	37.87	38.29	36.43	32.70	32.47	32.85	---	---	---	36.16	36.89
15	37.89	38.02	37.88	36.72	32.61	31.79	32.22	---	---	---	36.07	37.25
16	38.06	38.08	38.17	36.94	32.69	32.24	32.87	---	---	---	36.01	37.47
17	38.10	38.09	38.04	37.16	31.88	32.28	33.39	---	---	---	36.06	37.73
18	37.21	37.82	37.88	37.21	31.48	30.93	33.79	---	---	---	36.12	37.87
19	37.49	37.12	38.13	37.42	31.14	30.06	34.12	---	---	---	36.22	37.89
20	37.62	37.26	38.29	37.79	30.82	29.41	34.44	---	---	---	36.25	37.28
21	37.44	37.50	37.77	38.00	30.49	28.87	34.77	---	---	---	36.40	37.62
22	37.27	37.76	37.54	38.10	30.18	28.46	34.89	---	---	---	36.68	37.83
23	37.65	36.87	37.39	38.26	29.84	28.06	34.61	---	---	---	36.92	37.88
24	37.02	37.35	37.48	38.41	31.01	27.74	34.92	---	---	---	37.09	37.94
25	37.16	37.46	37.77	38.57	31.71	27.39	34.99	---	---	---	37.29	37.13
26	37.64	37.17	37.78	38.68	31.81	27.20	34.83	---	---	---	37.46	37.47
27	37.70	36.96	36.96	38.79	31.82	27.01	35.19	---	---	---	37.68	37.80
28	37.44	37.39	37.23	38.86	32.39	26.84	35.27	---	---	---	37.85	38.01
29	37.65	37.78	37.44	39.06	---	26.86	35.59	---	---	---	37.99	38.16
30	37.70	38.28	37.67	39.21	---	26.62	35.93	---	---	---	38.12	38.19
31	37.70	---	37.84	39.30	---	26.47	---	---	---	---	38.25	---
MAX	39.76	38.56	38.69	39.30	39.87	33.32	35.93	36.26	---	---	38.25	38.59
CAL YR 2002		LOW 40.74										
WTR YR 2003		LOW 39.87										



GROUND-WATER RECORDS
Ross County

391544083095700. LOCAL NUMBER, RO-6

LOCATION.—Latitude 39°15'44", longitude 83°09'57", Hydrologic Unit 05060003, southwest of Bournesville, Ohio. Owner: State of Ohio.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled test water table well, diameter 6 in., depth 78 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 676.27 ft above sea level (from topographic map). Measuring point: Floor of instrument shelter 7.4 ft above land-surface datum.

REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—August 1960 to December 1975 continuous, periodic thereafter.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 8.50 ft below land-surface datum, Oct. 16, 18, 20, 1969, and Aug. 26-28, 1974; minimum daily low, 0.03 ft below land-surface datum, apr. 23, 1964.

WATER LEVEL
IN FEET BELOW LAND-SURFACE DATUM
INSTANTANEOUS OBSERVATION

WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL
09/30/03	5.72

GROUND-WATER RECORDS
Shelby County

401707084103100. LOCAL NUMBER, SH-5

LOCATION.—Latitude 40°17'07", longitude 84°10'31", Hydrologic Unit 05080001, at Sidney, Ohio. 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.

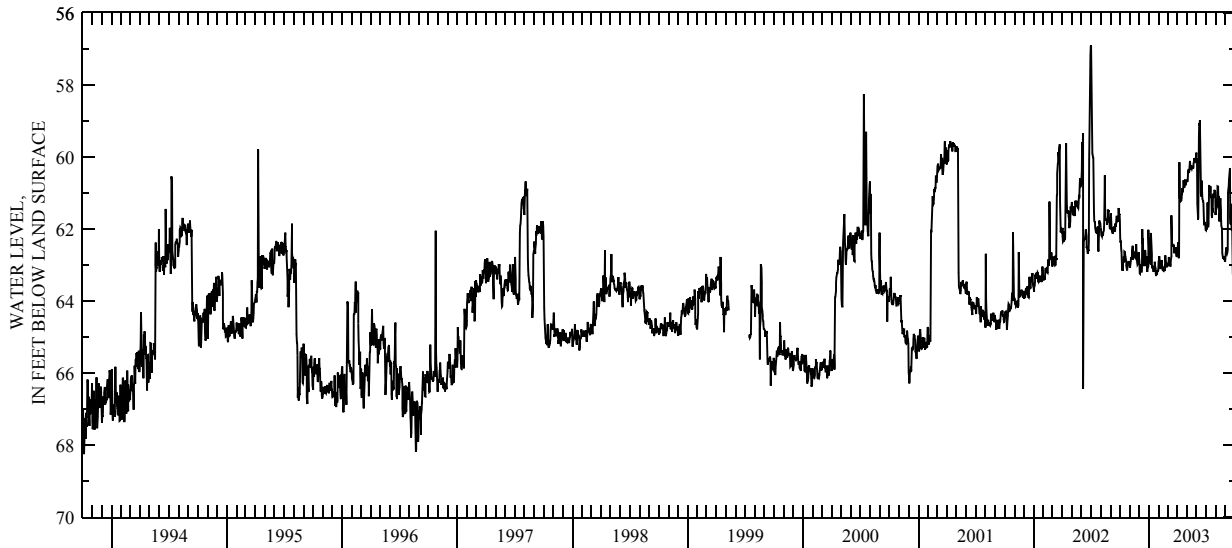
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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, 56.90 ft below land-surface datum, July 2, 2002.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	61.78	63.07	62.79	62.58	62.89	63.03	62.66	60.68	60.11	62.04	61.55	62.79
2	62.25	63.06	62.92	62.65	62.88	62.94	62.53	60.68	60.09	61.90	61.46	62.64
3	62.38	63.04	63.24	62.79	62.75	63.01	62.48	60.68	60.20	61.94	61.42	62.56
4	62.32	62.89	63.25	62.81	62.83	62.95	62.37	60.67	61.29	62.01	61.33	62.51
5	62.55	62.89	63.09	62.78	63.06	62.78	62.56	60.43	61.66	61.71	61.32	62.65
6	62.61	62.79	63.01	62.93	63.11	62.91	62.81	60.36	61.75	61.27	60.94	62.68
7	62.85	62.84	63.01	62.99	63.02	62.95	62.68	60.36	61.68	61.62	60.81	62.64
8	63.15	62.82	63.13	62.11	63.04	62.93	60.15	60.44	60.02	61.95	60.82	62.56
9	62.93	62.68	63.20	62.36	62.98	62.94	61.14	60.37	59.43	61.85	61.40	60.98
10	63.16	62.47	63.08	62.70	62.89	63.04	61.17	60.25	59.05	61.15	61.08	60.89
11	62.90	62.73	62.00	63.00	62.87	62.97	61.10	60.11	59.12	60.78	61.46	60.83
12	62.88	62.85	62.40	63.09	63.07	62.81	61.10	60.23	58.98	60.86	61.66	60.63
13	62.77	62.77	62.27	63.02	63.11	62.76	61.22	60.32	59.86	60.95	61.79	60.52
14	62.93	62.67	62.74	63.04	63.10	61.62	61.21	60.32	60.70	60.97	61.50	60.40
15	62.79	62.64	62.79	63.17	63.15	62.47	61.13	60.23	60.99	60.81	61.32	60.31
16	62.63	62.66	63.01	63.17	63.16	62.49	60.94	60.30	61.10	60.99	61.14	61.68
17	62.64	62.71	63.01	63.10	63.07	62.47	60.87	60.32	60.67	61.14	61.48	61.87
18	62.76	62.79	63.01	63.10	63.05	62.45	60.96	60.29	60.65	61.08	61.67	61.30
19	62.75	62.79	62.89	62.96	63.10	62.48	60.95	60.28	61.00	61.61	61.91	61.75
20	62.85	62.80	62.58	62.91	63.17	62.47	60.83	60.25	61.16	61.69	61.98	61.97
21	62.90	62.67	62.67	63.03	63.03	62.46	60.64	60.32	61.20	61.43	62.11	62.05
22	63.01	62.42	62.87	63.10	62.73	62.63	60.74	60.27	61.22	61.54	62.67	61.93
23	63.12	62.62	63.00	63.21	62.87	62.67	60.86	60.19	61.27	61.08	62.79	62.88
24	63.15	62.74	63.03	63.30	62.92	62.62	60.82	60.10	61.60	61.02	62.82	63.26
25	63.07	62.91	62.77	63.24	63.00	62.57	60.64	60.03	61.85	61.11	62.78	63.27
26	62.90	62.98	63.15	63.19	63.06	62.61	60.63	60.09	61.84	61.11	62.80	62.91
27	62.96	62.96	63.19	63.27	63.03	62.60	60.79	60.12	61.80	60.97	62.75	61.92
28	62.95	62.93	63.12	63.17	63.03	62.50	60.71	60.04	61.86	60.91	62.85	61.92
29	62.89	62.76	63.06	63.17	---	62.72	60.68	60.02	61.90	60.94	62.80	62.10
30	62.92	62.64	63.03	63.17	---	62.78	60.66	60.06	62.03	60.97	62.88	62.20
31	63.01	---	62.02	63.14	---	62.78	---	59.88	---	61.61	62.91	---
MAX	63.16	63.07	63.25	63.30	63.17	63.04	62.81	60.68	62.03	62.04	62.91	63.27
CAL YR 2002		LOW 66.44										
WTR YR 2003		LOW 63.30										



GROUND-WATER RECORDS
Stark County

404939081203800. LOCAL NUMBER, ST-5A

LOCATION.—Latitude 40°49'39", longitude 81°20'38", Hydrologic Unit 05040001, off Harrisburg Road, Canton, Ohio. Owner: City of Canton.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled unused water table well, diameter 12 in., depth 132 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 1,060 ft above sea level (from topographic map). Measuring point: Floor of instrument shelter 1.00 ft above land-surface datum.

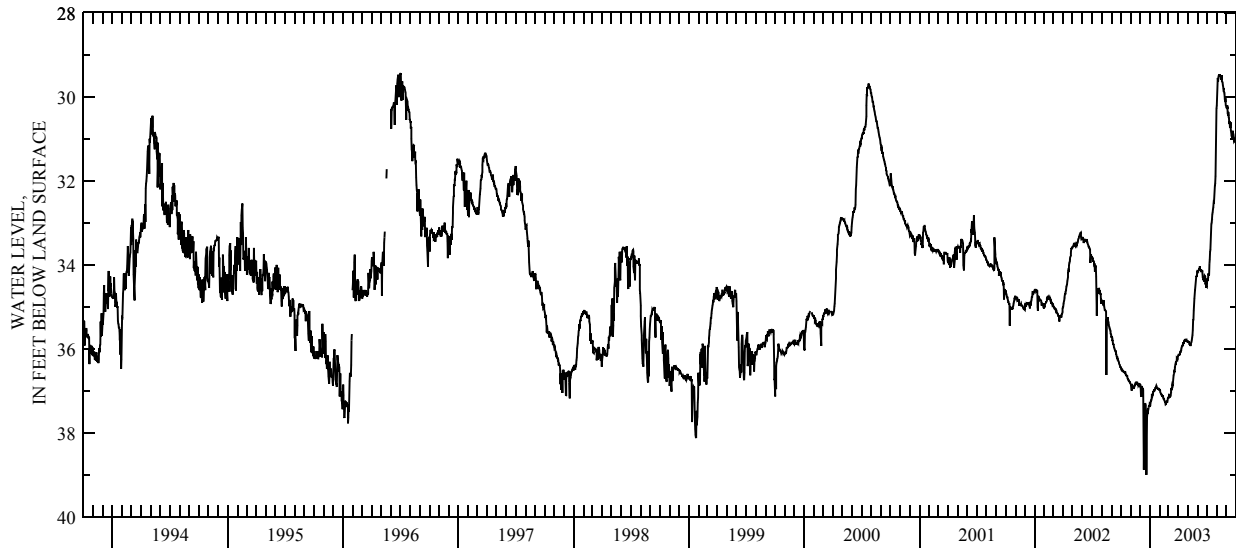
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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 2002 TO SEPTEMBER 2003
 DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	36.43	36.84	36.87	37.34	36.98	37.17	36.15	35.84	34.17	34.53	30.21	30.26
2	36.48	36.87	36.84	37.35	36.98	37.14	36.12	35.82	34.13	34.32	29.99	30.27
3	36.50	36.87	36.90	37.28	37.02	37.16	36.13	35.82	34.14	34.37	29.82	30.27
4	36.51	36.99	37.11	37.23	37.05	37.10	36.13	35.85	34.11	34.35	29.55	30.21
5	36.51	36.88	37.14	37.23	37.08	37.11	36.13	35.82	34.11	34.29	29.64	30.39
6	36.50	36.87	36.88	37.20	37.08	37.14	36.15	35.88	34.11	34.20	29.55	30.45
7	36.53	36.92	36.93	37.13	37.08	37.13	36.07	35.88	34.10	34.25	29.49	30.36
8	36.53	36.93	36.95	37.07	37.11	37.10	36.09	35.90	34.03	34.23	29.52	30.48
9	36.54	36.92	36.98	37.11	37.11	37.03	36.05	35.91	34.10	33.98	29.46	30.50
10	36.54	36.95	36.93	37.08	37.14	36.93	36.03	35.93	34.11	33.87	29.49	30.65
11	36.57	36.93	36.98	37.07	37.10	36.98	36.00	35.88	34.13	33.69	29.46	30.58
12	36.53	36.93	37.80	36.99	37.14	36.93	35.97	35.84	34.14	33.63	29.52	30.72
13	36.56	36.87	38.88	37.03	37.16	36.85	35.93	35.82	34.13	33.42	29.48	30.74
14	36.56	36.88	37.83	36.99	37.20	36.87	35.94	35.78	34.17	33.21	29.57	30.60
15	36.54	36.87	37.43	36.99	37.18	36.80	35.91	35.72	34.16	33.03	29.60	30.80
16	36.60	36.82	37.35	36.96	37.23	36.71	35.90	35.67	34.13	32.99	29.55	30.84
17	36.62	36.81	37.29	36.98	37.25	36.63	35.85	35.55	34.19	32.91	29.48	30.92
18	36.63	36.78	37.31	36.93	37.26	36.59	35.85	35.32	34.29	32.79	29.63	30.95
19	36.63	36.81	37.34	36.92	37.26	36.53	35.87	35.31	34.35	32.75	29.65	30.96
20	36.66	36.82	38.34	36.93	37.32	36.54	35.81	35.09	34.37	32.67	29.72	30.99
21	36.63	36.81	39.00	36.88	37.31	36.48	35.81	34.95	34.35	32.63	29.72	30.81
22	36.71	36.78	38.01	36.90	37.28	36.43	35.79	34.80	34.40	32.53	29.81	30.99
23	36.72	36.84	37.63	36.93	37.26	36.36	35.79	34.70	34.37	32.55	29.79	30.99
24	36.72	36.85	37.53	36.93	37.23	36.38	35.78	34.59	34.26	32.37	29.87	31.01
25	36.75	36.82	37.47	36.92	37.28	36.32	35.76	34.52	34.28	32.24	29.91	31.05
26	36.75	36.87	37.49	36.95	37.23	36.30	35.81	34.43	34.43	32.12	29.94	31.04
27	36.77	36.85	37.44	36.96	37.18	36.25	35.81	34.35	34.47	32.06	30.05	31.07
28	36.78	36.88	37.40	36.93	37.14	36.23	35.79	34.26	34.37	31.89	30.12	31.01
29	36.77	36.81	37.35	36.96	---	36.25	35.82	34.28	34.52	31.25	30.03	30.93
30	36.80	36.84	37.37	36.96	---	36.21	35.84	34.23	34.52	30.58	30.21	30.87
31	36.82	---	37.32	36.96	---	36.17	---	34.16	---	30.27	30.24	---
MAX	36.82	36.99	39.00	37.35	37.32	37.17	36.15	35.93	34.52	34.53	30.24	31.07
CAL YR 2002		LOW 39.00										
WTR YR 2003		LOW 39.00										



GROUND-WATER RECORDS
Stark County

405211081253500. LOCAL NUMBER, ST-27

LOCATION.—Latitude 40°52'11", longitude 81°25'35", Hydrologic Unit 05040001, Dresler Road near North Canton, Ohio. Owner: City of North Canton.
AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled unused artesian well, diameter 8 in., depth 55 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 1,060 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

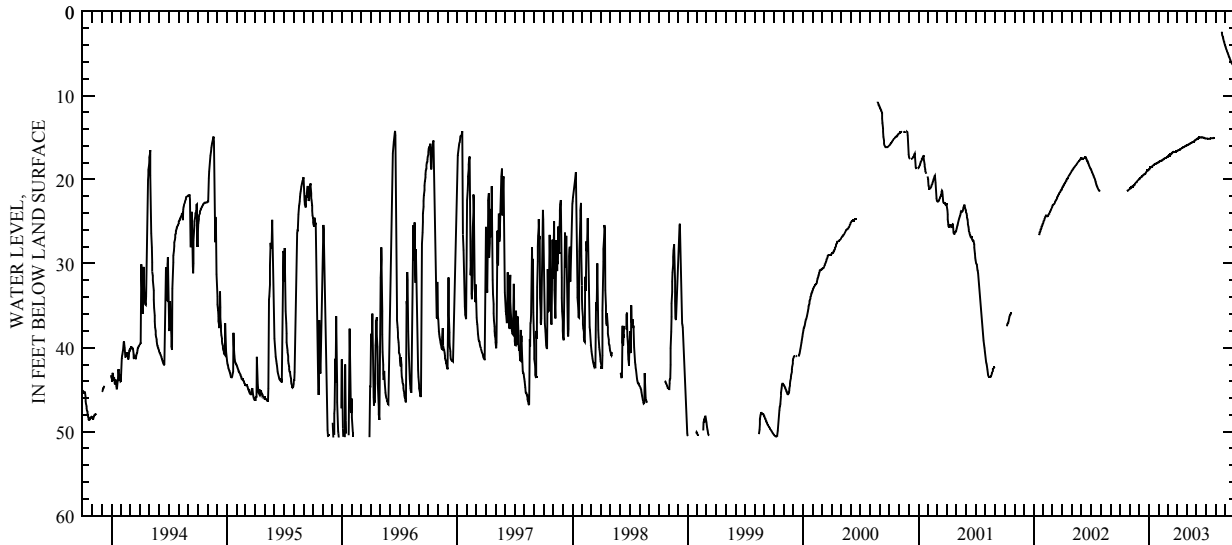
PERIOD OF RECORD.—May 1975 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 51.10 ft below land-surface datum, May 20, 1990; minimum daily low, 2.42 ft below land-surface datum, Aug. 19, 2003.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
2	---	21.12	19.94	18.77	17.93	17.27	16.59	15.93	15.20	15.12	---	4.18
3	---	21.08	19.90	18.75	17.90	17.24	16.56	15.92	15.18	15.12	---	4.31
4	---	21.05	19.86	18.70	17.87	17.25	16.56	15.90	15.15	15.12	---	4.44
5	---	21.02	19.85	18.66	17.84	17.24	16.56	15.89	15.14	15.12	---	4.56
6	---	20.99	19.80	18.60	17.82	17.20	16.53	15.87	15.10	15.12	---	4.65
7	---	20.99	19.77	18.57	17.82	17.18	16.50	15.85	15.08	15.12	---	4.74
8	---	20.90	19.72	18.53	17.81	17.16	16.49	15.83	15.06	15.15	---	4.86
9	---	20.88	19.68	18.50	17.78	17.11	16.47	15.80	15.03	15.18	---	4.97
10	---	20.85	19.67	18.47	17.76	17.09	16.44	15.78	15.00	15.18	---	5.06
11	---	20.82	19.58	18.47	17.75	17.04	16.41	15.75	15.00	15.18	---	5.16
12	---	20.78	19.58	18.44	17.73	17.01	16.40	15.74	15.00	15.18	---	5.25
13	---	20.75	19.55	18.40	17.72	16.98	16.36	15.72	15.00	15.17	---	5.40
14	---	20.72	19.52	18.38	17.72	16.94	16.35	15.69	15.00	15.15	---	5.45
15	---	20.70	19.49	18.35	17.70	16.89	16.32	15.66	15.00	15.14	---	5.52
16	---	20.69	19.44	18.33	17.60	16.85	16.28	15.65	14.99	15.11	---	5.67
17	---	20.69	19.41	18.30	17.58	16.80	16.26	15.63	14.97	15.09	---	5.76
18	---	20.66	19.36	18.27	17.57	16.75	16.23	15.62	14.97	15.08	---	5.87
19	---	20.47	19.35	18.22	17.54	16.72	16.20	15.59	14.97	15.08	---	5.96
20	---	20.45	19.34	18.21	17.51	16.68	16.20	15.56	14.99	15.08	2.42	6.03
21	---	20.42	19.34	18.14	17.48	16.68	16.17	15.54	15.00	15.08	2.52	6.12
22	---	20.37	19.32	18.14	17.47	16.74	16.16	15.53	15.01	15.08	2.61	6.21
23	---	20.33	19.15	18.14	17.45	16.74	16.13	15.51	15.01	15.09	2.90	6.27
24	21.38	20.30	19.13	18.12	17.45	16.74	16.11	15.47	15.01	15.08	2.99	6.30
25	21.35	20.24	19.08	18.09	17.43	16.74	16.08	15.44	15.01	15.08	3.11	6.41
26	21.35	20.20	19.06	18.09	17.36	16.74	16.05	15.40	15.03	15.06	3.23	6.45
27	21.32	20.16	19.02	18.08	17.34	16.71	16.04	15.38	15.06	15.05	3.41	6.51
28	21.29	20.11	18.97	18.05	17.33	16.70	16.02	15.35	15.09	15.03	3.54	6.59
29	21.27	20.07	18.93	18.02	17.30	16.67	15.99	15.32	15.11	---	3.66	6.65
30	21.24	20.03	18.92	18.00	---	16.65	15.98	15.29	15.12	---	3.80	6.71
31	21.21	19.98	18.90	17.97	---	16.62	15.96	15.25	15.12	---	3.96	6.75
MAX	21.17	---	18.90	17.96	---	16.61	---	15.23	---	---	4.05	---
	21.38	21.12	19.94	18.77	17.93	17.27	16.59	15.93	15.20	15.18	4.05	6.75

CAL YR 2002 LOW 26.58
WTR YR 2003 LOW 21.38



GROUND-WATER RECORDS
Tuscarawas County

403207081293800. LOCAL NUMBER, TU-3

LOCATION.—Latitude 40°32'07", longitude 81°29'38", Hydrologic Unit 05040001, in the northwest part of Dover, Ohio. Owner: City of Dover.
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 October 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, and Dec. 6-8, 1962;
minimum daily low, 3.2 ft below land-surface datum, July 14-15, 1969.

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

WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003

DATE	WATER LEVEL
10/01/02	13.63
11/01/02	13.71
12/02/02	14.19
01/03/03	13.30
02/03/03	13.77
03/03/03	12.72
04/01/03	10.86
05/02/03	11.40
06/02/03	9.73
07/01/03	10.29
08/01/03	10.29
09/02/03	9.44

GROUND-WATER RECORDS
Tuscarawas County

403557081313600. LOCAL NUMBER, TU-4

LOCATION.—Latitude 40°35'57", longitude 81°31'36", Hydrologic Unit 05040001, near Fire Department building in Strasburg, Ohio. Owner: Village of Strasburg.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled unused water table well, diameter 6 in., depth 42.5 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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.

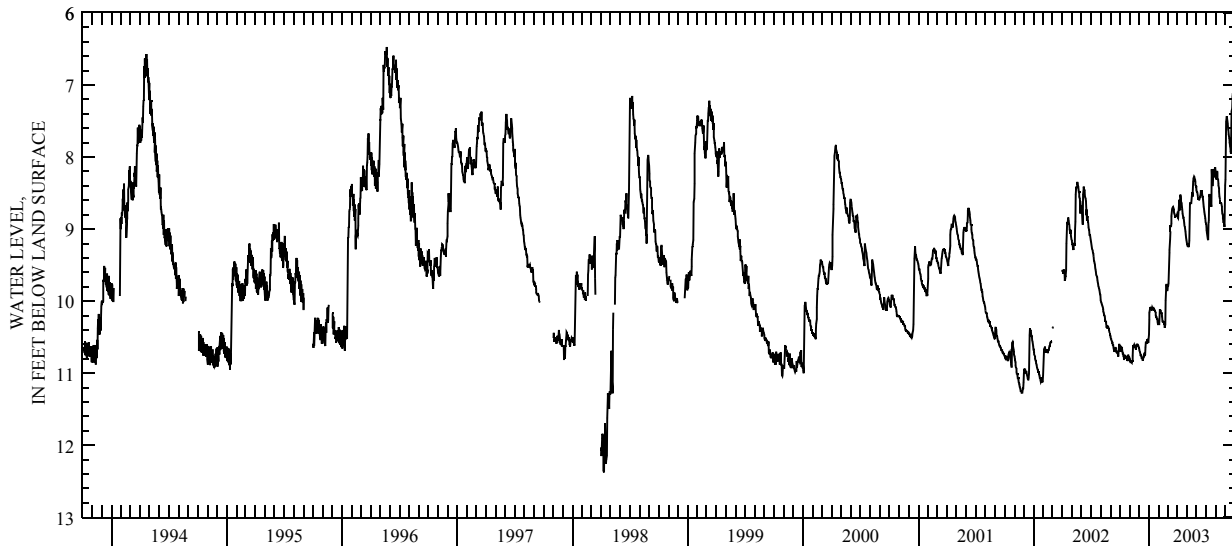
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	10.62	10.80	10.65	10.46	10.32	9.83	8.79	9.18	8.46	8.92	8.22	8.31
2	10.65	10.80	10.68	10.26	10.32	9.78	8.82	9.21	8.49	8.94	8.28	7.71
3	10.70	10.82	10.70	10.16	10.32	9.78	8.84	9.21	8.48	9.01	8.31	7.51
4	10.68	10.86	10.71	10.11	10.23	9.75	8.85	9.24	8.49	9.05	8.31	7.47
5	10.65	10.83	10.73	10.09	10.11	9.57	8.79	9.21	8.55	9.08	8.19	7.43
6	10.64	10.85	10.76	10.11	10.13	9.42	8.72	9.24	8.58	9.11	8.22	7.46
7	10.65	10.86	10.74	10.08	10.13	9.33	8.64	9.24	8.58	9.14	8.30	7.50
8	10.67	10.83	10.76	10.09	10.14	9.29	8.59	9.23	8.59	9.15	8.31	7.53
9	10.70	10.83	10.79	10.11	10.16	9.14	8.69	9.16	8.59	8.91	8.37	7.59
10	10.73	10.83	10.79	10.13	10.17	9.03	8.74	8.84	8.59	8.88	8.39	7.62
11	10.73	10.76	10.79	10.11	10.17	8.96	8.52	8.64	8.56	8.54	8.43	7.68
12	10.76	10.64	10.82	10.09	10.22	8.96	8.55	8.64	8.55	8.51	8.48	7.71
13	10.76	10.61	10.82	10.11	10.28	8.92	8.61	8.64	8.54	8.54	8.54	7.74
14	10.82	10.62	10.79	10.09	10.28	8.82	8.63	8.64	8.49	8.56	8.59	7.79
15	10.76	10.62	10.77	10.11	10.29	8.73	8.64	8.64	8.46	8.61	8.63	7.83
16	10.76	10.61	10.77	10.11	10.29	8.70	8.69	8.59	8.48	8.58	8.63	7.86
17	10.79	10.62	10.73	10.13	10.29	8.70	8.73	8.54	8.49	8.66	8.63	7.91
18	10.77	10.65	10.73	10.11	10.31	8.69	8.78	8.49	8.46	8.69	8.64	7.95
19	10.76	10.62	10.76	10.13	10.31	8.70	8.81	8.52	8.51	8.17	8.64	7.68
20	10.77	10.64	10.74	10.14	10.37	8.70	8.84	8.55	8.55	8.27	8.69	7.36
21	10.80	10.67	10.64	10.14	10.35	8.73	8.84	8.34	8.55	8.34	8.73	7.34
22	10.77	10.64	10.58	10.16	10.32	8.76	8.87	8.30	8.59	8.40	8.78	7.32
23	10.80	10.61	10.58	10.19	9.99	8.78	8.91	8.30	8.64	8.33	8.81	7.16
24	10.80	10.59	10.56	10.22	9.87	8.81	8.96	8.27	8.69	8.17	8.85	7.11
25	10.83	10.61	10.55	10.22	9.78	8.84	8.97	8.28	8.72	8.21	8.88	7.13
26	10.77	10.59	10.59	10.23	9.76	8.82	9.00	8.30	8.76	8.24	8.91	7.16
27	10.77	10.62	10.58	10.25	9.83	8.82	9.03	8.31	8.79	8.28	8.90	6.83
28	10.74	10.62	10.53	10.25	9.86	8.81	9.08	8.34	8.82	8.16	8.94	6.61
29	10.82	10.62	10.56	10.29	---	8.82	9.12	8.39	8.85	8.15	8.97	6.68
30	10.83	10.64	10.58	10.32	---	8.81	9.15	8.41	8.91	8.15	8.76	6.66
31	10.82	---	10.56	10.32	---	8.81	---	8.40	---	8.19	8.39	---
MAX	10.83	10.86	10.82	10.46	10.37	9.83	9.15	9.24	8.91	9.15	8.97	8.31
CAL YR 2002	LOW 11.13											
WTR YR 2003	LOW 10.86											



GROUND-WATER RECORDS
Tuscarawas County

403653081321800. LOCAL NUMBER, TU-1

LOCATION.—Latitude 40°36'53", longitude 81°32'18", Hydrologic Unit 05040001, 1.3 mi north of Strasburg, Ohio. 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

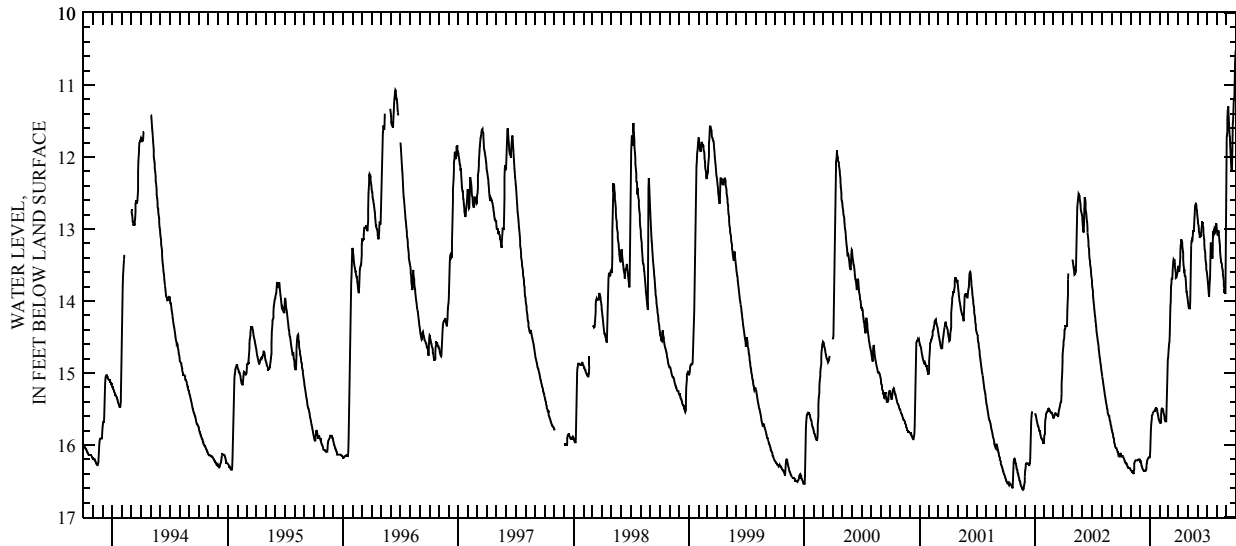
PERIOD OF RECORD.—July 1946 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 16.62 ft below land-surface datum, Nov. 24-26, 2001; minimum daily low, 6.64 ft below land-surface datum, July 14, 1969.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	16.12	16.35	16.21	16.16	15.67	14.71	13.51	13.97	12.85	13.60	13.00	12.40
2	16.14	16.35	16.24	16.08	15.69	14.64	13.53	14.02	12.88	13.64	13.04	11.72
3	16.16	16.36	16.21	15.94	15.69	14.59	13.56	14.05	12.91	13.68	13.07	11.65
4	16.16	16.36	16.25	15.80	15.69	14.57	13.59	14.08	12.95	13.75	13.09	11.48
5	16.15	16.37	16.26	15.71	15.68	14.46	13.57	14.10	13.00	13.81	13.07	11.36
6	16.15	16.37	16.29	15.67	15.58	14.21	13.53	14.08	13.03	13.86	13.02	11.30
7	16.15	16.38	16.30	15.63	15.51	14.07	13.39	14.10	13.07	13.90	13.05	11.33
8	16.16	16.38	16.31	15.59	15.49	14.02	13.33	14.10	13.12	13.94	13.10	11.42
9	16.17	16.39	16.33	15.58	15.49	13.79	13.23	14.01	13.11	13.81	13.15	11.52
10	16.18	16.40	16.34	15.56	15.49	13.77	13.18	13.79	13.10	13.74	13.19	11.61
11	16.19	16.39	16.35	15.55	15.50	13.68	13.14	13.43	13.11	13.67	13.24	11.70
12	16.20	16.33	16.35	15.54	15.51	13.69	13.17	13.23	13.07	13.35	13.30	11.72
13	16.22	16.26	16.36	15.53	15.54	13.69	13.19	13.17	13.02	13.20	13.40	11.86
14	16.23	16.23	16.36	15.53	15.56	13.60	13.22	13.15	12.96	13.20	13.42	11.94
15	16.24	16.21	16.36	15.53	15.58	13.50	13.27	13.16	12.91	13.25	13.46	12.03
16	16.25	16.21	16.36	15.53	15.59	13.45	13.33	13.15	12.91	13.29	13.47	12.13
17	16.25	16.21	16.35	15.52	15.64	13.42	13.42	13.09	12.92	13.37	13.49	12.19
18	16.26	16.21	16.35	15.50	15.66	13.43	13.50	13.03	12.93	13.41	13.52	12.19
19	16.26	16.21	16.35	15.50	15.67	13.43	13.53	13.02	12.99	13.38	13.56	12.07
20	16.27	16.21	16.35	15.49	15.67	13.43	13.57	13.04	13.04	13.04	13.59	11.72
21	16.28	16.21	16.31	15.49	15.67	13.48	13.56	12.97	13.09	13.03	13.63	11.53
22	16.30	16.21	16.26	15.49	15.67	13.52	13.66	12.86	13.15	13.08	13.68	11.49
23	16.31	16.21	16.23	15.49	15.53	13.58	13.64	12.79	13.22	13.07	13.74	11.34
24	16.31	16.20	16.20	15.52	15.29	13.62	13.66	12.69	13.28	13.02	13.78	11.22
25	16.32	16.20	16.19	15.54	15.09	13.68	13.70	12.66	13.32	12.99	13.84	11.18
26	16.32	16.20	16.18	15.56	14.92	13.67	13.79	12.65	13.38	13.00	13.88	11.17
27	16.32	16.20	16.17	15.59	14.80	13.65	13.87	12.66	13.44	13.07	13.88	11.01
28	16.32	16.20	16.17	15.60	14.78	13.61	13.87	12.67	13.49	13.01	13.90	10.70
29	16.32	16.20	16.17	15.63	---	13.61	13.91	12.72	13.57	12.97	13.90	10.59
30	16.32	16.20	16.17	15.65	---	13.57	13.94	12.74	13.58	12.92	13.70	10.52
31	16.33	---	16.17	15.66	---	13.55	---	12.81	---	12.94	12.40	---
MAX	16.33	16.40	16.36	16.16	15.69	14.71	13.94	14.10	13.58	13.94	13.90	12.40

CAL YR 2002 LOW 16.40
WTR YR 2003 LOW 16.40



GROUND-WATER RECORDS
Tuscarawas County

403823081324200. LOCAL NUMBER, TU-5

LOCATION.—Latitude 40°38'23", longitude 81°32'42", Hydrologic Unit 05040001, near Strasburg, Ohio. Owner: City of Canton.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled unused water table well, diameter 6 in., depth 100 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

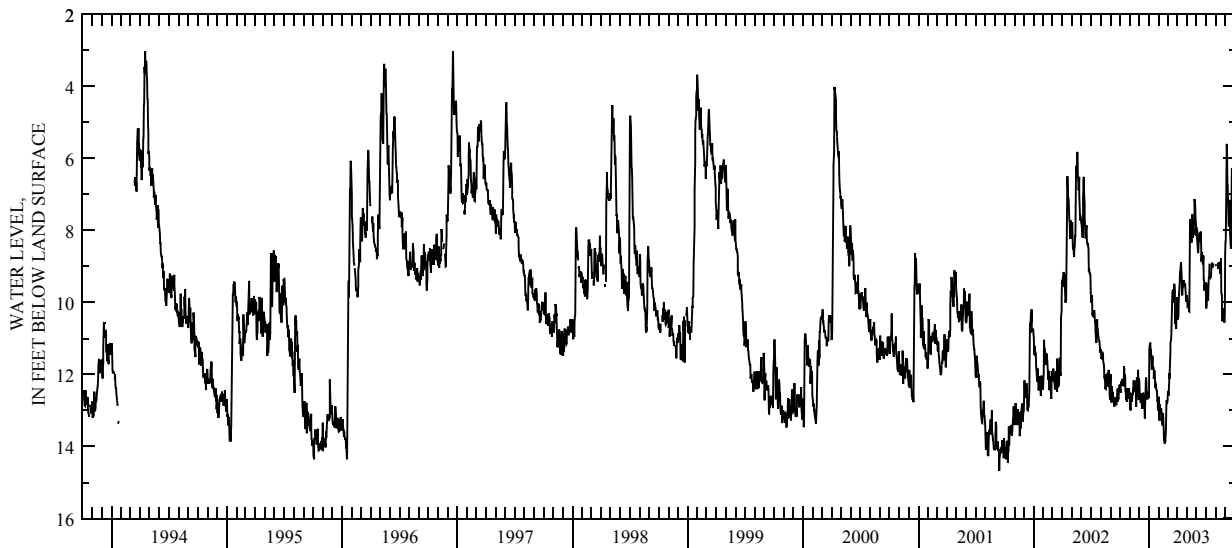
PERIOD OF RECORD.—June 1960 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 14.67 ft below land-surface datum, Sept. 14, 2001; minimum daily low, 0.20 ft below land-surface datum, Jan. 13, 1991.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	12.50	12.71	12.11	12.65	12.99	12.72	10.42	9.81	7.91	9.90	8.94	8.33
2	12.41	12.71	12.23	12.02	12.62	12.50	10.25	9.86	8.21	10.17	9.00	8.25
3	12.51	13.00	12.56	11.30	13.15	12.47	10.41	10.02	8.21	10.06	---	6.32
4	12.29	12.93	12.59	11.13	13.29	12.60	10.47	10.16	8.31	9.72	8.90	5.90
5	12.20	13.00	12.71	11.15	12.83	12.42	10.35	9.98	8.58	9.49	---	5.60
6	12.24	12.57	12.78	11.12	13.07	12.24	9.93	10.04	8.61	9.90	---	5.88
7	12.32	12.60	12.71	11.49	12.95	11.96	9.74	10.09	8.63	9.93	8.90	6.72
8	12.12	12.75	12.53	11.30	13.04	12.11	9.59	10.25	8.19	9.95	8.92	6.75
9	12.30	12.71	12.80	11.46	12.93	11.63	9.42	10.26	8.25	9.47	9.06	7.28
10	12.26	12.51	12.85	11.87	13.05	11.37	9.14	9.62	8.10	9.33	8.99	7.64
11	12.29	12.56	12.96	11.70	13.07	11.12	9.23	7.97	8.12	9.30	9.00	7.86
12	12.23	12.38	12.81	11.48	13.37	11.03	9.01	7.69	8.22	8.92	8.92	7.85
13	12.33	12.50	12.62	11.54	13.35	10.86	8.88	7.89	8.30	---	8.87	7.20
14	11.78	12.17	12.50	11.88	13.43	10.79	9.05	8.06	8.03	---	9.05	7.16
15	11.88	12.42	12.60	11.78	13.08	10.01	9.27	8.22	8.03	9.23	9.21	8.04
16	12.08	12.47	12.65	11.88	13.34	9.74	9.74	8.34	8.48	9.29	9.01	8.19
17	11.99	12.39	12.84	12.12	13.53	9.71	9.80	7.88	8.87	9.27	8.92	8.39
18	12.11	12.18	12.95	11.90	13.85	9.65	9.60	7.55	8.67	9.00	8.78	8.51
19	12.44	12.48	13.22	11.91	13.67	9.86	9.48	7.92	8.61	9.01	9.74	7.56
20	12.54	12.35	12.81	11.92	13.92	10.01	9.56	8.15	8.78	8.90	9.81	6.75
21	12.72	12.51	12.60	12.30	13.82	9.75	9.38	8.21	8.94	8.99	10.20	6.29
22	12.38	12.90	12.20	12.27	13.88	10.01	9.45	7.97	8.92	9.03	10.53	6.60
23	12.75	12.48	12.09	12.29	13.65	9.49	9.54	8.13	8.70	8.99	10.34	6.84
24	12.47	12.08	12.23	12.36	13.55	9.72	9.53	7.81	9.34	8.91	10.19	6.29
25	12.48	12.14	12.59	12.42	12.93	10.38	9.54	7.58	9.39	---	10.17	6.14
26	12.39	12.36	12.63	12.45	12.72	10.61	9.47	7.13	9.67	---	10.32	6.29
27	12.50	12.42	12.69	12.48	12.77	10.40	9.65	7.23	9.54	---	10.34	6.24
28	12.47	11.87	12.69	12.74	12.78	10.70	9.81	7.50	9.51	---	10.53	4.35
29	12.66	12.56	12.47	12.72	---	10.73	9.96	7.59	9.53	---	10.56	4.71
30	12.38	12.71	12.66	12.99	---	9.86	9.96	7.89	9.44	---	10.29	4.73
31	12.45	---	12.59	12.75	---	10.20	---	8.15	---	---	8.63	---
MAX	12.75	13.00	13.22	12.99	13.92	12.72	10.47	10.26	9.67	10.17	10.56	8.51

CAL YR 2002 LOW 13.22
WTR YR 2003 LOW 13.92



GROUND-WATER RECORDS
Union County

401826083255200. LOCAL NUMBER, U-4

LOCATION.—Latitude 40°18'26", longitude 83°25'52", Hydrologic Unit 05060001, 2.6 mi southeast of Raymond, Ohio. 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.—Electronic data logger, 60-minute log interval.

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.

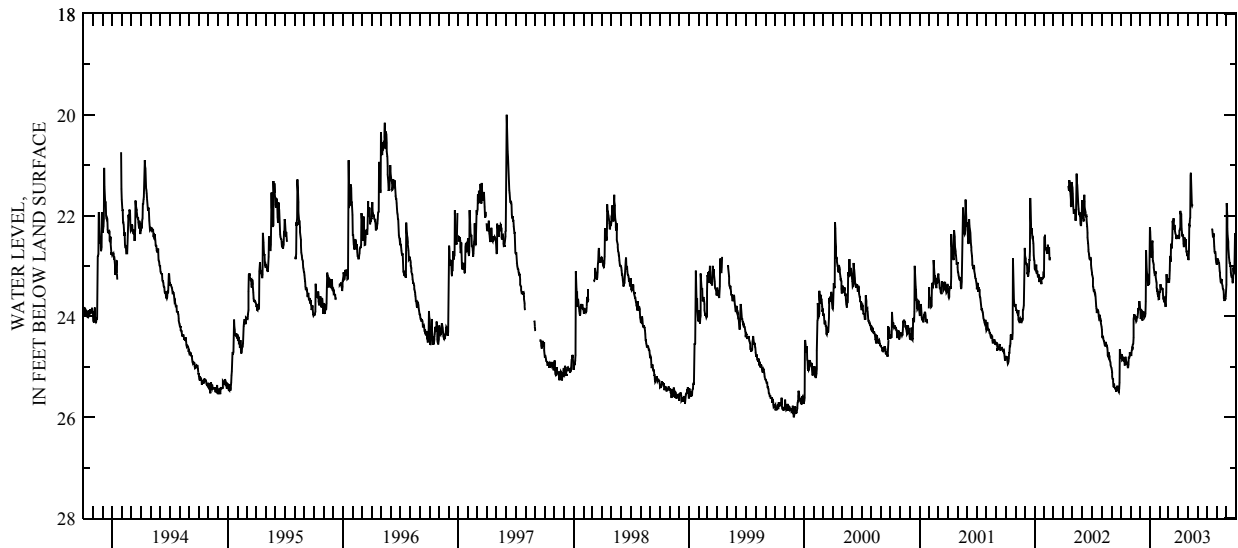
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—February 1973 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 26.00 ft below land-surface datum, Nov. 30, 1999; minimum daily low, 19.32 ft below land-surface datum, Feb. 24, 1975.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	24.80	24.77	23.81	22.23	23.52	23.31	22.38	22.77	---	---	22.97	23.33
2	24.81	24.77	23.87	22.32	23.52	23.31	22.43	22.80	---	---	22.94	21.75
3	24.80	24.77	24.05	22.49	23.51	23.33	22.46	22.88	---	---	22.85	22.01
4	24.75	24.68	24.03	22.55	23.36	23.25	22.43	22.86	---	---	22.89	22.26
5	24.87	24.68	23.87	22.62	23.47	23.09	22.29	22.70	---	---	22.88	22.40
6	24.86	24.62	23.88	22.82	23.47	22.80	22.28	22.19	---	---	22.89	22.52
7	24.86	24.63	23.90	22.82	23.42	22.88	22.23	22.20	---	---	22.94	22.62
8	24.87	24.56	24.06	22.58	23.45	22.91	21.90	22.07	---	---	22.92	22.72
9	24.84	24.53	24.08	22.49	23.45	22.56	21.96	22.04	---	---	23.00	22.82
10	24.86	24.42	23.99	22.72	23.45	22.64	21.97	21.20	---	---	23.09	22.88
11	24.83	24.05	23.90	22.89	23.45	22.64	22.01	21.15	---	---	23.13	22.94
12	24.81	23.96	23.99	22.94	23.58	22.56	22.25	21.47	---	---	23.19	22.94
13	24.96	23.99	23.96	22.97	23.64	22.44	22.38	21.65	---	---	23.30	23.00
14	24.96	23.96	23.93	23.03	23.63	22.10	22.41	21.77	---	---	23.34	23.00
15	24.80	24.02	23.91	23.13	23.72	22.16	22.38	21.80	---	---	23.33	23.12
16	24.81	24.02	24.00	23.13	23.70	22.10	22.40	21.78	---	---	23.27	23.18
17	24.86	24.03	23.99	23.16	23.61	22.05	22.43	---	---	22.25	23.27	23.21
18	24.89	24.09	23.94	23.15	23.69	22.19	22.55	---	---	22.28	23.34	23.21
19	24.89	24.09	23.70	23.10	23.75	22.26	22.62	---	---	22.35	23.39	23.21
20	24.93	24.08	22.68	23.21	23.81	22.28	22.59	---	---	22.43	23.45	23.30
21	24.93	24.00	22.89	23.30	23.69	22.19	22.43	---	---	22.41	23.45	23.34
22	24.97	24.02	23.06	23.33	23.52	22.29	22.47	---	---	22.35	23.47	23.25
23	25.01	24.02	23.15	23.42	23.16	22.37	22.56	---	---	22.46	23.57	23.03
24	25.01	23.91	23.16	23.51	23.28	22.38	22.56	---	---	22.61	23.63	23.10
25	24.95	23.85	23.21	23.45	23.31	22.43	22.47	---	---	22.70	23.64	23.12
26	24.80	23.85	23.39	23.55	23.27	22.43	22.62	---	---	22.74	23.69	23.10
27	24.83	23.84	23.37	23.60	23.24	22.46	22.71	---	---	22.70	23.61	22.86
28	24.80	23.82	23.30	23.51	23.31	22.43	22.71	---	---	22.74	23.66	22.35
29	24.78	23.69	23.37	23.66	---	22.43	22.79	---	---	22.85	23.64	22.53
30	24.71	23.75	23.33	23.66	---	22.41	22.79	---	---	22.92	23.60	22.62
31	24.77	---	22.64	23.60	---	22.43	---	---	---	22.95	23.37	---
MAX	25.01	24.77	24.08	23.66	23.81	23.33	22.79	22.88	---	22.95	23.69	23.34
CAL YR 2002		LOW 25.50										
WTR YR 2003		LOW 25.01										



GROUND-WATER RECORDS
Union County

402010083321900. LOCAL NUMBER, U-5

LOCATION.—Latitude 40°20'10", longitude 83°32'19", Hydrologic Unit 05060001, east of East Liberty, Ohio. 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 ft. above land-surface datum.

REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

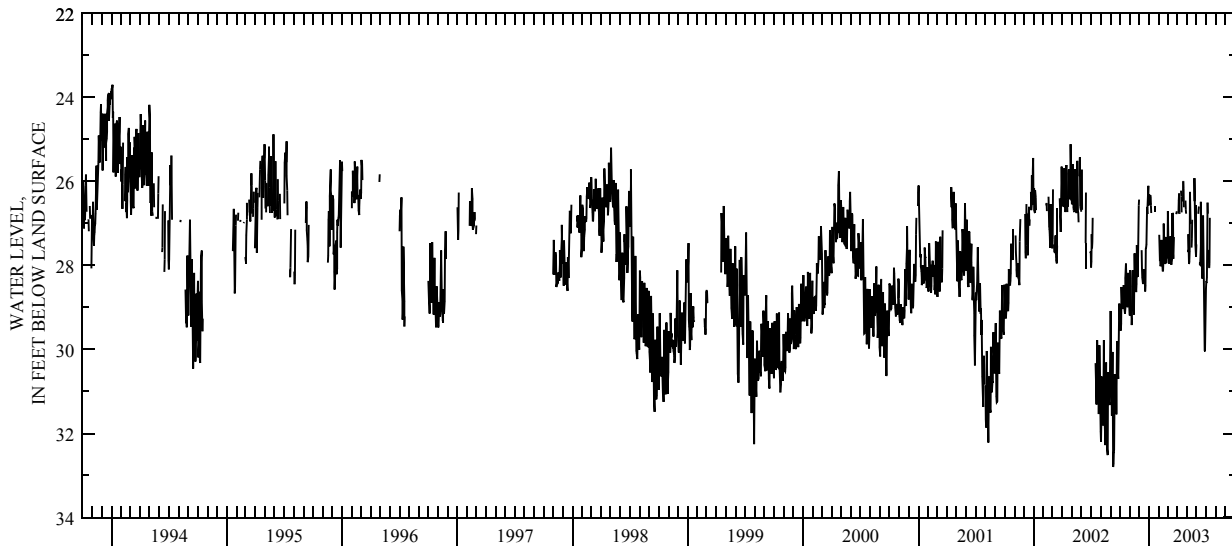
PERIOD OF RECORD.—September 1991 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 33.25 ft below land-surface datum, Oct. 10, 1991; minimum daily low, 23.06 ft below land-surface datum, Apr. 29, 1993.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	29.23	29.19	26.44	26.49	---	27.60	---	---	26.56	28.56	---	---
2	29.41	28.97	---	26.31	---	26.71	---	---	---	28.40	---	---
3	29.46	28.11	---	26.55	27.27	27.24	---	---	---	28.40	---	---
4	29.55	28.50	---	26.55	27.61	27.64	---	---	---	28.29	---	---
5	29.39	28.75	---	26.39	27.85	27.75	26.77	27.26	---	27.20	---	---
6	28.52	29.05	---	26.33	27.84	27.96	26.46	27.68	---	26.51	---	---
7	28.71	29.27	---	26.53	28.02	27.86	26.29	27.63	26.77	26.77	---	---
8	28.93	29.42	---	26.57	27.99	27.80	26.73	27.97	26.60	---	---	---
9	29.04	29.15	27.64	26.76	27.72	27.50	26.77	27.91	---	27.63	---	---
10	28.85	28.12	28.07	---	27.40	27.31	---	27.67	---	27.77	---	---
11	28.68	28.31	28.29	---	27.64	27.65	---	26.25	27.94	28.06	---	---
12	28.67	28.57	28.35	---	27.90	27.96	---	26.62	27.98	27.96	---	---
13	28.47	28.65	28.33	26.35	28.01	27.98	26.22	27.01	27.99	26.87	---	---
14	28.59	28.66	28.45	---	28.14	27.98	26.36	26.96	27.54	---	---	---
15	28.73	29.17	28.11	---	28.11	27.85	26.74	---	26.49	---	---	---
16	29.01	28.77	28.11	---	27.90	27.50	---	27.58	27.12	---	---	---
17	29.15	27.72	28.33	---	27.01	26.77	---	27.37	27.54	27.49	---	---
18	29.03	28.01	28.15	---	27.43	26.77	---	26.92	27.87	---	---	---
19	28.30	28.42	28.16	26.59	27.77	27.84	26.48	---	28.15	---	---	---
20	27.96	28.59	28.62	26.71	27.97	27.74	26.00	---	28.32	---	---	---
21	28.25	28.54	28.48	---	27.92	27.33	26.18	---	27.99	---	---	---
22	28.50	28.64	27.60	---	27.65	---	26.62	---	26.82	---	---	---
23	28.65	28.45	27.57	---	27.34	---	---	---	27.44	---	---	---
24	28.99	27.52	27.50	---	27.33	---	---	---	28.53	---	---	---
25	29.00	27.82	26.98	---	27.95	---	---	26.47	29.39	---	---	---
26	28.85	28.26	26.61	---	27.83	---	---	25.92	29.73	---	---	---
27	28.18	28.27	26.78	---	27.81	---	26.46	26.54	30.03	---	---	---
28	28.29	27.97	26.67	---	27.78	---	26.68	27.21	30.05	---	---	---
29	28.64	27.01	26.27	---	---	26.78	26.77	27.52	29.57	---	---	---
30	28.74	26.58	26.11	---	---	26.71	---	27.79	28.88	---	---	---
31	28.92	---	26.57	---	---	---	---	27.50	---	---	---	---
MAX	29.55	29.42	28.62	26.76	28.14	27.98	26.77	27.97	30.05	28.56	---	---

CAL YR 2002 LOW 32.80
WTR YR 2003 LOW 30.05



GROUND-WATER RECORDS
Vinton County

391452082282900. LOCAL NUMBER, V-1

LOCATION.—Latitude 39°14'52", longitude 82°28'29", Hydrologic Unit 05090101, State Highway garage in McArthur, Ohio. 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.

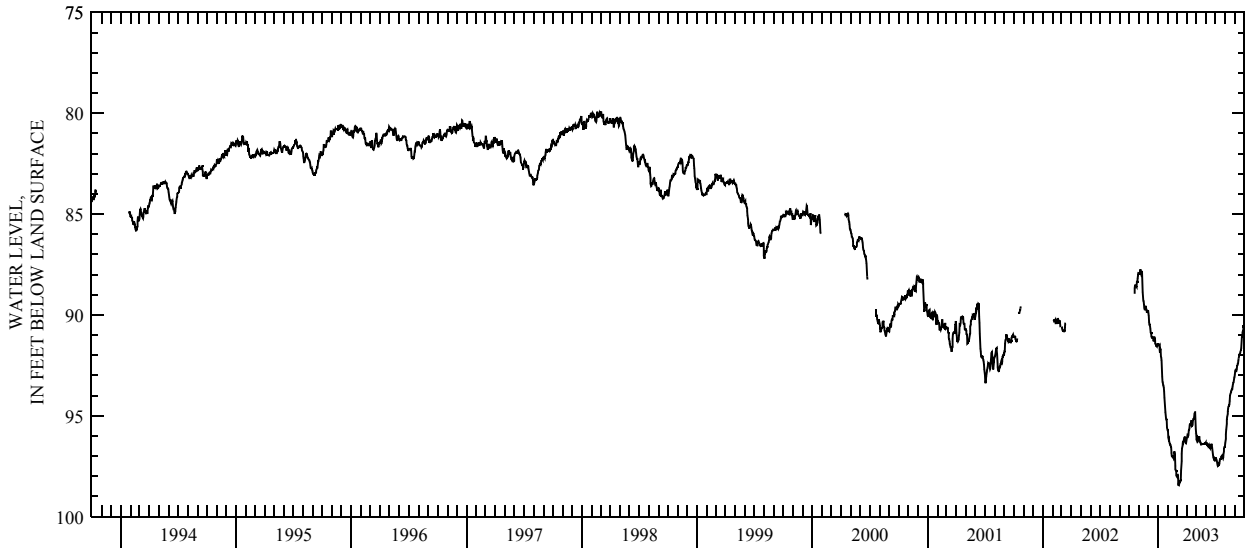
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—September 1959 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 98.45 ft below land-surface datum, Mar. 7, 2003; minimum daily low, 49.55 ft below land-surface datum, Mar. 20, 1963.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	87.96	89.93	91.49	95.71	97.99	96.21	95.87	96.38	97.19	96.51	92.95
2	---	87.97	90.04	91.48	96.08	97.98	96.11	96.00	96.39	97.13	96.35	92.80
3	---	87.98	90.35	91.48	96.14	98.01	96.07	96.18	96.38	97.08	96.14	92.73
4	---	87.89	90.49	91.51	96.12	97.98	95.95	96.26	96.32	97.17	95.93	92.72
5	---	87.89	90.48	91.49	96.30	98.13	95.97	96.22	96.47	97.19	95.70	92.84
6	---	87.74	90.56	91.71	96.34	98.43	96.01	96.05	96.49	97.26	95.41	92.77
7	---	87.91	90.69	91.88	96.40	98.45	95.95	96.10	96.48	97.36	95.20	92.70
8	---	87.97	90.86	91.69	96.46	98.36	95.75	96.22	96.39	97.46	95.05	92.53
9	---	87.93	90.93	91.72	96.46	98.26	95.70	96.22	96.49	97.50	94.91	92.51
10	---	87.84	90.92	92.05	96.52	98.31	95.63	96.15	96.55	97.49	94.79	92.46
11	---	87.89	91.05	92.12	96.57	98.31	95.46	96.03	96.53	97.32	94.65	92.41
12	---	88.32	91.15	92.27	96.84	98.25	95.39	96.15	96.49	97.40	94.52	92.26
13	---	88.88	91.15	92.66	97.01	98.23	95.49	96.26	96.54	97.42	94.50	92.15
14	---	89.10	91.10	93.07	97.02	98.24	95.49	96.30	96.59	97.35	94.50	92.07
15	---	89.31	91.10	93.32	97.05	97.72	95.38	96.32	96.62	97.28	94.44	91.96
16	---	89.32	91.17	93.37	97.07	97.26	95.28	96.40	96.55	97.15	94.27	91.94
17	---	89.47	91.28	93.48	96.97	96.90	95.23	96.47	96.52	97.15	93.99	91.93
18	88.96	89.70	91.29	93.52	97.08	96.61	95.51	96.43	96.45	97.11	93.92	91.87
19	88.68	89.71	91.29	93.60	97.11	96.47	95.50	96.38	96.39	97.05	93.87	91.77
20	88.54	89.76	91.09	93.80	97.08	96.40	95.45	96.38	96.47	97.04	93.84	91.74
21	88.55	89.69	91.16	94.11	97.01	96.26	95.24	96.39	96.58	97.01	93.75	91.65
22	88.55	89.54	91.29	94.32	96.76	96.30	95.17	96.39	96.70	96.96	93.73	91.40
23	88.57	89.69	91.44	94.56	97.01	96.27	95.17	96.39	96.83	96.99	93.68	91.11
24	88.62	89.70	91.47	94.81	97.50	96.16	95.16	96.39	96.97	97.04	93.67	91.07
25	88.58	89.75	91.44	94.97	97.66	96.09	95.05	96.38	97.07	97.12	93.55	90.95
26	88.36	89.87	91.54	95.13	97.73	96.07	94.86	96.38	97.07	97.06	93.45	90.88
27	88.36	89.86	91.57	95.19	97.74	96.08	94.84	96.39	97.19	96.96	93.37	90.76
28	88.21	89.87	91.55	95.20	97.98	96.19	94.83	96.39	97.22	96.77	93.36	90.62
29	88.10	89.81	91.50	95.60	---	96.36	95.26	96.32	97.23	96.64	93.25	90.54
30	87.96	89.77	91.50	95.66	---	96.37	95.68	96.35	97.20	96.56	93.13	90.55
31	87.97	---	91.49	95.71	---	96.31	---	96.30	---	96.56	93.09	---
MAX	88.96	89.87	91.57	95.71	97.98	98.45	96.21	96.47	97.23	97.50	96.51	92.95
CAL YR 2002		LOW 91.57										
WTR YR 2003		LOW 98.45										



GROUND-WATER RECORDS
Vinton County

392016082272400. LOCAL NUMBER, V-100

LOCATION.—Latitude 39°20'16", longitude 82°27'24", Hydrologic Unit 05090101, 6 mi north of McArthur, Ohio. Owner: State of Ohio.

AQUIFER.—Sandstone of Mississippian Age.

WELL CHARACTERISTICS.—Drilled unused artesian well, diameter 6 in., depth 211 ft, cased to 180 ft.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 770 ft above sea level (from topographic map). Measuring Point: Top of platform 3.00 ft below land-surface datum.

REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

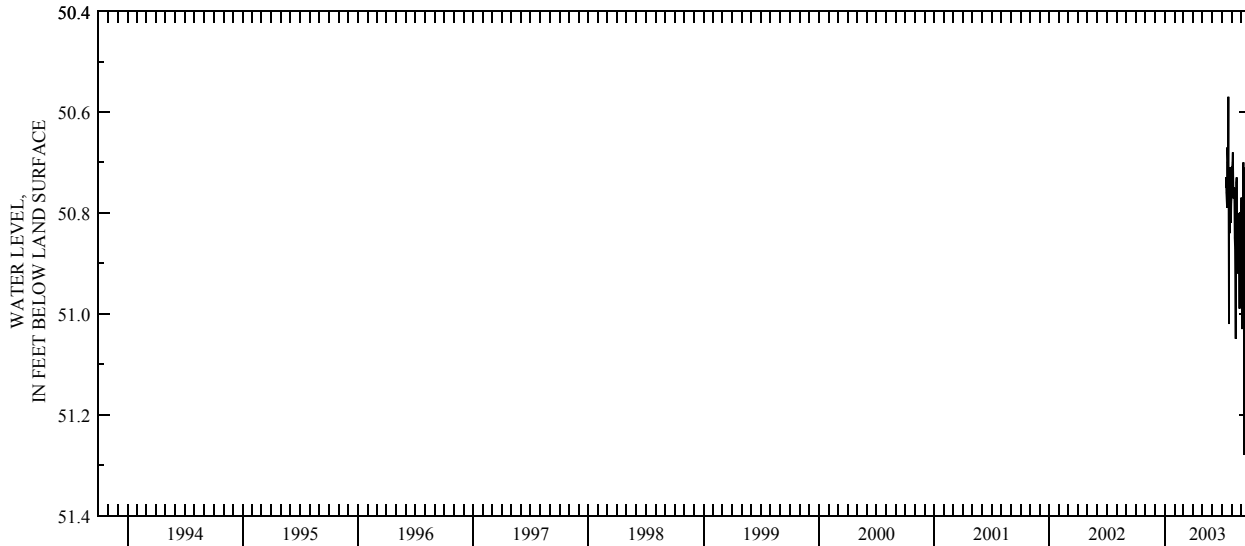
PERIOD OF RECORD.—March 2003 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 51.28 ft below land-surface datum, Sept. 10, 2003; minimum daily low, 50.45 ft below land-surface datum, Mar. 26, 2003.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	---	---	---	---	---	---	---	50.77	50.77
2	---	---	---	---	---	---	---	---	---	---	50.71	50.89
3	---	---	---	---	---	---	---	---	---	---	50.71	51.03
4	---	---	---	---	---	---	---	---	---	---	50.70	50.80
5	---	---	---	---	---	---	---	---	---	---	50.68	51.03
6	---	---	---	---	---	---	---	---	---	---	50.71	50.73
7	---	---	---	---	---	---	---	---	---	---	50.77	50.70
8	---	---	---	---	---	---	---	---	---	---	50.77	51.00
9	---	---	---	---	---	---	---	---	---	---	50.75	51.03
10	---	---	---	---	---	---	---	---	---	---	50.77	51.28
11	---	---	---	---	---	---	---	---	---	---	50.85	51.13
12	---	---	---	---	---	---	---	---	---	---	50.87	50.96
13	---	---	---	---	---	---	---	---	---	---	50.98	50.73
14	---	---	---	---	---	---	---	---	---	50.75	51.05	50.71
15	---	---	---	---	---	---	---	---	---	50.73	50.86	50.91
16	---	---	---	---	---	---	---	---	---	50.76	50.74	51.00
17	---	---	---	---	---	---	---	---	---	50.79	50.73	51.05
18	---	---	---	---	---	---	---	---	---	50.70	50.87	51.11
19	---	---	---	---	---	---	---	---	---	50.67	50.82	50.82
20	---	---	---	---	---	---	---	---	---	50.70	50.92	50.77
21	---	---	---	---	---	---	---	---	---	50.70	50.83	50.77
22	---	---	---	---	---	---	---	---	---	50.57	50.87	51.05
23	---	---	---	---	---	---	---	---	---	51.02	50.80	50.85
24	---	---	---	---	---	---	---	---	---	50.75	50.89	50.92
25	---	---	---	---	---	---	---	---	---	50.83	50.94	50.83
26	---	---	---	---	---	50.45	---	---	---	50.84	50.99	50.79
27	---	---	---	---	---	---	---	---	---	50.76	50.91	50.54
28	---	---	---	---	---	---	---	---	---	50.71	50.98	50.59
29	---	---	---	---	---	---	---	---	---	50.76	50.91	50.84
30	---	---	---	---	---	---	50.63	---	---	50.82	50.83	50.96
31	---	---	---	---	---	---	---	---	---	50.78	50.85	---
MAX	---	---	---	---	---	50.45	50.63	---	---	51.02	51.05	51.28

WTR YR 2003 LOW 51.28



GROUND-WATER RECORDS
Warren County

392119084142000. LOCAL NUMBER, W-6

LOCATION.—Latitude 39°21'19", longitude 84°14'20", Hydrologic Unit 05090202, southeast of Kings Mills, Ohio Owner: State of Ohio.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled observation well, diameter 6 in., depth 48 ft., cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

DATUM.—Elevation of land-surface datum is 619 ft above sea level (from topographic map). Measuring point: Floor of instrument shelter 3.00 ft above land-surface datum.

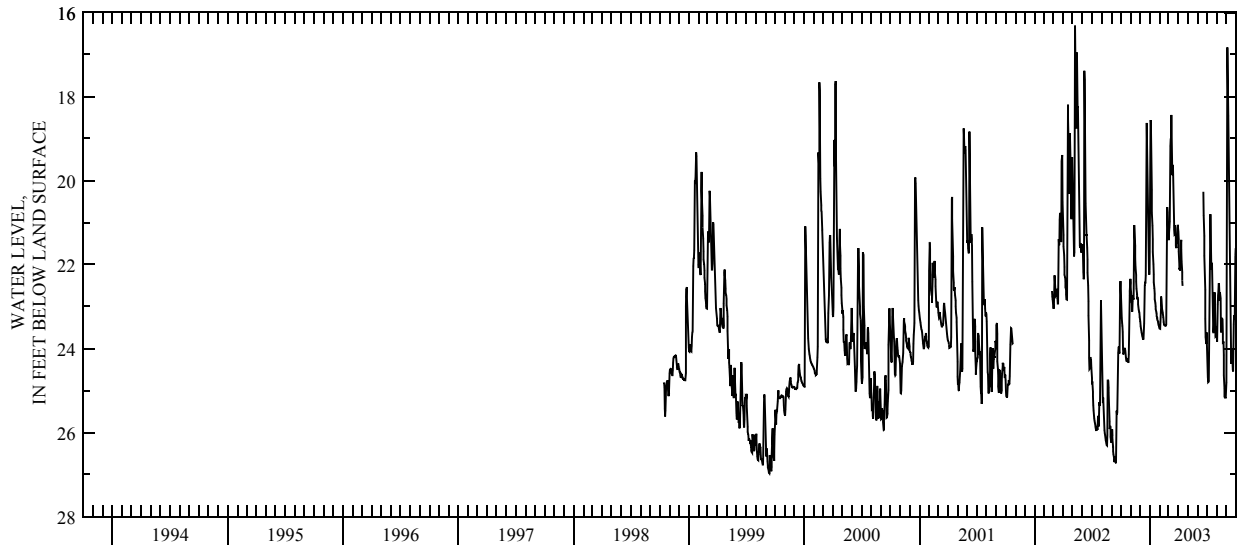
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—October 1998 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 26.97 ft below land-surface datum, Sept. 13, 1999; minimum daily low, 16.31 ft below land-surface datum, May 9, 2002.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	22.63	22.44	23.30	21.50	23.52	21.42	21.22	---	---	23.82	23.61	24.22
2	22.82	22.56	23.36	19.58	23.53	21.40	21.40	---	---	24.15	23.83	23.72
3	23.04	22.72	23.46	18.56	23.53	21.21	21.69	---	---	24.43	23.48	20.01
4	23.27	22.92	23.51	18.59	23.39	21.11	22.01	---	---	24.68	22.95	16.83
5	23.38	23.10	23.56	19.18	23.00	20.98	22.12	---	---	24.80	22.73	17.73
6	23.46	23.10	23.61	19.79	22.76	20.01	22.10	---	---	24.79	22.63	18.46
7	23.60	22.87	23.65	20.22	22.83	19.18	22.14	---	---	24.77	22.45	19.30
8	24.02	22.73	23.70	20.76	22.96	19.00	21.96	---	---	24.49	22.47	20.63
9	24.14	22.81	23.72	21.08	23.06	18.98	21.55	---	---	23.81	22.70	21.42
10	24.11	22.84	23.76	21.40	23.10	18.44	21.41	---	---	22.86	22.86	21.89
11	24.08	22.71	23.79	21.70	23.14	18.74	21.65	---	---	21.49	22.80	22.23
12	24.06	21.44	23.76	21.99	23.20	19.50	21.92	---	---	20.80	22.67	22.55
13	24.00	21.06	23.56	22.23	23.26	19.87	22.18	---	---	21.28	22.80	23.08
14	24.00	21.24	23.40	22.42	23.35	19.84	22.38	---	---	21.75	23.39	23.70
15	24.04	21.56	22.90	22.57	23.42	19.63	22.51	---	---	22.11	23.61	24.13
16	24.13	21.84	22.49	22.70	23.44	20.15	---	---	---	22.10	23.52	24.36
17	24.21	22.06	22.43	22.82	23.45	20.54	---	---	---	21.96	23.35	24.32
18	24.27	22.25	22.43	22.91	23.45	20.88	---	---	---	22.21	23.27	24.02
19	24.30	22.41	22.26	23.00	23.44	21.17	---	---	---	22.61	23.32	24.33
20	24.30	22.57	21.73	23.06	23.45	21.29	---	---	20.27	23.23	23.65	24.31
21	24.25	22.71	19.02	23.12	23.45	21.28	---	---	20.83	23.61	23.86	24.50
22	24.26	22.79	18.63	23.17	23.42	21.06	---	---	21.32	23.61	23.85	24.54
23	24.30	22.78	19.26	23.24	22.88	21.13	---	---	21.79	23.45	24.15	24.11
24	24.32	22.82	20.08	23.27	21.36	21.34	---	---	22.14	23.00	24.63	23.42
25	24.32	22.94	20.67	23.30	20.63	21.56	---	---	22.60	22.66	24.95	23.21
26	24.14	23.01	21.10	23.34	20.76	21.61	---	---	23.29	22.85	25.15	23.27
27	23.31	23.07	21.51	23.36	21.08	21.39	---	---	23.72	23.32	25.17	23.28
28	22.98	23.11	21.82	23.39	21.30	21.45	---	---	23.89	23.72	25.17	22.58
29	22.74	23.14	22.12	23.44	---	21.50	---	---	23.82	23.71	25.17	21.79
30	22.63	23.24	22.24	23.46	---	21.18	---	---	23.61	23.52	25.17	21.61
31	22.34	---	22.14	23.49	---	21.05	---	---	---	23.48	24.81	---
MAX	24.32	23.24	23.79	23.49	23.53	21.61	22.51	---	23.89	24.80	25.17	24.54
MIN	22.34	21.06	18.63	18.56	20.63	18.44	21.22	---	20.27	20.80	22.45	16.83
CAL YR 2002		HIGH 16.31		LOW 26.73								
WTR YR 2003		HIGH 16.83		LOW 25.17								



GROUND-WATER RECORDS
Warren County

392712084191700. LOCAL NUMBER, W-5

LOCATION.—Latitude 39°27'12", longitude 84°19'17", Hydrologic Unit 05080002, Union Road, 2 mi east of Monroe, Ohio. Owner: Bob Proeschel.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled unused artesian well, diameter 12 in., depth 121 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

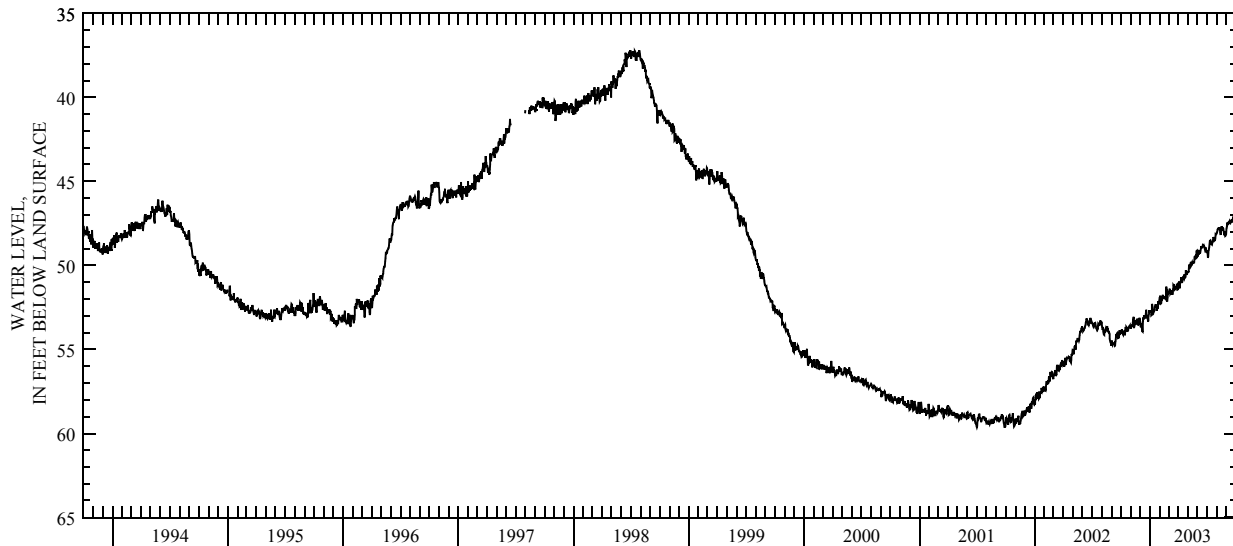
PERIOD OF RECORD.—March 1972 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 59.64 ft below land-surface datum, July 2, 2001; minimum daily low, 17.55 ft below land-surface datum, May 4, 1975.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	54.00	53.73	53.31	52.73	51.95	51.59	51.06	50.40	49.46	49.22	48.07	47.81
2	53.94	53.68	53.39	52.68	51.89	51.60	51.03	50.37	49.41	49.11	47.99	47.72
3	53.91	53.58	53.68	52.76	51.81	51.68	51.00	50.37	49.19	49.28	47.91	47.51
4	53.81	53.58	53.64	52.76	52.13	51.43	50.97	50.37	49.17	49.56	47.84	47.45
5	54.00	53.57	53.43	52.74	52.28	51.43	51.33	49.95	49.35	49.46	47.79	47.54
6	53.89	53.57	53.60	52.99	52.26	51.68	51.33	50.06	49.32	49.13	47.79	47.49
7	54.11	53.60	53.57	52.95	52.10	51.63	51.06	50.04	49.14	49.05	47.84	47.45
8	54.14	53.42	53.94	52.29	52.07	51.54	51.03	50.07	49.14	48.93	47.84	47.42
9	54.04	53.31	53.96	52.34	51.93	51.60	50.97	49.94	49.31	48.74	47.90	47.48
10	53.99	53.07	53.31	52.67	51.81	51.75	50.84	49.84	49.23	48.56	47.87	47.49
11	53.93	53.64	53.10	52.85	51.81	51.59	50.70	49.83	49.01	48.53	47.82	47.49
12	53.93	53.72	53.21	52.86	51.96	51.49	50.87	49.99	48.92	48.65	48.00	47.39
13	54.17	53.63	53.04	52.61	51.94	51.75	51.03	49.96	48.93	48.71	48.14	47.42
14	54.11	53.39	53.03	52.65	51.94	51.75	50.97	49.90	48.95	48.74	48.14	47.30
15	53.79	53.27	52.98	52.70	51.95	51.45	50.84	49.82	48.95	48.68	48.02	47.39
16	53.79	53.33	53.12	52.64	51.91	51.38	50.69	49.88	48.95	48.68	47.72	47.34
17	53.82	53.39	53.12	52.49	51.82	51.18	50.66	49.86	48.87	48.71	47.72	47.34
18	53.84	53.42	53.03	52.43	51.92	51.24	50.78	49.77	48.80	48.57	47.87	47.31
19	53.66	53.48	52.86	52.31	51.96	51.21	50.82	49.82	48.81	48.59	47.87	47.27
20	53.72	53.46	52.65	52.34	51.99	51.21	50.70	49.85	48.82	48.53	47.84	47.43
21	53.68	53.18	52.83	52.46	51.74	51.32	50.55	49.82	48.80	48.32	47.79	47.39
22	53.89	53.37	53.09	52.46	51.27	51.43	50.66	49.62	48.86	48.38	47.81	47.18
23	53.89	53.28	53.10	52.64	51.81	51.42	50.69	49.50	48.92	48.41	48.05	47.03
24	53.85	53.25	53.09	52.64	52.11	51.32	50.67	49.46	49.01	48.47	48.05	46.97
25	53.73	53.54	53.19	52.43	52.11	51.30	50.28	49.44	49.08	48.53	48.00	46.98
26	53.67	53.54	53.34	52.52	51.90	51.30	50.43	49.57	49.04	48.51	48.02	46.86
27	53.66	53.46	53.27	52.53	51.59	51.24	50.57	49.56	48.93	48.42	48.17	46.73
28	53.61	53.43	53.04	52.13	51.63	51.09	50.49	49.40	49.08	48.20	48.27	46.85
29	53.55	53.12	52.88	52.29	---	51.45	50.49	49.16	49.20	48.12	48.23	46.97
30	53.64	53.21	52.80	52.28	---	51.42	50.43	49.13	49.22	48.14	48.17	47.01
31	53.72	---	52.73	52.10	---	51.30	---	49.28	---	48.09	48.12	---
MAX	54.17	53.73	53.96	52.99	52.28	51.75	51.33	50.40	49.46	49.56	48.27	47.81

CAL YR 2002 LOW 58.26
WTR YR 2003 LOW 54.17



GROUND-WATER RECORDS
Washington County

392553081281600. LOCAL NUMBER, WA-2

LOCATION.—Latitude 39°25'53", longitude 81°28'16", Hydrologic Unit 05040004, near county fairgrounds north of Marietta, Ohio. Owner: City of Marietta.

AQUIFER.—Sand and gravel of Quaternary Age.

WELL CHARACTERISTICS.—Drilled unused water table well, diameter 8 in., depth, 50 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval. Satellite telemeter at site.

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.

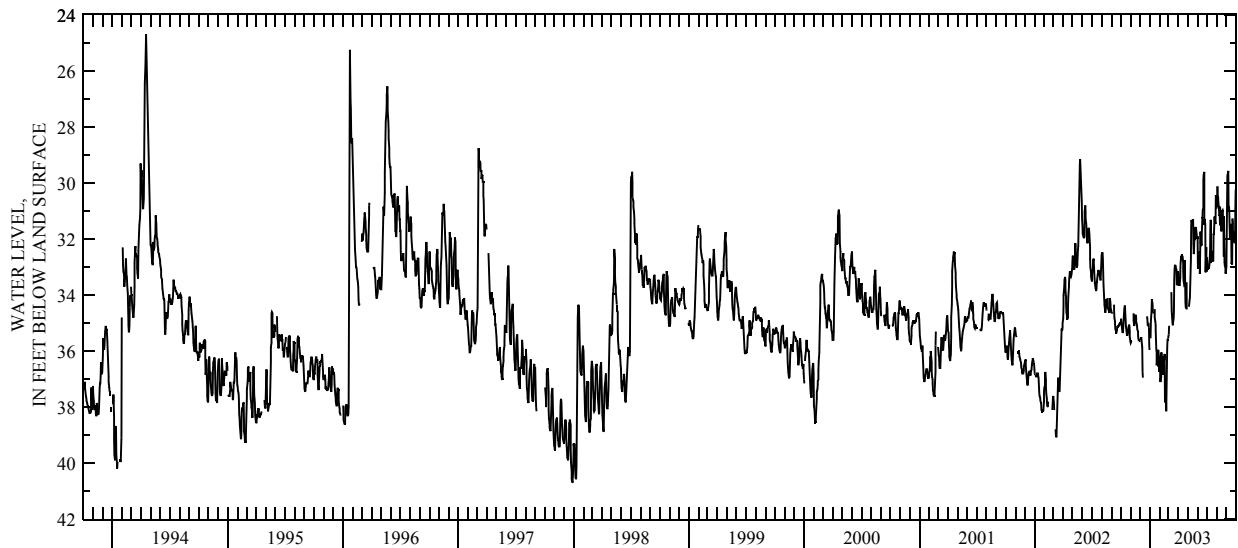
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR. New well was drilled adjacent to WA-2 in water year 2003. Site identification remains unchanged.

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 and 8, 1992; minimum daily low, 13.35 ft below land-surface datum, Feb. 27, 1979.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	35.00	35.70	35.65	---	36.45	35.45	33.20	---	31.90	32.67	30.85	32.84
2	34.85	35.70	---	---	36.50	35.40	33.25	---	32.91	32.76	30.81	31.94
3	35.00	35.65	35.60	35.55	37.00	35.10	33.36	---	33.05	33.01	30.13	30.41
4	35.10	35.65	35.55	34.95	37.10	---	33.40	---	32.87	33.08	30.54	29.74
5	35.20	---	35.50	34.75	36.90	---	33.64	34.41	32.45	33.04	30.47	29.69
6	35.30	---	35.65	34.60	36.95	---	33.64	34.29	32.67	33.05	30.69	29.56
7	35.35	---	35.75	34.20	36.05	---	33.36	34.17	32.70	33.04	30.81	29.88
8	35.30	---	35.85	34.15	36.65	---	33.14	34.08	32.56	33.01	31.01	31.02
9	35.05	---	36.75	34.30	36.80	---	32.82	33.56	33.25	32.89	31.17	30.82
10	34.85	34.65	36.95	34.45	36.85	33.90	32.60	33.09	31.74	32.61	31.13	31.01
11	34.65	34.90	---	34.60	36.35	34.55	32.67	32.79	31.96	32.43	31.51	31.67
12	34.50	35.10	---	34.65	36.20	34.75	32.68	31.54	32.13	32.06	30.85	32.03
13	34.40	35.10	---	---	36.85	34.90	32.56	31.32	32.22	31.31	31.12	31.47
14	34.40	35.00	---	---	36.55	35.05	32.64	31.39	32.21	32.85	31.26	31.49
15	34.65	34.90	---	---	36.35	35.05	32.64	31.47	31.83	32.56	31.67	31.64
16	34.90	34.80	---	34.50	36.30	34.90	32.79	31.47	31.22	32.47	31.73	31.70
17	35.10	34.70	---	34.80	36.10	34.85	33.15	31.34	31.26	32.42	30.97	32.89
18	35.20	34.80	---	34.95	37.80	34.60	33.45	31.29	30.97	32.56	31.01	32.85
19	35.30	34.95	---	35.10	37.80	33.45	33.54	32.19	30.90	32.75	30.96	32.91
20	35.40	35.00	---	35.25	37.45	33.10	33.61	32.54	29.88	32.76	31.03	31.27
21	35.45	35.10	---	35.95	37.60	32.95	33.59	32.40	29.69	32.80	31.17	31.39
22	35.40	35.15	---	36.00	38.15	32.95	32.75	31.95	29.60	31.81	31.28	32.09
23	35.35	35.25	34.75	36.50	37.40	32.95	33.51	32.01	31.50	31.85	32.63	32.08
24	35.25	35.30	34.85	36.35	36.90	33.00	34.25	32.04	31.28	31.49	31.19	31.78
25	35.15	35.45	35.05	36.20	35.90	33.05	34.44	31.57	31.47	31.20	32.48	31.72
26	35.10	35.55	35.10	36.25	35.60	33.10	34.47	31.69	31.76	31.37	32.82	31.89
27	35.05	35.60	35.00	36.55	35.60	33.65	33.56	31.59	33.19	31.38	32.96	32.10
28	35.10	35.60	35.10	35.95	35.55	33.65	34.51	31.73	32.34	31.46	33.01	32.09
29	35.30	35.60	35.15	36.15	---	33.60	---	31.81	32.29	30.44	33.20	30.85
30	35.50	35.65	35.85	36.25	---	33.45	---	31.93	33.17	30.67	33.24	30.23
31	35.65	---	35.95	36.75	---	33.20	---	31.99	---	30.82	32.97	---
MAX	35.65	35.70	36.95	36.75	38.15	35.45	34.51	34.41	33.25	33.08	33.24	32.91
CAL YR 2002		LOW 39.05										
WTR YR 2003		LOW 38.15										



GROUND-WATER RECORDS
Wayne County

404655081553100. LOCAL NUMBER, WN-8

LOCATION.—Latitude 40°46'55", longitude 81°55'31", Hydrologic Unit 05040003, OARDC-OSU Experiment Station near Wooster, Ohio. Owner: State of Ohio.

AQUIFER.—Shale of Mississippian Age.

WELL CHARACTERISTICS.—Drilled test water table well, diameter 6 in., depth 141 ft, cased to 31.5 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 3.50 ft above land-surface datum.

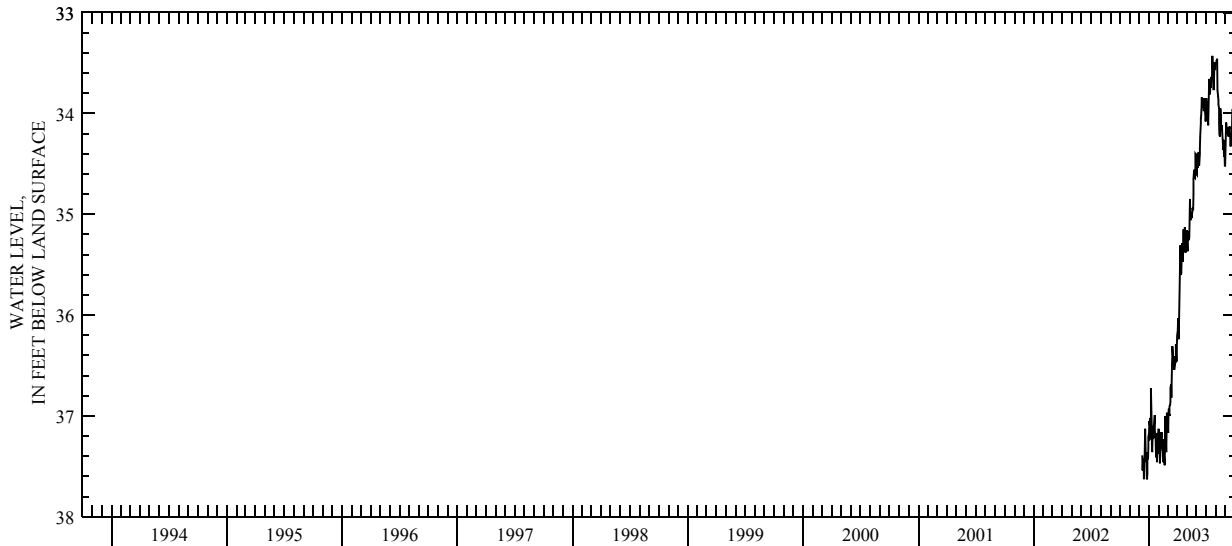
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—December 2002 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 37.63 ft below land-surface datum, Dec. 26, 2002; minimum daily low, 33.43 ft below land-surface datum, July 21, 2003.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	---	---	---	37.17	37.13	37.08	36.20	35.16	34.60	34.02	33.52	34.38
2	---	---	---	37.08	37.19	37.08	36.15	35.29	34.61	33.85	33.50	34.27
3	---	---	---	37.05	37.16	37.17	36.14	35.36	34.49	33.89	33.50	34.09
4	---	---	---	37.10	37.33	36.97	36.03	35.36	34.40	33.99	33.47	34.11
5	---	---	---	37.02	37.47	36.93	36.22	35.17	34.50	34.06	33.46	34.19
6	---	---	---	37.22	37.40	36.99	36.24	35.25	34.54	34.03	33.71	34.19
7	---	---	---	37.21	37.21	36.99	35.92	35.25	34.39	34.04	33.77	34.14
8	---	---	---	36.73	37.25	36.90	35.69	35.26	34.39	34.12	33.83	34.15
9	---	---	---	36.87	37.21	36.89	35.58	35.22	34.51	33.93	33.87	34.20
10	---	---	---	37.17	37.16	36.86	35.49	35.00	34.51	33.77	33.91	34.22
11	---	---	37.39	37.29	37.18	36.72	35.31	34.85	34.40	33.66	33.95	34.23
12	---	---	37.54	37.36	37.30	36.69	35.50	35.00	34.35	33.77	34.10	34.14
13	---	---	37.47	37.10	37.34	36.82	35.60	35.06	34.23	33.81	34.21	34.15
14	---	---	37.45	37.11	37.35	36.80	35.58	35.03	34.10	33.78	34.23	34.13
15	---	---	37.42	37.21	37.46	36.48	35.39	34.99	34.05	33.69	34.14	34.21
16	---	---	37.62	37.20	37.44	36.40	35.29	35.03	34.02	33.74	33.95	34.27
17	---	---	37.62	37.13	37.23	36.31	35.34	35.03	33.96	33.74	34.06	34.33
18	---	---	37.49	37.10	37.39	36.42	35.45	34.98	33.84	33.64	34.12	34.27
19	---	---	37.33	36.99	37.44	36.45	35.47	34.96	33.92	33.66	34.17	34.21
20	---	---	37.13	37.11	37.49	36.41	35.32	34.94	33.94	33.61	34.15	34.27
21	---	---	37.26	37.20	37.28	36.47	35.15	34.96	33.89	33.43	34.12	34.22
22	---	---	37.41	37.24	37.00	36.52	35.32	34.80	33.90	33.52	34.20	34.02
23	---	---	37.45	37.28	37.27	36.54	35.37	34.65	33.91	33.60	34.30	33.96
24	---	---	37.45	37.41	37.27	36.50	35.34	34.56	33.97	33.68	34.36	33.97
25	---	---	37.45	37.25	37.36	36.41	35.13	34.61	33.97	33.77	34.27	33.88
26	---	---	37.63	37.36	37.15	36.46	35.31	34.63	33.85	33.71	34.27	33.86
27	---	---	37.57	37.46	36.97	36.44	35.38	34.64	33.94	33.54	34.39	33.66
28	---	---	37.36	37.17	37.07	36.29	35.29	34.55	33.98	33.49	34.43	33.54
29	---	---	37.43	37.37	---	36.46	35.34	34.40	34.01	33.53	34.39	33.58
30	---	---	37.32	37.37	---	36.45	35.30	34.41	34.08	33.57	34.52	33.58
31	---	---	37.21	37.25	---	36.31	---	34.55	---	33.54	34.52	---
MAX	---	---	37.63	37.46	37.49	37.17	36.24	35.36	34.61	34.12	34.52	34.38
WTR YR 2003	---	LOW 37.63	---	---	---	---	---	---	---	---	---	---



GROUND-WATER RECORDS
Wayne County

404655081553200. LOCAL NUMBER, WN-3

LOCATION.—Latitude 40°46'55", longitude 81°55'32", Hydrologic Unit 05040003, OARDC-OSU Experiment Station near Wooster, Ohio. 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 1,040 ft above sea level (from topographic map). Measuring point: Floor of instrument shelter 3.50 ft above land-surface datum.

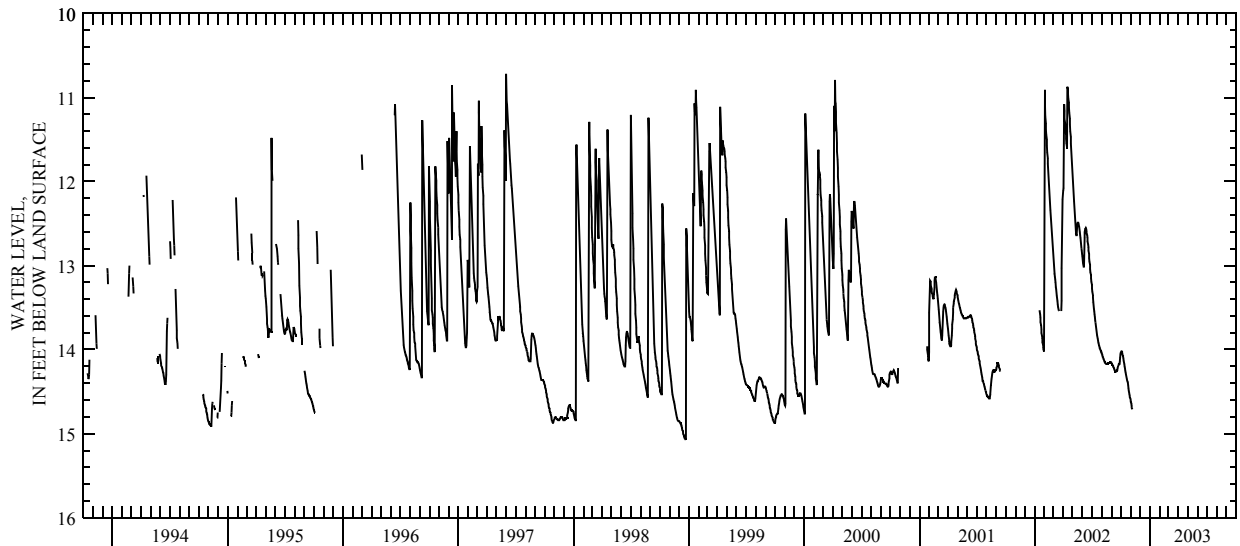
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—July 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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	14.03	14.60	---	---	---	---	---	---	---	---	---	---
2	14.02	14.62	---	---	---	---	---	---	---	---	---	---
3	14.02	14.64	---	---	---	---	---	---	---	---	---	---
4	14.02	14.67	---	---	---	---	---	---	---	---	---	---
5	14.03	14.69	---	---	---	---	---	---	---	---	---	---
6	14.05	14.71	---	---	---	---	---	---	---	---	---	---
7	14.07	---	---	---	---	---	---	---	---	---	---	---
8	14.08	---	---	---	---	---	---	---	---	---	---	---
9	14.10	---	---	---	---	---	---	---	---	---	---	---
10	14.13	---	---	---	---	---	---	---	---	---	---	---
11	14.15	---	---	---	---	---	---	---	---	---	---	---
12	14.17	---	---	---	---	---	---	---	---	---	---	---
13	14.20	---	---	---	---	---	---	---	---	---	---	---
14	14.22	---	---	---	---	---	---	---	---	---	---	---
15	14.25	---	---	---	---	---	---	---	---	---	---	---
16	14.27	---	---	---	---	---	---	---	---	---	---	---
17	14.29	---	---	---	---	---	---	---	---	---	---	---
18	14.31	---	---	---	---	---	---	---	---	---	---	---
19	14.33	---	---	---	---	---	---	---	---	---	---	---
20	14.35	---	---	---	---	---	---	---	---	---	---	---
21	14.37	---	---	---	---	---	---	---	---	---	---	---
22	14.38	---	---	---	---	---	---	---	---	---	---	---
23	14.39	---	---	---	---	---	---	---	---	---	---	---
24	14.42	---	---	---	---	---	---	---	---	---	---	---
25	14.46	---	---	---	---	---	---	---	---	---	---	---
26	14.49	---	---	---	---	---	---	---	---	---	---	---
27	14.51	---	---	---	---	---	---	---	---	---	---	---
28	14.53	---	---	---	---	---	---	---	---	---	---	---
29	14.55	---	---	---	---	---	---	---	---	---	---	---
30	14.57	---	---	---	---	---	---	---	---	---	---	---
31	14.58	---	---	---	---	---	---	---	---	---	---	---
MAX	14.58	14.71	---	---	---	---	---	---	---	---	---	---
CAL YR 2002		LOW 14.71										
WTR YR 2003		LOW 14.71										



GROUND-WATER RECORDS
Wayne County

404802081583100. LOCAL NUMBER, WN-2A

LOCATION.—Latitude 40°48'02", longitude 81°58'31", Hydrologic Unit 05040003, by Killbuck Creek near Wooster, Ohio. Owner: City of Wooster.

AQUIFER.—Sand and gravel of Pleistocene Age.

WELL CHARACTERISTICS.—Drilled test water table well, diameter 6 in., depth 65 ft, cased.

INSTRUMENTATION.—Electronic data logger, 60-minute log interval.

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.

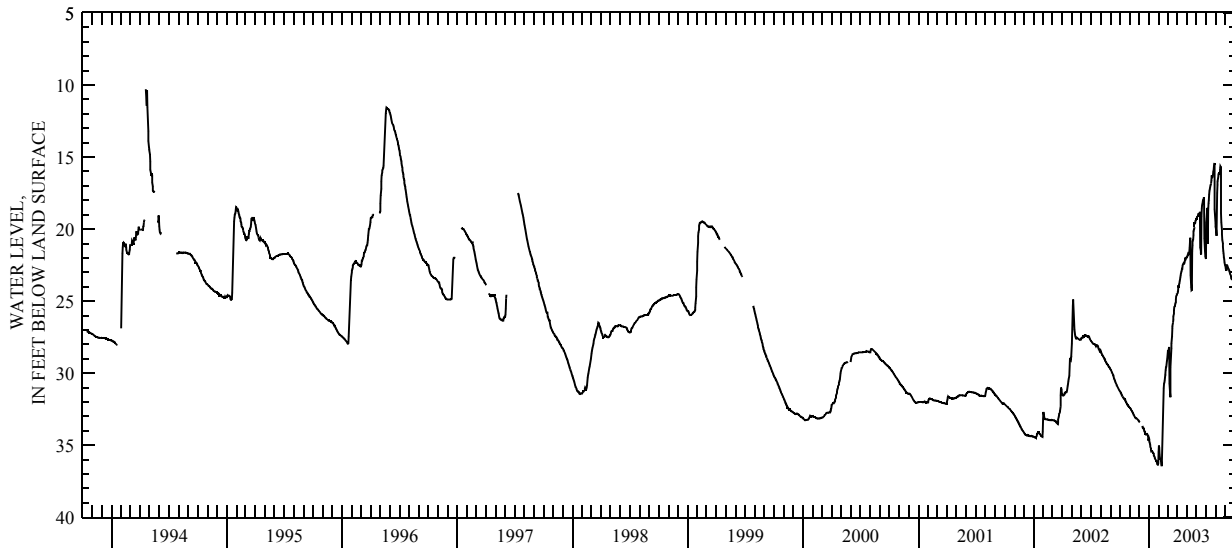
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR. New well ws drilled adjacent to WN-2A in water year 2003. Site identification remains unchanged.

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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	31.27	32.41	33.38	34.55	35.47	28.77	24.47	21.93	19.29	22.06	19.82	22.58
2	31.31	32.44	33.41	34.62	35.03	28.51	24.42	21.94	19.31	19.53	20.08	22.77
3	31.34	32.44	33.44	34.76	35.18	28.51	24.34	21.88	19.18	19.27	20.41	22.84
4	31.38	32.48	---	34.91	35.64	28.40	24.25	21.81	19.13	18.91	20.47	22.91
5	31.44	32.52	---	34.99	35.86	28.29	23.89	21.74	19.11	18.62	17.51	22.52
6	31.48	32.56	---	35.15	35.99	28.19	24.06	21.79	19.10	18.54	16.93	22.52
7	31.53	32.60	---	35.23	36.01	29.81	23.82	21.76	18.94	21.04	16.71	22.56
8	31.58	32.64	---	35.32	35.92	30.73	23.76	21.72	18.92	18.70	16.45	22.64
9	31.62	32.68	---	35.44	36.14	31.42	23.60	21.57	19.00	18.23	16.29	22.71
10	31.66	32.72	---	35.42	36.41	31.66	23.49	21.29	18.99	17.98	16.16	22.76
11	31.69	32.77	33.67	35.41	36.42	29.64	23.33	20.89	18.92	17.58	16.08	22.79
12	31.73	32.82	33.74	35.44	34.84	28.83	23.20	20.60	18.82	17.33	16.12	22.85
13	31.77	32.85	33.84	35.52	33.76	28.30	23.04	23.22	21.27	17.24	16.13	22.91
14	31.81	32.88	33.85	35.54	33.03	27.93	22.99	23.63	21.51	17.10	16.04	22.96
15	31.82	32.94	33.83	35.55	32.36	27.45	22.89	24.00	21.72	16.99	15.90	23.08
16	31.79	32.98	33.87	35.60	31.68	26.90	22.78	24.25	21.77	16.92	15.65	23.16
17	31.84	33.03	34.00	35.74	31.05	26.73	22.78	24.23	19.13	16.84	15.73	23.22
18	31.88	33.08	34.04	35.77	30.73	26.49	22.53	21.58	18.59	16.60	18.89	23.25
19	31.94	33.11	34.09	35.85	30.66	26.30	22.43	21.14	18.30	16.28	19.54	23.42
20	31.99	33.13	34.28	35.92	30.52	26.05	22.39	20.86	18.26	16.39	20.07	23.43
21	32.04	33.13	34.20	35.98	30.32	25.87	22.37	20.74	18.10	16.41	20.36	23.46
22	32.08	33.14	34.25	36.03	30.10	25.64	22.41	20.44	17.93	16.39	20.74	23.50
23	32.13	33.15	34.24	36.09	29.79	25.42	22.40	20.17	17.89	16.24	20.99	23.55
24	32.16	33.17	34.24	36.11	29.64	25.36	22.32	20.02	17.87	15.95	21.23	23.55
25	32.19	33.19	34.25	36.09	29.56	25.29	22.20	19.86	17.80	15.91	21.51	23.59
26	32.22	33.20	34.24	36.15	29.37	25.21	22.08	19.60	20.66	15.63	21.66	23.66
27	32.26	33.24	34.25	36.23	29.17	25.06	22.09	19.62	21.07	15.48	21.95	23.68
28	32.29	33.26	34.29	36.34	29.02	24.91	22.00	19.50	21.53	15.48	22.06	23.64
29	32.32	33.28	34.37	36.36	---	24.63	22.01	19.41	21.86	18.64	22.29	23.41
30	32.35	33.35	34.67	36.36	---	24.57	22.01	19.33	21.99	19.26	22.46	23.06
31	32.38	---	34.71	36.25	---	24.54	---	19.24	---	19.64	22.51	---
MAX	32.38	33.35	34.71	36.36	36.42	31.66	24.47	24.25	21.99	22.06	22.51	23.68
CAL YR 2002	LOW 34.71											
WTR YR 2003	LOW 36.42											



GROUND-WATER RECORDS
Wayne County

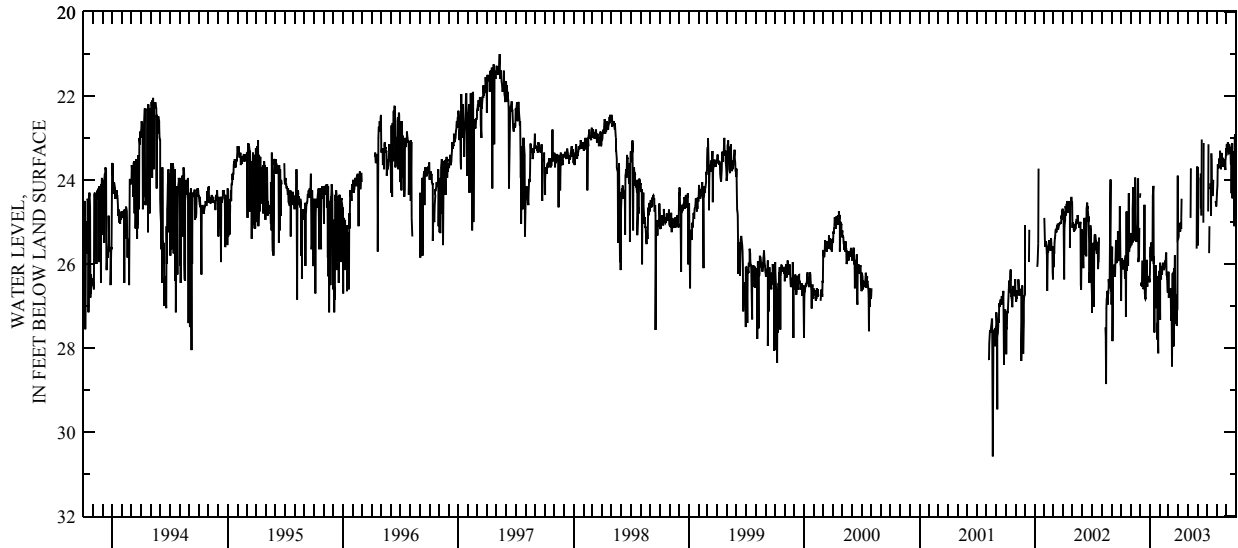
405745081510200. LOCAL NUMBER, WN-7

LOCATION.—Latitude 40°57'45", longitude 81°51'02", Hydrologic Unit 05040001, along Steele Ditch near Sterling, Ohio. Owner: City of Rittman.
 AQUIFER.—Sand and gravel of Pleistocene Age.
 WELL CHARACTERISTICS.—Drilled unused artesian well, diameter 8 in., depth 123 ft, cased.
 INSTRUMENTATION.—Electronic data logger, 60-minute log interval.
 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 (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.
 PERIOD OF RECORD.—November 1978 to March 1979 periodic, continuous thereafter.
 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 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	26.06	25.44	24.42	26.22	26.16	26.18	25.38	---	25.37	---	24.42	23.42
2	26.88	25.26	24.32	25.74	27.33	26.81	25.33	---	23.70	---	24.24	23.15
3	26.04	25.55	---	25.59	25.97	26.63	25.20	---	25.56	---	24.14	23.22
4	25.86	25.50	26.46	25.85	26.12	26.70	25.13	---	23.94	---	23.63	23.28
5	25.92	25.38	26.51	25.49	26.37	26.61	25.23	---	---	24.75	23.67	23.13
6	26.00	25.43	26.43	25.93	26.24	26.64	25.14	---	---	23.15	23.67	23.13
7	26.07	25.49	26.54	25.77	26.12	26.58	25.22	---	---	---	23.72	23.30
8	26.12	24.69	25.92	25.79	26.21	26.67	25.02	23.90	---	25.74	23.55	23.34
9	26.06	24.17	---	25.70	26.25	27.23	25.13	---	---	25.10	23.49	23.33
10	25.93	25.38	26.60	24.63	26.07	27.35	25.16	24.90	---	---	23.58	23.15
11	25.92	25.44	26.58	24.38	26.07	27.23	24.90	23.72	24.68	24.08	23.47	23.34
12	26.01	25.41	26.22	24.14	25.97	28.44	24.45	---	23.85	24.22	23.30	23.21
13	26.08	24.69	26.33	26.00	26.08	27.95	---	---	24.84	24.17	23.46	23.36
14	26.34	25.32	26.46	25.82	26.03	26.22	---	---	23.04	24.86	23.61	23.39
15	26.30	24.53	24.59	27.63	26.15	27.96	---	---	---	23.37	23.75	23.63
16	25.79	23.94	26.68	26.19	26.10	27.12	---	---	---	23.57	23.36	23.52
17	27.26	24.33	26.81	26.16	26.04	26.18	---	---	---	24.33	23.69	24.32
18	25.97	25.46	26.83	26.60	26.07	27.96	---	---	24.24	---	23.46	23.51
19	24.75	25.26	26.81	26.03	25.92	26.10	---	---	---	---	23.57	23.13
20	26.16	25.47	26.34	26.18	26.00	26.27	---	---	25.02	24.39	23.55	24.44
21	26.00	25.41	26.36	27.05	25.79	25.79	---	---	23.12	24.00	23.47	23.33
22	25.98	25.26	25.90	26.28	25.73	25.89	---	---	---	---	23.57	23.54
23	26.01	25.20	26.42	26.37	26.25	27.43	---	---	---	---	23.52	23.40
24	26.04	25.04	26.54	26.60	26.28	26.90	---	---	---	---	23.69	23.45
25	25.67	23.97	26.28	27.80	26.36	26.72	---	---	---	---	23.60	24.09
26	24.32	25.95	26.36	27.40	26.64	27.36	---	---	---	---	23.51	25.10
27	25.70	25.86	26.37	28.13	26.68	27.47	---	---	---	---	23.64	23.01
28	25.63	25.82	26.30	26.58	26.65	27.17	---	---	---	24.50	23.76	22.91
29	25.58	25.14	26.37	26.36	---	27.06	---	25.63	---	24.54	23.52	23.96
30	25.58	---	26.37	26.38	---	23.90	---	23.70	---	24.63	23.46	24.20
31	25.58	---	26.43	26.34	---	25.41	---	23.70	---	24.59	23.25	---
MAX	27.26	25.95	26.83	28.13	27.33	28.44	25.38	25.63	25.56	25.74	24.42	25.10

CAL YR 2002 LOW 28.86
 WTR YR 2003 LOW 28.44



GROUND-WATER RECORDS
Wayne County

405805081462300. LOCAL NUMBER, WN-6

LOCATION.—Latitude 40°58'05", longitude 81°46'23", Hydrologic Unit 05040001, Salt Street, Rittman, Ohio. 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.

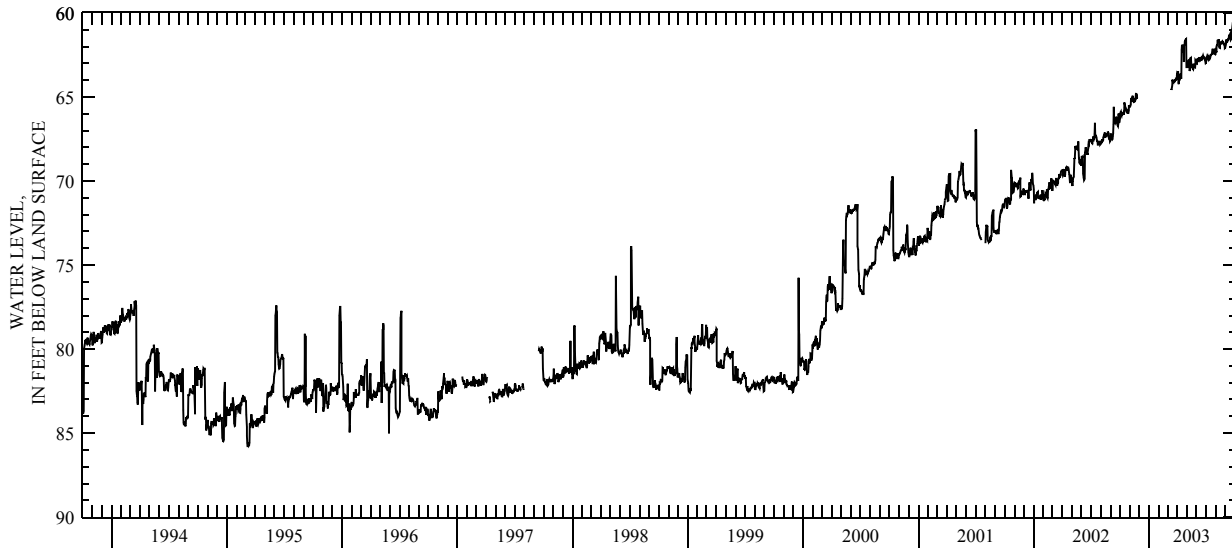
REMARKS.—Station operated by Ohio Department of Natural Resources (ODNR), Division of Water. Some historical records not published by the USGS are available from ODNR.

PERIOD OF RECORD.—May 1971 to current year.

EXTREMES FOR PERIOD OF RECORD.—Maximum daily low, 93.15 ft below land-surface datum, Sept. 3-4, 1971; minimum daily low, 60.58 ft below land-surface datum, Sept. 27, 2003.

DEPTH BELOW LAND SURFACE (WATER LEVEL) (FEET), WATER YEAR OCTOBER 2002 TO SEPTEMBER 2003
DAILY MAXIMUM VALUES

DAY	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP
1	66.32	65.58	---	---	---	---	63.58	63.22	62.99	62.97	62.34	61.98
2	66.25	65.58	---	---	---	---	63.63	63.23	63.02	62.80	62.28	61.90
3	65.90	65.57	---	---	---	---	63.63	63.23	62.91	62.69	62.34	61.80
4	65.86	65.45	---	---	---	---	63.46	63.24	62.71	62.62	61.99	61.57
5	66.08	65.45	---	---	---	---	64.14	62.97	62.82	62.68	61.89	61.71
6	66.11	65.06	---	---	---	---	64.23	62.84	62.90	62.64	61.87	61.73
7	65.91	65.28	---	---	---	---	64.00	62.81	62.72	62.57	61.63	61.69
8	66.04	65.17	---	---	---	---	64.01	62.83	62.64	62.66	61.60	61.65
9	66.02	65.11	---	---	---	---	63.93	63.06	62.74	62.75	61.60	61.58
10	66.02	64.92	---	---	---	---	63.92	63.45	62.80	62.72	61.68	61.57
11	65.93	65.15	---	---	---	---	63.60	63.32	62.73	62.55	61.75	61.50
12	65.91	65.24	---	---	---	---	63.72	62.65	62.72	62.66	62.00	61.34
13	66.00	65.26	---	---	---	64.53	63.87	62.70	62.70	62.71	62.07	61.33
14	66.00	65.22	---	---	---	64.58	63.88	62.68	62.75	62.68	62.08	61.28
15	65.63	65.28	---	---	---	64.39	62.21	63.01	62.81	62.59	61.97	61.38
16	65.32	65.29	---	---	---	64.25	61.89	63.16	62.79	62.45	61.74	61.50
17	65.49	65.05	---	---	---	63.97	61.94	63.21	62.78	62.53	61.76	61.59
18	65.61	65.27	---	---	---	64.10	62.28	63.22	62.62	62.43	61.80	61.54
19	65.60	65.21	---	---	---	64.11	62.34	63.20	62.59	62.48	61.82	61.10
20	65.72	65.09	---	---	---	64.05	62.16	63.30	62.67	62.36	61.80	61.25
21	65.83	64.83	---	---	---	64.04	61.91	63.36	62.62	62.19	61.70	61.22
22	65.84	64.76	---	---	---	64.09	62.93	63.22	62.54	62.12	61.68	60.92
23	65.93	64.97	---	---	---	64.10	61.87	63.02	62.60	62.21	61.81	60.76
24	65.93	64.94	---	---	---	64.07	61.93	63.17	62.69	62.29	61.85	60.79
25	65.79	65.05	---	---	---	63.95	61.67	63.23	62.72	62.39	61.79	60.73
26	65.85	65.06	---	---	---	64.01	61.64	63.24	62.60	62.37	61.78	60.73
27	65.99	---	---	---	---	63.95	61.70	63.25	62.72	62.21	61.85	60.58
28	65.99	---	---	---	---	63.85	61.58	63.06	62.79	62.18	61.90	60.62
29	65.81	---	---	---	---	63.99	61.55	62.81	62.87	62.43	61.90	60.82
30	65.48	---	---	---	---	63.86	63.23	62.86	63.00	62.46	62.10	60.82
31	65.59	---	---	---	---	63.71	---	62.82	---	62.43	62.09	---
MAX	66.32	65.58	---	---	---	64.58	64.23	63.45	63.02	62.97	62.34	61.98
CAL YR 2002		LOW 71.33										
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Conversion Factors

Multiply	By	To obtain
Length		
inch (in.)	2.54×10^1	millimeter (mm)
	2.54×10^{-2}	meter
foot (ft)	3.048×10^{-1}	meter (m)
mile (mi)	1.609×10^0	kilometer (km)
Area		
acre	4.047×10^3	square meter (m ²)
	4.047×10^{-1}	square hectometer (hm ²)
	4.047×10^{-3}	square kilometer (km ²)
square mile (mi ²)	2.590×10^0	square kilometer (km ²)
Volume		
gallon (gal)	3.785×10^0	liter (L)
	3.785×10^{-3}	cubic meter (m ³)
	3.785×10^0	cubic decimeter (dm ³)
million gallons (Mgal)	3.785×10^3	cubic meter (m ³)
	3.785×10^{-3}	cubic hectometer (hm ³)
cubic foot (ft ³)	2.832×10^{-2}	cubic meter (m ³)
	2.832×10^1	cubic decimeter (dm ³)
cubic-foot-per-second-per-day [(ft ³ /s/d)]	2.447×10^3	cubic meter (m ³)
	2.447×10^{-3}	cubic hectometer (hm ³)
acre-foot (acre-ft)	1.223×10^3	cubic meter (m ³)
	1.223×10^{-3}	cubic hectometer (hm ³)
	1.223×10^{-6}	cubic kilometer (km ³)
Flow rate		
cubic foot per second (ft ³ /s)	2.832×10^1	liter (L/s)
	2.832×10^{-2}	cubic meter per second (m ³ /s)
	2.832×10^1	cubic decimeter per second (dm ³ /s)
gallon per minute (gal/min)	6.309×10^{-2}	liter per second (L/s)
	6.309×10^{-5}	cubic meter per second (m ³ /s)
	6.309×10^{-2}	cubic decimeter per second (dm ³ /s)
million gallons per day (Mgal/d)	4.381×10^{-2}	cubic meter per second
	4.381×10^1	cubic decimeter per second (dm ³ /s)
Mass		
ton, short (2,000 lb)	9.072×10^{-1}	megagram (Mg) or metric ton

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

$$^{\circ}\text{F} = (1.8 \times ^{\circ}\text{C}) + 32$$

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